

# The University of Iowa 2022-23 General Catalog

The General Catalog provides information about academic programs at the University of Iowa, one of three universities governed by the Board of Regents, State of Iowa. The Catalog also provides links to supporting offices at the University, a list of administrative officers, an A-Z list of University of Iowa faculty members, a University calendar, and a link to the Code of Iowa for information regarding admission requirements and Iowa resident/nonresident standing.

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Bachelor of Science in Nursing, B.S.N. ....	1998	Health Services and Policy, Ph.D. ....	2134
Master of Science in Nursing, M.S.N. ....	2004	Healthcare Management .....	2137
Doctor of Nursing Practice, D.N.P. ....	2008	Healthcare Management, Graduate Certificate ..	2138
Nursing, Ph.D. ....	2022	Occupational and Environmental Health .....	2139
Adult Gerontology Acute Care Nurse Practitioner, Graduate Certificate .....	2024	Occupational and Environmental Health, M.S. ....	2142
Adult Gerontology Primary Care Nurse Practitioner, Graduate Certificate .....	2025	Occupational and Environmental Health, Ph.D. ..	2147
Family Nurse Practitioner, Graduate Certificate .....	2026	Translational and Clinical Investigation .....	2150
Health Systems, Graduate Certificate .....	2027	Translational and Clinical Investigation, Graduate Certificate .....	2151
Pediatric Nurse Practitioner—Acute Care, Graduate Certificate .....	2028	University College .....	2153
Pediatric Nurse Practitioner—Primary Care, Graduate Certificate .....	2029	Aerospace Studies (Air Force ROTC) .....	2155
Psychiatric/Mental Health Nurse Practitioner, Graduate Certificate .....	2030	Aerospace Studies, Minor .....	2157
College of Pharmacy .....	2031	Bachelor of Applied Studies .....	2158
Doctor of Pharmacy, Pharm.D. ....	2041	Bachelor of Applied Studies, B.A.S. ....	2159
Palliative Care, Professional Certificate .....	2047	Bachelor of Liberal Studies .....	2161
Pharmacy, M.S. ....	2048	Bachelor of Liberal Studies, B.L.S. ....	2162
Pharmacy, Ph.D. ....	2049	Professional Studies, B.L.S. ....	2168
College of Public Health .....	2058	Belin-Blank Center for Gifted Education .....	2169
Public Health, B.A. ....	2066	Career Center Programs .....	2171
Public Health, B.S. ....	2072	Center for Inclusive Academic Excellence .....	2174
Public Health, Undergraduate Certificate .....	2077	Clinical and Translational Science .....	2175
Master of Public Health, M.P.H. ....	2078	Clinical and Translational Science, Certificate ....	2176
Public Health, Graduate Certificate .....	2090	College Success Initiatives .....	2178
Agricultural Safety and Health .....	2091	Distance and Online Education .....	2181
Agricultural Safety and Health, Graduate Certificate .....	2092	Hawkeye Talent Initiative .....	2182
		Intercollegiate Athletic Participation .....	2183
		Iowa Lakeside Laboratory .....	2184
		Leadership Studies .....	2187

Leadership Studies, Certificate .....	2189
Lifetime Leisure Skills .....	2192
Military Science (Army ROTC) .....	2195
Military Science, Minor .....	2197
Nonprofit Leadership and Philanthropy .....	2198
Nonprofit Leadership and Philanthropy, Certificate .....	2199
Public Policy .....	2201
Public Policy, Minor .....	2202
Secondary Student Training Program .....	2204
Study Abroad .....	2205
Summer Research Experiences for Undergraduates .	2224
Sustainability .....	2225
Sustainability, Certificate .....	2226
Undergraduate Research Experiences .....	2230
University Libraries .....	2232
University of Iowa Honors Program .....	2233
University of Iowa Upward Bound .....	2239
Urban Studies .....	2240
Urban Studies, Minor .....	2241
University Calendar .....	2242
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# Academics at Iowa

## Degree and Nondegree Programs

The University of Iowa offers academic degree and nondegree programs at the undergraduate and graduate levels. It also offers professional degrees, postdoctoral study, and other opportunities for nondegree study and research. The General Catalog describes the University's degree and nondegree programs at the undergraduate and graduate levels.

The following pages provide global information about undergraduate, graduate, and professional study across the University. They include all undergraduate and graduate majors, minors, and certificate programs with links to the relevant Catalog sections; descriptions of the University's Course Numbering [p. 12] and Grading [p. 15] systems; and contact information for Supporting Offices [p. 16].

## Searching for Programs

There are more options to search for information on programs of study by using the black bar above. The A-Z Directory lists information in alphabetical order. Catalog Contents allows a user to search by department or unit for the majors, minors or certificates offered, and for information about each University program. Find Your Program provides users the ability to search by undergraduate, graduate, and professional program options, as well as additional learning opportunities in college or precollege programs by selecting choices with the Filter Options drop-down list. UI Courses lists all the University courses by academic unit.

Explore what the University of Iowa has to offer!

# Course Numbering

## Courses at the University of Iowa

Course numbers at the University of Iowa consist of an alphabetical prefix (up to four letters) showing the college, department, or program, followed by a colon and a four-digit numerical suffix for the individual course. For example, SOC:2810 identifies the course numbered 2810 in the Department of Sociology and Criminology (SOC), titled Social Inequality.

Course suffix numbers:

- 0000-0999 designate prelower-level courses;
- 1000-2999 designate lower-level undergraduate courses;
- 3000-4999 designate courses for upper-level undergraduate and graduate students (except in the College of Engineering, where numbers 3000-5999 designate courses for undergraduate and graduate students);
- 5000-7999 designate graduate-level courses; and
- 8000-9999 designate professional-level courses.

### Tippie College of Business

ACCT	Accounting
BAIS	Business Analytics
BUS	Business Administration (Tippie College of Business)
ECON	Economics
ENTR	Entrepreneurship (Entrepreneurial Management)
FIN	Finance
MBA	Graduate Management Programs (Master of Business Administration Program)
MGMT	Management (Management and Entrepreneurship)
MKTG	Marketing

### College of Dentistry

DENT	Dentistry
DPH	Dental Public Health (Preventive and Community Dentistry)
ENDO	Endodontics
FAMD	Family Dentistry
GSND	Geriatric and Special Needs Dentistry
OMFS	Oral and Maxillofacial Surgery
OPER	Operative Dentistry
OPRM	Oral Pathology, Radiology, and Medicine
ORDN	Orthodontics
ORSC	Oral Science
PCD	Preventive and Community Dentistry
PEDO	Pediatric Dentistry
PERI	Periodontics
PROS	Prosthodontics

### College of Education

CSED	Counselor Education
EALL	Education Interdepartmental (College of Education)
EDTL	Education Teaching and Learning (Teaching and Learning)

EHOP	Education Honors Opportunity Program (College of Education)
EPLS	Educational Policy and Leadership Studies
PSQF	Psychological and Quantitative Foundations
REA	UI REACH
SIED	Science Education (Teaching and Learning)

### College of Engineering

BME	Biomedical Engineering (Roy J. Carver Department of Biomedical Engineering)
CBE	Chemical and Biochemical Engineering
CEE	Civil and Environmental Engineering
ECE	Electrical and Computer Engineering
EIT	Engineering and Information Technology (College of Engineering)
ENGR	Core Engineering Courses
ISE	Industrial and Systems Engineering
ME	Mechanical Engineering

### Graduate College

AMCS	Applied Mathematical and Computational Sciences
BMED	Biomedical Science
CBIO	Cancer Biology (Biomedical Science)
GENE	Genetics
GRAD	Graduate College
IGPI	Interdisciplinary Graduate Program in Informatics (Informatics)
IMMU	Immunology
IWP	International Writing Program
MMED	Molecular Medicine
NSCI	Neuroscience
PBAF	Public Affairs (Planning and Public Affairs)
SDG	Sustainable Development Goals (Sustainable Development)
SLIS	Library and Information Science
TBM	Translational Biomedicine
TOX	Human Toxicology
UICB	University of Iowa Center for the Book (Center for the Book)
URP	Urban and Regional Planning (Planning and Public Affairs)

### College of Law

HRTS	University of Iowa Center for Human Rights
LAW	Law
LWAB	Law Study Abroad

### College of Liberal Arts and Sciences

ACTS	Actuarial Science (Statistics and Actuarial Science)
AFAM	African American Studies
AMST	American Studies
ANIM	Animation (Art and Art History)
ANTH	Anthropology
ARAB	Arabic (French and Italian)
ARTE	Art Education (Art and Art History)
ARTH	Art History (Art and Art History)



AT	Athletic Training (Orthopedics and Rehabilitation)
BMB	Biochemistry and Molecular Biology
CTS	Cardiothoracic Surgery
DERM	Dermatology
DIET	Dietary
EM	Emergency Medicine
EMTP	EMT—Paramedic Program (Carver College of Medicine)
FAM	Family Medicine
FRRB	Free Radical and Radiation Biology
IM	Internal Medicine
MED	Carver College of Medicine
MICR	Microbiology and Immunology
MPB	Molecular Physiology and Biophysics
MSTP	Medical Scientist Training Program
NEUR	Neurology
NSG	Neurosurgery
OBG	Obstetrics and Gynecology
OPHT	Ophthalmology and Visual Sciences
ORTH	Orthopedics and Rehabilitation
OTO	Otolaryngology—Head and Neck Surgery
OTP	Orthoptics Teaching Program (Carver College of Medicine)
PA	Physician Assistant Studies and Services
PATH	Pathology
PCOL	Pharmacology (Neuroscience and Pharmacology)
PEDS	Pediatrics (Stead Family Department of Pediatrics)
PERF	Perfusion (Cardiothoracic Surgery)
PSYC	Psychiatry
PTRS	Physical Therapy and Rehabilitation Science
RAD	Radiology
RADO	Radiation Oncology
RSBI	Breast Imaging Program (Radiation Sciences)
RSCI	Cardiovascular Interventional Program (Radiation Sciences)
RSCT	Computed Tomography Program (Radiation Sciences)
RSMR	Magnetic Resonance Imaging Program (Radiation Sciences)
RSMS	Diagnostic Medical Sonography Program (Radiation Sciences)
RSNM	Nuclear Medicine Technology
RSP	Radiation Sciences Program
RSRT	Radiologic Technology Program (Radiation Sciences)
RSTH	Radiation Therapy Program (Radiation Sciences)
SURG	Surgery
URO	Urology

## College of Nursing

NURS	Nursing
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## College of Pharmacy

PHAR	Pharmacy
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## College of Public Health

BIOS	Biostatistics
CBH	Community and Behavioral Health
CPH	College of Public Health
EPID	Epidemiology
HMP	Health Management and Policy
OEH	Occupational and Environmental Health

## University College

ABRD	Study Abroad
AERO	Aerospace Studies
BBC	Belin-Blank Center for Gifted Education
CCP	Career Center Programs
CIAE	Center for Inclusive Academic Excellence
CSI	College Success Initiatives
HONR	Honors Program (University of Iowa Honors Program)
IALL	Iowa Lakeside Laboratory
INTL	International Activities (Study Abroad)
LLS	Lifetime Leisure Skills
LS	Leadership Studies
MILS	Military Science
SSTP	Secondary School Training Program (Secondary Student Training Program)
UIUB	University of Iowa Upward Bound
ULIB	University Libraries
URES	Undergraduate Research Experiences

# Grading

## Grading System

The University uses a letter grading system for individual courses, except for the College of Law, which uses a numeric system for course grading. In order to compute grade-point average, letter grades are converted according to the following numerical scale. Grade-point averages are displayed at the bottom of students' grade reports. All of the following marks appear on the permanent record.

### Grades and Points for Semester Hours

A+	4.33
A	4.00
A-	3.67
B+	3.33
B	3.00
B-	2.67
C+	2.33
C	2.00
C-	1.67
D+	1.33
D	1.00
D-	0.67
F	0

### Not Used in Computing Grade-Point Average

AUS	Audit Successful
AUU	Audit Unsuccessful
H	Honors
H-	Near Honors
IP	In Progress
N	Nonpass
P	Pass
S	Satisfactory
U	Unsatisfactory

### Other Marks on the Permanent Record

H	Undergraduate honors section
HC	Individual undergraduate honors earned
I	Incomplete
IP	In progress
O	No grade reported
R	Registered, no grade required
W	Withdrawn
X	Excused
=	Changed grade
#	Grade not included in grade-point average
*	Undergraduate honors section

## Supporting Offices

Prospective undergraduate, graduate, and professional students should apply to the University through the Office of Admissions. Several other University of Iowa offices provide major services to entering and continuing students.

### Office of Admissions

Application for admission (undergraduate, graduate, and professional programs):

The University of Iowa  
108 Calvin Hall  
Iowa City, IA 52242-1396

Phone: 1-319-335-3847

Email: [admissions@uiowa.edu](mailto:admissions@uiowa.edu)

Website (undergraduate admissions): <https://admissions.uiowa.edu>

Website (graduate and professional admissions): <https://grad.admissions.uiowa.edu>

### Office of the Registrar

Course offerings, classroom scheduling, tuition and fees, general catalog, degree audits, sample plans:

The University of Iowa  
2 Jessup Hall  
Iowa City, IA 52242-1316

Email: [registrar@uiowa.edu](mailto:registrar@uiowa.edu)

Website: <https://registrar.uiowa.edu>

### Office of Student Financial Aid

Scholarships, grants, loans, student employment:

The University of Iowa  
2400 University Capitol Centre  
Iowa City, IA 52242

Phone: 1-319-335-1450

Email: [financial-aid@uiowa.edu](mailto:financial-aid@uiowa.edu)

Website: <https://financialaid.uiowa.edu>

### UI Service Center

Registration and changes in registration, registration restrictions, ID cards, student name changes, transcripts and verifications, residency status, U-bill payments and questions, billing and loan collections, scholarship check submissions, third-party billing questions, graduation services, diplomas and certificates:

The University of Iowa  
2700 University Capitol Centre  
Iowa City, IA 52242

Phone: 1-319-384-4300

Email: [registrar@uiowa.edu](mailto:registrar@uiowa.edu)

Website: <https://uiservicecenter.uiowa.edu>

### University Housing and Dining

Student housing information, application:

The University of Iowa  
4141 Burge Hall  
Iowa City, IA 52242-1214

Phone: 1-319-335-3000

Email: [housing@uiowa.edu](mailto:housing@uiowa.edu) [[reshall-housing@uiowa.edu](mailto:reshall-housing@uiowa.edu)]

Website: <https://housing.uiowa.edu>

### Center for Inclusive Academic Excellence (CIAE)

Student retention services, information, and programming for racial/ethnic minorities, first generation students, students identifying as members of the LGBTQ community, students with disabilities, and student veterans and their dependents:

The University of Iowa  
2750 University Capitol Centre  
Iowa City, IA 52242

Phone: 1-319-335-3555

Email: [ddei-ciae@uiowa.edu](mailto:ddei-ciae@uiowa.edu)

Website: <https://diversity.uiowa.edu/division/CIAE>

### Office of Institutional Equity (OIE)

Equal opportunity/nondiscrimination and equity compliance:

The University of Iowa  
202 Jessup Hall  
Iowa City, IA 52242-1316

Phone: 1-319-335-0705

Email: [diversity@uiowa.edu](mailto:diversity@uiowa.edu)

Website: <https://diversity.uiowa.edu/division/oie>



# College of Liberal Arts and Sciences

## Dean

- Sara Sanders

## Associate Dean for the Arts and Humanities

- Roland Racevskis

## Associate Dean for Graduate Education and Outreach and Engagement

- Christine Getz

## Associate Dean for the Natural, Mathematical, and Social Sciences

- Christopher Cheatum

## Associate Dean for Research

- Joshua Weiner

## Associate Dean for Undergraduate Education

- Cornelia C. Lang

**Undergraduate majors:** B.A.; B.S.; B.F.A.; B.M.

**Graduate degrees:** programs leading to D.M.A.; M.A.; M.F.A.; M.S.; M.S.W.; Ph.D. (degrees conferred by the Graduate College)

**Website:** <https://clas.uiowa.edu>

The College of Liberal Arts and Sciences (CLAS), established in 1900, is the largest of the 11 colleges that comprise the University of Iowa, with 37 departments spanning the visual, performing, literary, and cinematic arts; humanities; natural and mathematical sciences; social and behavioral sciences; and communication disciplines.

Throughout CLAS departments and programs, faculty are at the forefront of their disciplines. They bring their world-class research and artistry into their classrooms, studios, and labs, giving students the unparalleled opportunity to learn right from the source of the latest innovations in knowledge and practice.

Graduate students and many undergraduates work side-by-side with faculty members, conducting breakthrough research that advances understanding of ourselves and the complex, ever-changing world in which we live.

Faculty members help students discover their individual talents and passions, mentoring students about research opportunities, internships, and career choices. Professional academic advisors encourage students to create unique academic portfolios that help them stand out among their peers, with students developing creative strategies to combine majors, minors, and certificates—a common practice in CLAS, where all work together to support students' diverse interests and goals.

CLAS students can choose from almost 70 undergraduate majors, 70 minors and 29 interdisciplinary certificate programs, with choices that particularly focus on applied skills helpful in a chosen profession that encourage students to pursue intellectual and artistic interests along with pragmatic preparation for a first career. Students in CLAS have many

opportunities to engage beyond the classroom: for example, faculty-mentored research, study abroad, honors, community engagement, and internships.

## CLAS Undergraduate Programs

Located in Schaeffer Hall and at the center of campus on the Pentacrest, CLAS Undergraduate Programs (CLAS UP) is an integral part of the College of Liberal Arts and Sciences. Under the direction of the Associate Dean for Undergraduate Education, CLAS UP oversees academic advising in the College; the development of the undergraduate curriculum, including the General Education CLAS Core; and the collegiate academic standards.

Academic staff in CLAS UP meet with students about requirements, collegiate policies that affect students, and a range of other issues, including successful completion of a degree. CLAS UP staff strive to promote the success of every student, maintain the academic integrity of CLAS, and to impart the value of a liberal arts education.

## GE CLAS Core

Students entering the College of Liberal Arts and Sciences who wish to earn a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), or Bachelor of Music (B.M.) degree must complete the requirements of the General Education CLAS Core in addition to the requirements of a major and other UI and CLAS graduation requirements.

The GE CLAS Core encourages students to explore beyond familiar topics, helping students to discover intriguing majors, minors, and certificates while challenging students to embrace personal transformation by expanding their core knowledge and perspectives. For this reason, the GE CLAS Core is framed by the overall concept that general education (GE) courses also teach students how to learn, thereby fostering success in the major and life-long learning.

For GE CLAS Core requirements, related academic policies, and lists of approved courses, see the GE CLAS Core [p. 20] and related GE courses in the Catalog.

## Programs

## CLAS Units and Academic Programs

### Undergraduate Majors, Minors, and Certificates

The College of Liberal Arts and Sciences (CLAS) has 37 departments and offers about 70 undergraduate majors, 70 minors, and 29 interdisciplinary certificate programs.

In addition, CLAS students may declare a number of majors offered by other undergraduate colleges at the UI, with CLAS granting the degree. Tippie College of Business offers a major in economics (B.A. and B.S.), and with CLAS, sponsors a major in enterprise leadership (B.A.). Carver College of Medicine offers majors in biochemistry (B.A. and B.S.) and in microbiology (B.S.); and the College of Education offers a major in science studies (B.S.). For descriptions of the above majors and their requirements, view those programs in the Catalog.

CLAS also works closely with the College of Education, which offers a Teacher Education Program that requires a major in a related area of education (B.A.) designed to lead to licensure

at the secondary level. These students also must complete a related CLAS major to earn the education degree, such as a major in art, English, mathematics, the sciences and social sciences, and in various world languages. These programs are designed for students interested in teaching middle or high school. Students must apply for admission to the Teacher Education Program; contact the College of Education's Office of Student Services.

Students who begin their study in CLAS may apply to degree programs in other colleges at the University of Iowa. If they are accepted, they may earn undergraduate degrees in business (B.B.A.), engineering (B.S.E.), nursing (B.S.N.), or public health (B.A. or B.S.); a B.S. with a major in medical laboratory science, nuclear medicine technology, or radiation sciences; or a professional degree in pharmacy (Pharm.D.). Use the General Catalog's Catalog Contents page to link to these programs.

Students who are interested in earning a professional or graduate degree in addition to a bachelor's degree may apply for early admission or to combined degree programs offered through partnerships between CLAS and other UI colleges. Students admitted to these programs may count a limited amount of credit toward both degrees. CLAS has early admission programs with the College of Dentistry [p. 1331] (D.D.S.) and the College of Law [p. 1803] (J.D.), for example. Combined bachelor's/graduate degree programs are available in several disciplines; see Combined Programs [p. 1689] in the Graduate College section of the Catalog.

CLAS offers a wide selection of undergraduate certificates and minors. CLAS students also may earn undergraduate certificates and minors offered by other colleges. For lists of all undergraduate certificates and minors offered by the University, see Find Your Program in the Catalog and select those programs of study.

## Graduate Degrees and Certificates

The College of Liberal Arts and Sciences offers graduate programs in most of its disciplines, with degrees conferred by the Graduate College. Students may earn degrees at the master's and doctoral levels; graduate certificates are available in some areas of study. See the Graduate [p. 1687] College section of the Catalog for a complete list of graduate degrees offered by the University.

For information about CLAS graduate programs, consult the specific academic programs.

## Courses

Most College of Liberal Arts and Sciences courses are offered by the college's departments, programs, and schools. They are listed and described in the corresponding General Catalog sections.

The college also offers the following nondepartmental courses.

## Liberal Arts and Sciences Nondepartmental Courses

**CLAS:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**CLAS:1002 Elementary Spanish I** 4 s.h.  
Emphasis on oral skills. Taught in Spanish. Requirements: pursuing UI degree online or Des Moines learning center enrollment. GE: World Languages First Level Proficiency.

**CLAS:1003 Elementary Spanish II** 4 s.h.  
Continuation of CLAS:1002; emphasis on oral skills. Taught in Spanish. Requirements: CLAS:1002, and pursuing UI degree online or Des Moines learning center enrollment. GE: World Languages Second Level Proficiency.

**CLAS:1005 ESL Special Topics** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings). Same as ESL:1005.

**CLAS:1501 Intermediate Spanish I** 3 s.h.  
Continuation of CLAS:1003; emphasis on oral skills. Taught in Spanish. Requirements: CLAS:1003, and pursuing UI degree online or Des Moines learning center enrollment. GE: World Languages Second Level Proficiency.

**CLAS:1502 Intermediate Spanish II** 3 s.h.  
Continuation of CLAS:1501; emphasis on oral skills. Taught in Spanish. Requirements: CLAS:1501, and pursuing UI degree online or Des Moines learning center enrollment. GE: World Languages Fourth Level Proficiency.

**CLAS:1650 College Success for International Students** 1 s.h.  
Skills and resources to help international students achieve academic success; reflection on academic habits and experiences; exploration of study skills and strategies; cultural expectations in U.S. academic settings including academic integrity; culture shock and immigration issues that can impact international students at the UI; development of techniques for time management and goal setting; techniques to stay motivated and manage stress; overcoming barriers to student success; discussions and assignments emphasize self-reflection on class topics including time management, study skills, and cultural identity. Same as CSI:1650, ESL:1650.

**CLAS:1800 The Art of Active Learning** 1 s.h.  
Case studies, individual assessments, video, class discussions, and short readings to encourage understanding of academic standards and active engagement in the learning process; examination of behaviors, study skills, habits, and attitudes that can affect success in the classroom and in life.

**CLAS:2000 Is Graduate School Right for You?** 1 s.h.  
Overview of American graduate school admission in liberal arts and sciences disciplines; how to research appropriate programs, types of funding, and application requirements.

**CLAS:4100 Peer Assistant** 1-2 s.h.  
Opportunities to participate in classroom and course activities; work with students as an assistant to course instructor.

**CLAS:5100 Practicum: College Teaching and Professional Development for Teaching Assistants** arr.  
Guidance for teaching assistants seeking introduction to teaching at college level; focus on practical pedagogical concerns, including how to structure a course, devise learning outcomes, develop a syllabus and a calendar of assignments, evaluate student work, and create a student-centered classroom with collaborate learning experiences; pre-semester intensive training session, weekly meetings during first month of semester, periodic meetings to address midterm and late-semester issues; concurrent with TA teaching assistantships. Recommendations: interest in teacher training and preparation. Same as RHET:5100.

**CLAS:6290 Interdisciplinary Humanities Seminar 3 s.h.**

Examination of interdisciplinary topics related to the humanities; topics vary.

**CLAS:7290 Digital Humanities Theory and Practice 3 s.h.**

Overview of theories and use of technology to preserve, deploy, visualize, map, and analyze concepts; discussions with practicing digital public scholars; assignments consist of a digital portfolio tailored to student research; introductory course in public digital humanities certificate. Same as SLIS:7290.

# GE CLAS Core

**Website:** <https://clas.uiowa.edu/clas-core/requirements>

The College of Liberal Arts and Sciences GE CLAS Core requirements provide students with a broad foundation of knowledge and a focused practice of transferable skills necessary for a lifetime of learning.

GE CLAS Core courses are particularly valuable for students making the transition into the University of Iowa. They help students understand the academic expectations of the College of Liberal Arts and Sciences while providing the knowledge and skills needed for more advanced work in the major.

All students in the College of Liberal Arts and Sciences who wish to earn an undergraduate degree—Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), or Bachelor of Music (B.M.)—must complete the requirements of the GE CLAS Core.

## GE CLAS Core Areas and Requirements

The GE CLAS Core has 11 required areas, grouped into three categories. Students must fulfill the requirements in each GE CLAS Core area. The requirements below are for students who entered the University of Iowa during Summer 2022 or after. Students who entered during a previous semester are held to different requirements as indicated on a student's degree audit.

### Communication and Literacy:

- Diversity and Inclusion [p. 20]: a minimum of 3 s.h.
- Interpretation of Literature [p. 22]: a minimum of 3 s.h.
- Rhetoric [p. 22]: a minimum of 4 s.h.
- World Languages [p. 22]: required credit varies by language (see "World Languages" below)

### Sustainability:

Students complete this requirement by choosing an approved GE CLAS Core course that integrates Sustainability [p. 25] (with no additional semester hours) with a course from the Natural, Quantitative, and Social Sciences category or the Culture, Society, and the Arts category.

### Natural, Quantitative, and Social Sciences:

- Natural Sciences [p. 25]: a minimum of 7 s.h.; must include one lab
- Quantitative or Formal Reasoning [p. 26]: a minimum of 3 s.h.
- Social Sciences [p. 27]: a minimum of 3 s.h.

### Culture, Society, and the Arts:

- Historical Perspectives [p. 28]: a minimum of 3 s.h.
- International and Global Issues [p. 28]: a minimum of 3 s.h.
- Literary, Visual, and Performing Arts [p. 29]: a minimum of 3 s.h.
- Values and Culture [p. 30]: a minimum of 3 s.h.

Students may count transfer credit and/or credit by exam toward some GE CLAS Core requirements. See CLAS Core Policies for details regarding use of transfer credit, credit by

exam, and other policies for how GE CLAS Core requirements may be fulfilled.

## Communication and Literacy

### Diversity and Inclusion

Courses in the Diversity and Inclusion area help to develop students' recognition of their positions in an increasingly pluralistic world while fostering an understanding of social and cultural differences. Students reflect critically on their own social and cultural perspectives while increasing their ability to engage with people who have backgrounds or ideas different from their own. Students also explore the historical and structural bases of inequality and the benefits and challenges of diversity.

Transfer credit is not accepted for the Diversity and Inclusion requirement; students must complete this requirement with coursework taken at the University of Iowa.

All students must complete at least 3 s.h. of coursework in the Diversity and Inclusion area. The following courses are approved for the area.

Code	Title	Hours
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:1030	Introduction to African American Society	3
AFAM:1130	The History of African American Film	3
AFAM:1241/ MUS:1741	The Soundtrack of Black America	3
AFAM:2064/ SOC:2064	African American Families: Urban and Suburban	3
AFAM:2070/ COMM:2069	Black Television Culture	3
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
AMST:2025	Diversity in American Culture	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America	3
ARTS:2100	Printmaking and Politics of Protest	3
ASIA:2222/ GWSS:2222/ WLLC:2222	Women in Premodern East Asian Literature	3
CCCC:2220	Foundations of Critical Cultural Competence	3
CINE:1195	Video Games and Identity	3
CINE:1625	Race, Gender, and Sexuality on Screen	3
CLSA:2620/ RELS:2620	Politics, Sex, and the Bible	3
CLSA:2800	Race and Ethnicity in the Ancient Mediterranean World	3
COMM:1168	Music and Social Change	3
COMM:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3

CSD:1200	Intellectual and Developmental Disabilities	3	PHIL:2425	Sex, Marriage, Friendship, and the Law (GE status effective fall 2022; students with a first degree-seeking session of summer 2017 and beyond may use this course for the Diversity and Inclusion GE requirement)	3
DANC:2065	Performing Power/ Performing Protest: The Body, Identity, and the Image	3	POLI:1601	Introduction to Social Media and Politics	3
DANC:2085	Introduction to African Caribbean Dance Practices	3	POLI:1800	Introduction to the Politics of Class and Inequality	3
DST:1101	Introduction to Disability Studies	3	POLI:1900	Introduction to the Politics of Race	3
EDTL:2670	Peacebuilding, Singing, and Writing in a Prison Choir	3	POLI:1950	Introduction to the Politics of Religion	3
EDTL:4900	Foundations of Special Education	3	PSY:1501	Everyone's a Little Bit Biased: The Science Behind Prejudice	3
EPLS:1240	Finding Your Path in Higher Education	3	RELS:1015	Global Religious Conflict and Diversity	3
GRMN:2600	Witch Hunts in Fact and Fiction: A Global History of Exclusion	3-4	RELS:2000	Engaging Religious Diversity for Leadership and Entrepreneurship (GE status effective fall 2022)	3
GRMN:2620/ WLLC:2620	Anne Frank and Her Story	3-4	RELS:2330	Wealth, Inequality, and Islam	3
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	3-4	RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3	RUSS:2232	Romani (Gypsy) Cultures of Eastern Europe	3
GWSS:1002	Diversity and Power in the U.S.	3	SJUS:1001/ GWSS:1003	Introduction to Social Justice	3
HHP:1045	Diversity and Inclusion in Healthy Living	3	SOC:1030	Contemporary Social Problems	3-4
HHP:2280	Cultural Competency in Health Promotion	3	SOC:2830	Race and Ethnicity	3
HIST:1040	Diversity in History	3	SPAN:2050	Spanish in the United States	3
HIST:2267/ AFAM:2267	African American History to 1877: From Slave Cabin to Senate Floor	3	SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3
HIST:2268/ AFAM:2268	African American History Since the Civil War	3	THTR:2320	Playwriting in a Global World	3
IS:2020	World Events Today!	3	THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3
ITAL:2660	The Italian American Experience	3	THTR:2601	Theatre for Community Engagement	3
JMC:2500	Community Media	3	THTR:2605/ EDTL:2963	Monsters, Victims, and Villains: Changing Perceptions	3
JMC:2600	Freedom of Expression	3	TRNS:2000	Translation and Global Society	3
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o/x Studies	3	WLLC:1200/ DST:1200/ GHS:1200/ GRMN:1200	Disabilities and Inclusion in Writing and Film Around the World	3
LING:1070	Language Attitudes: Is How You Sound How You Are Seen?	3	WLLC:2001/ ASIA:2001/ FREN:2010/ RUSS:2001/ SPAN:2001/ TRNS:2001	Global Science Fiction	3
MATH:1210	Diverse Perspectives in the Mathematical Sciences	3	WRIT:2100	Writing and Community Outreach	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways (GE status effective fall 2022; students with a first degree-seeking session of summer 2017 and beyond may use this course for the Diversity and Inclusion GE requirement)	3			

## Interpretation of Literature

Courses in the Interpretation of Literature area focus on the major genres of literature (short and long fiction, nonfiction, poetry, and drama), improving students' abilities to read and analyze a variety of texts. Small group discussions in these courses challenge students to think critically, to share insights, and to listen thoughtfully to the arguments of others.

All students must complete at least 3 s.h. of coursework in the Interpretation of Literature area. The following courses are approved for the area.

Code	Title	Hours
CLSA:1200	Interpretation of Ancient Literature	3
ENGL:1200	The Interpretation of Literature	3
FREN:1005	Texts and Contexts: French-Speaking World	3
FREN:1007	Nature/Ecology French Philosophy and Fiction	3
WLLC:1510/ ASIA:1510	Ghost Stories and Tales of the Weird in Premodern Chinese Literature	3

## Rhetoric

Rhetoric courses develop speaking, writing, listening, and critical reading skills and build competence in research, analysis, and argumentation.

All entering first-year students are required to complete RHET:1030 Rhetoric (4-5 s.h.). Because rhetorical skills lay the foundation for further study at the University, most students register for RHET:1030 during their first year at Iowa.

Students who must enroll in English as a Second Language (ESL) courses as determined by their English proficiency evaluation must complete all ESL courses before they may register for RHET:1030 Rhetoric.

Students who have transfer credit in composition, speech, and argumentation but have not been granted an A.A. degree must complete the equivalent of RHET:1030 Rhetoric and often must take RHET:1040 Writing and Reading or RHET:1060 Speaking and Reading in addition to their transfer courses in composition and/or speech.

Each entering student's degree audit shows the course(s) that must be completed in order to fulfill the Rhetoric requirement.

The following courses are approved for the Rhetoric area.

Code	Title	Hours
RHET:1030	Rhetoric	4-5
RHET:1040	Writing and Reading	3
RHET:1060	Speaking and Reading	3

## Transfer of Credit for Rhetoric

Transfer students who have been granted an Associate of Arts (A.A.) degree from an Iowa community college, Waldorf College in Iowa, or Black Hawk College in Illinois have satisfied the Rhetoric requirement.

Transfer credit for students without an A.A. degree is evaluated as follows:

- transfer students who have completed composition I, composition II, and speech at another institution have satisfied the GE CLAS Core Rhetoric requirement of RHET:1030 Rhetoric;

- transfer students who have completed only composition I must complete RHET:1030 Rhetoric at the University of Iowa;
- transfer students who have completed composition I and speech must complete RHET:1040 Writing and Reading at the University of Iowa;
- transfer students who have completed only speech must complete RHET:1040 Writing and Reading at the University of Iowa;
- transfer students who have completed composition I and II or only composition II must complete RHET:1060 Speaking and Reading at the University of Iowa;
- for transfer students who have completed any other course at another institution that may be equivalent to RHET:1030 Rhetoric, the University of Iowa Office of Admissions examines the content of the course and decides on equivalency based on the content of that course, conferring with the Department of Rhetoric on the correct equivalency, if necessary.

## World Languages

GE CLAS Core courses in World Languages provide the practice of important communication skills in a second language as well as the knowledge of the cultures in which the language is spoken. This in-depth study allows students to better understand how languages as a whole function, encouraging students to learn more about their own first language, including how it creates both inclusion and diversity. To fulfill the GE CLAS Core requirement in World Languages, students may choose one of the following options:

- complete four years of a single world language in high school; or
- achieve the fourth level of proficiency in a world language by completing the appropriate sequence of courses offered at the University of Iowa; or
- achieve the fourth level of proficiency by completing appropriate courses at another college or university or through approved study abroad courses; or
- achieve an equivalent score on a related Advanced Placement, International Baccalaureate, or other approved college-level examination accepted by the University of Iowa and the College of Liberal Arts and Sciences (see Credit By Exam Options on the Office of Admissions website); or
- earn an equivalent score on both a UI written placement test and on a UI oral proficiency exam in a language taught at the University of Iowa (see World Languages Placement Test (WLPT) on the New Student Services website); or
- earn an equivalent score on a proficiency exam in a language that is not taught at the University of Iowa (see Proficiency Examinations for Languages Not Taught at UI on the College of Liberal Arts and Sciences website).

A fourth level of proficiency is equivalent to the successful completion of an intermediate II language course (or of a second-year second semester course, for example) as taught at the University of Iowa. Depending on a student's placement test results and the language taken, a student may need to take four semesters of a language, starting with a beginning course and ending with a second semester intermediate course. Other students may be able to start elsewhere in the language sequence and complete the GE World Language requirement by taking two or three courses. See "World

Languages Placement Tests" under Placement Tests on the College of Liberal Arts and Sciences website.

Semester hours earned for these courses vary by language. Students should be sure to take the placement test for the language of interest and should be aware of the course sequence required to fulfill the GE requirement in World Languages for that particular language.

Once the World Languages requirement is completed, a student may earn up to an additional 8 s.h. of college credit while studying a world language. See Furthering Language Incentive Program (FLIP) on the College of Liberal Arts and Sciences website.

Students may use the following language course sequences to fulfill the World Languages requirement. To avoid duplication or regression, consult the appropriate language department before registering for courses.

### American Sign Language

Courses in American Sign Language (ASL) are offered by the American Sign Language [p. 50] Program. The following sequence fulfills the GE CLAS Core World Languages requirement.

Code	Title	Hours
ASL:1001	American Sign Language I	4
ASL:1002	American Sign Language II	4
ASL:2001	American Sign Language III	4
ASL:2002	American Sign Language IV	4

Students with previous knowledge of American Sign Language should consult the ASL program for placement.

### Arabic

Courses in Arabic are offered by the Department of French and Italian [p. 514]. The following sequence fulfills the GE CLAS Core World Languages requirement.

Code	Title	Hours
ARAB:1001	Elementary Modern Standard Arabic I	5
ARAB:1002	Elementary Modern Standard Arabic II	5
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5

Students with previous knowledge of Arabic should consult the department for appropriate placement.

### Chinese

Courses in Chinese are offered by the Department of Asian and Slavic Languages and Literatures [p. 159]. For students without previous knowledge of Chinese, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
CHIN:1111	First-Year Chinese: First Semester	5
CHIN:1112	First-Year Chinese: Second Semester	5
CHIN:2101	Second-Year Chinese: First Semester	5

CHIN:2102	Second-Year Chinese: Second Semester	5
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Students may use varied combinations of Chinese language courses approved to fulfill the GE CLAS Core World Languages requirement. Heritage learners and students who have studied Chinese abroad may be able to fulfill the requirement by substituting CHIN:2103 Accelerated Second-Year Chinese: First Semester and CHIN:2104 Accelerated Second-Year Chinese: Second Semester for CHIN:2101 and CHIN:2102. Consult the department for more information.

### French

Courses in French are offered by the Department of French and Italian [p. 514]. For students without previous knowledge of French, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
FREN:1001	Elementary French I	5
FREN:1002	Elementary French II	5
FREN:2001	Intermediate French I	5
FREN:2002	Intermediate French II	5

Students may use varied combinations of French language courses approved to fulfill the GE CLAS Core World Languages requirement. Those with previous knowledge of French may be able to fulfill the requirement by substituting FREN:1010 First-Year French Review for FREN:1001 and FREN:1002 in the sequence above. Some students may be evaluated as ready for FREN:2001 or FREN:2002. Consult the department for appropriate placement.

### German

Courses in German are offered by the Department of German [p. 601]. For students without previous knowledge of German, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
GRMN:1001	Elementary German I	4
GRMN:1002	Elementary German II	4
GRMN:2001	Intermediate German I	4
GRMN:2002	Intermediate German II	4

Students may use varied combinations of German language courses approved to fulfill the GE CLAS Core World Languages requirement. Those with previous knowledge of German may be able to fulfill the requirement by substituting GRMN:1010 First-Year German Review for GRMN:1001 and GRMN:1002 in the sequence above. Some students may be evaluated as ready for GRMN:2001 or GRMN:2002. Consult the department for appropriate placement.

The department also offers GRMN:2020 Intensive Intermediate German, which may be appropriate for students with strong language learning abilities or experience. The intensive course may be combined with other courses to create other sequences that may be used to fulfill the GE CLAS Core World Languages requirement. Consult the department to identify an appropriate course sequence.

### Greek

Courses in Greek are offered by the Department of Classics [p. 252]. Students without previous knowledge of Greek should fulfill the GE CLAS Core World Languages requirement with the following sequence.

Code	Title	Hours
CLSG:1001	Classical and New Testament Greek I	5
CLSG:1002	Classical and New Testament Greek II	5
CLSG:2001	Second-Year Greek I	3
CLSG:2002	Second-Year Greek II	3

Students with previous knowledge of Greek should consult the department for appropriate placement.

## Italian

Courses in Italian are offered by the Department of French and Italian [p. 514]. Students without previous knowledge of Italian should fulfill the GE CLAS Core World Languages requirement with the following sequence.

Code	Title	Hours
ITAL:1101	Elementary Italian I	5
ITAL:1102	Elementary Italian II	5
ITAL:2203	Intermediate Italian I	4
ITAL:2204	Intermediate Italian II	4

Students with strong language learning abilities or a background in another Romance language may be able to complete the requirement by substituting ITAL:1103 Intensive Elementary Italian for ITAL:1101 and ITAL:1102 in the sequence above. Consult the department for appropriate placement.

## Japanese

Courses in Japanese are offered by the Department of Asian and Slavic Languages and Literatures [p. 159]. For students without previous knowledge of Japanese, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
JPNS:1001	First-Year Japanese: First Semester	5
JPNS:1002	First-Year Japanese: Second Semester	5
JPNS:2001	Second-Year Japanese: First Semester	5
JPNS:2002	Second-Year Japanese: Second Semester	5

Students may use varied combinations of Japanese language courses approved to fulfill the GE CLAS Core World Languages requirement. Those with previous knowledge of Japanese should consult the department for appropriate placement.

## Korean

Courses in Korean are offered by the Department of Asian and Slavic Languages and Literatures [p. 159]. For students without previous knowledge of Korean, the department recommends the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
KORE:1101	First-Year Korean: First Semester	4
KORE:1102	First-Year Korean: Second Semester	4
KORE:2101	Second-Year Korean: First Semester	4

KORE:2102	Second-Year Korean: Second Semester	4
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Students with previous knowledge of Korean should consult the department for appropriate placement.

## Latin

Courses in Latin are offered by the Department of Classics [p. 252]. Students without previous knowledge of Latin should fulfill the GE CLAS Core World Languages requirement with the following sequence. Students must take both CLSL:2001 and CLSL:2002 in order to fulfill the World Languages requirement. These courses require a similar knowledge of Latin, but one focuses on poetry and the other on prose. Other world languages permit a student to complete the last courses in the sequence to meet the GE CLAS Core requirement since the final course is more difficult than the previous ones. This is not true with the Latin sequence, and thus, both courses must be successfully completed.

Code	Title	Hours
CLSL:1001	Elementary Latin I	5
CLSL:1002	Elementary Latin II	5
CLSL:2001	World of Cicero	3
CLSL:2002	Golden Age of Roman Poetry	3

Students with previous knowledge of Latin should consult the department for appropriate placement.

## Portuguese

Courses in Portuguese are offered by the Department of Spanish and Portuguese [p. 1103]. Two sequences in Portuguese are approved to fulfill the GE CLAS Core World Languages requirement. All courses are open to entering first-year students.

Code	Title	Hours
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2500	Accelerated Intermediate Portuguese	5

Students may also substitute PORT:2010 Elementary Portuguese I and PORT:2015 Elementary Portuguese II for PORT:2000 in the sequence above.

Students with previous knowledge of Portuguese should consult the department for appropriate placement.

## Russian

Courses in Russian are offered by the Department of Asian and Slavic Languages and Literatures [p. 159]. Students without previous knowledge of Russian should fulfill the GE CLAS Core World Languages requirement with the following sequence.

Code	Title	Hours
RUSS:1111	First-Year Russian I	5
RUSS:1112	First-Year Russian II	5
RUSS:2111	Second-Year Russian I	4
RUSS:2112	Second-Year Russian II	4

Students with previous knowledge of Russian should consult the department for appropriate placement.

## Spanish

Courses in Spanish are offered by the Department of Spanish and Portuguese [p. 1103]. For students without previous knowledge of Spanish, the department recommends



the following sequence to fulfill the GE CLAS Core World Languages requirement.

Code	Title	Hours
SPAN:1001	Elementary Spanish I	4
SPAN:1002	Elementary Spanish II	4
SPAN:1501	Intermediate Spanish I	4
SPAN:1502	Intermediate Spanish II	4

Students may use varied combinations of Spanish language courses to fulfill the GE CLAS Core World Languages requirement. Those with previous knowledge of Spanish may be able to fulfill the requirement by substituting SPAN:1003 Elementary Spanish Review for SPAN:1001 and SPAN:1002 in the sequence above.

The summer course SPAN:1004 Accelerated Elementary Spanish, which combines SPAN:1001 and SPAN:1002, may be appropriate for some students.

The accelerated course SPAN:1503 Accelerated Intermediate Spanish, which combines SPAN:1501 and SPAN:1502, may be appropriate for some students.

The accelerated course SPAN:1505 Intermediate Spanish for Heritage Speakers may be appropriate for other students.

Students with previous knowledge of Spanish should take the language placement test in Spanish to help determine proper placement.

## Swahili

Courses in Swahili are offered by the Department of French and Italian [p. 514]. The following sequence fulfills the GE CLAS Core World Languages requirement. Each of these courses is open to entering first-year students.

Code	Title	Hours
SWAH:1001	Elementary Swahili I	4
SWAH:1002	Elementary Swahili II	4
SWAH:2001	Intermediate Swahili I	4
SWAH:2002	Intermediate Swahili II	4

Students with previous knowledge of Swahili should consult the department for appropriate placement.

## Other Course Sequences

A student who successfully completes a four-semester world language sequence that has not been approved for the GE CLAS Core may have the sequence substituted for a proficiency test to fulfill the GE CLAS Core requirement.

Students who complete a world language sequence this way should notify the department that offers the sequence; the department will contact Graduation Analysis in the Office of the Registrar, which will update a student's degree audit to show fulfillment of the World Languages requirement.

## Sustainability

Courses in the Sustainability area focus on identifying concepts and terminology associated with sustainability and systems-thinking, investigating the interconnectedness of human and natural systems, and evaluating how students' own actions affect and are affected by society's ability to meet sustainability goals. Students also investigate institutional and/or cultural processes or natural systems processes.

Sustainability learning outcomes are integrated with the outcomes for another GE CLAS Core area so that one

approved course satisfies this requirement without adding semester hours. Students complete this requirement by choosing one of the following courses that have been approved for Sustainability and another GE CLAS Core area.

### Sustainability and Natural Sciences

Code	Title	Hours
EES:1080/ ENVS:1080	Introduction to Environmental Science	3-4
EES:1085/ ENVS:1085	Fundamentals of Environmental Science	4
GEOG:1020	The Global Environment	3

### Sustainability and Social Sciences

Code	Title	Hours
ANTH:2261	Human Impacts on the Environment	3
GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3
URP:2020/ PBAF:2020	Environment and Society: Sustainability, Policy, and Politics	3

### Sustainability and Historical Perspectives

Code	Title	Hours
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3

## Natural, Quantitative, and Social Sciences

### Natural Sciences

Courses in the Natural Sciences area explore the scope and major concepts of a scientific discipline. Students learn the attitudes and practices of scientific investigators: logic, precision, experimentation, tentativeness, and objectivity. In courses with a laboratory component, students gain experience in the methods of scientific inquiry.

All students must complete at least 7 s.h. of coursework in the Natural Sciences area, including at least one natural science lab component. The following courses are approved for the area; courses with a lab component are noted "(lab)."

Code	Title	Hours
ANTH:1301	Human Origins	3
ASTR:1060/ BIOL:1060/ EES:1060	Big Ideas: Origins of the Universe, Earth, and Life	3
ASTR:1070	Stars, Galaxies, and the Universe (with lab 4 s.h.; without lab 3 s.h.)	3-4
ASTR:1079	Introductory Astronomy Laboratory (lab only)	1
ASTR:1080	Exploration of the Solar System (with lab 4 s.h.; without lab 3 s.h.)	3-4
ASTR:1085	Citizen Astronomy	3
ASTR:1091	Life in the Universe	3

ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy (lab)	4
ASTR:1772	Introductory Astronomy II: Stellar, Galactic, and Extragalactic Astronomy (lab)	4
BIOL:1140	Human Biology: Nonmajors (lab)	4
BIOL:1141	Human Biology: Health Professions (lab)	4
BIOL:1251	How the Brain Works (and Why it Doesn't)	3
BIOL:1260	Plants and Human Affairs	2-3
BIOL:1261	Introduction to Botany (lab)	4
BIOL:1370	Understanding Evolution (formerly Ecology and Evolution)	3
BIOL:1411	Foundations of Biology (lab)	4
BIOL:1412	Diversity of Form and Function (lab)	4
BIOL:2120	Good Genes Gone Bad: Genetic Disorders of Notable Celebrities	3
CHEM:1050	Chemistry of Our World	3
CHEM:1060	Technology and Society Laboratory (lab only)	1
CHEM:1070	General Chemistry I	3
CHEM:1080	General Chemistry II	3
CHEM:1100	Chemistry in Industry and the Economy	3
CHEM:1110	Principles of Chemistry I (lab)	4
CHEM:1120	Principles of Chemistry II (lab)	4
CHEM:1160	Principles of Chemistry Lab (lab only)	2
EES:1030/CEE:1030	Introduction to Earth Science (with lab 4 s.h.; without lab 3 s.h.)	3-4
EES:1031/CEE:1031	Introduction to Earth Science Laboratory (lab only; students must have previously completed EES:1030/CEE:1030 without the lab)	1
EES:1040	Evolution and the History of Life (with lab 4 s.h.; without lab 3 s.h.)	3-4
EES:1050	Introduction to Geology (lab)	4
EES:1070	Age of Dinosaurs (lab)	4
EES:1080/ENVS:1080	Introduction to Environmental Science (with lab 4 s.h.; without lab 3 s.h.; not for students who have taken EES:1085 or ENVS:1085)	3-4
EES:1085/ENVS:1085	Fundamentals of Environmental Science (lab; not for students who have taken EES:1080 or ENVS:1080)	4

EES:1081/ENVS:1081	Introduction to Environmental Sciences Laboratory (lab only)	1
EES:1290	Energy and the Environment	3
EES:1400	Natural Disasters	3
GEOG:1020	The Global Environment (GE status effective summer 2022)	3
GEOG:1021	The Global Environment Lab (lab only)	1
HHP:1100	Human Anatomy	3
HHP:1110	Human Anatomy Laboratory (lab only)	1
HHP:1150	Human Anatomy Lecture with Lab (lab)	4
HHP:1300	Fundamentals of Human Physiology	3
HHP:1400	Human Anatomy and Physiology	3
HHP:2310	Nutrition and Health	3
PCOL:2220	Drug Use and Abuse	3
PHYS:1200	Physics of Everyday Experience	3
PHYS:1400	Basic Physics (with lab 4 s.h.; without lab 3 s.h.)	3-4
PHYS:1409	Basic Physics Lab (lab only)	1
PHYS:1410	Physics of Sound (with lab 4 s.h.; without lab 3 s.h.)	3-4
PHYS:1511	College Physics I (lab)	4
PHYS:1512	College Physics II (lab)	4
PHYS:1611	Introductory Physics I (lab)	4
PHYS:1612	Introductory Physics II (with lab 4 s.h.; without lab 3 s.h.)	3-4
PHYS:1619	Introductory Physics II Lab (lab only)	1
PHYS:1701	Physics I (lab)	4
PHYS:1702	Physics II (lab)	4

## Quantitative or Formal Reasoning

Courses in the Quantitative or Formal Reasoning area help develop analytical skills through the practice of quantitative or formal symbolic reasoning. Courses focus on presentation and evaluation of evidence and argument; understanding the use and misuse of data; and organization of information in quantitative or other formal symbolic systems, including those used in computer science, linguistics, mathematics, philosophy, and statistics.

All students must complete at least 3 s.h. of coursework in the Quantitative or Formal Reasoning area. Students also may fulfill this GE CLAS Core requirement by completing a course that lists an approved GE CLAS Core course as a prerequisite. The following courses are approved for the area.

Code	Title	Hours
COMM:1117	Advocacy and Argument	3
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health	3
CS:1020	Principles of Computing	3
CS:1110	Introduction to Computer Science	3

CS:1210	Computer Science I: Fundamentals	4	ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
LING:1050	Language and Formal Reasoning	3	COMM:1170	Communication Theory in Everyday Life	3
MATH:1020	Elementary Functions	4	COMM:1174	Media and Society	3
MATH:1120	Logic of Arithmetic	4	CPH:1400	Fundamentals of Public Health	3
MATH:1250	Mathematics for Arts and Humanities	3	CRIM:1410	Introduction to Criminology	3
MATH:1260	PokeMath: The Mathematics of Pokemon Go	3	CSD:3117/ LING:3117	Psychology of Language	3
MATH:1340	Mathematics for Business	4	CSD:3118/ LING:3118	Language Acquisition	1-3
MATH:1350	Quantitative Reasoning for Business	4	ECON:1100	Principles of Microeconomics	4
MATH:1380	Calculus and Matrix Algebra for Business	4	ECON:1200	Principles of Macroeconomics	4
MATH:1440	Mathematics for the Biological Sciences	4	GEOG:1070	Contemporary Environmental Issues	3
MATH:1460	Calculus for the Biological Sciences	4	GEOG:1090	Globalization and Geographic Diversity	3
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4	GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability (GE status effective summer 2022; students with a first degree-seeking session of summer 2011 and beyond may use this course for the Social Sciences GE requirement)	3
MATH:1850	Calculus I	4	GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
PHIL:1636	Principles of Reasoning: Argument and Debate	3	GEOG:2910	The Global Economy	3
POLI:1050/ RELS:1050	Big Ideas: Introduction to Information, Society, and Culture	3	JMC:1100	Introduction to Media Effects	3
POLI:1700	Introduction to Political Analysis	3	LING:1010	Language and Society	3
PSY:2811	Research Methods and Data Analysis in Psychology I	3	LING:1060	Languages of the World	3
STAT:1010	Statistics and Society	3	MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3	POLI:1100	Introduction to American Politics	3
STAT:1030	Statistics for Business	4	POLI:1200	Introduction to Political Behavior	3
STAT:2010	Statistical Methods and Computing	3	POLI:1300	Introduction to Political Thought and Action	3
			POLI:1400	Introduction to Comparative Politics	3
			POLI:1401	Introduction to Russian Politics	3
			POLI:1445	Introduction to Asian Politics: China	3
			POLI:1449	Introduction to European Politics	3
			POLI:1500	Introduction to International Relations	3
			POLI:1501	Introduction to American Foreign Policy	3
			POLI:1600	Introduction to Political Communication	3
			POLI:2415/ LAS:2415	Latin American Politics	3

## Social Sciences

Courses in the Social Sciences area focus on human behavior and the institutions and social systems that shape and are shaped by that behavior. Courses provide an overview of one or more social science disciplines, their theories, and their methods.

All students must complete at least 3 s.h. of coursework in the Social Sciences area. The following courses are approved for the area.

Code	Title	Hours
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:1401	Language, Culture, and Communication	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Race, Place, and Power: Urban Anthropology	3
ANTH:2261	Human Impacts on the Environment	3

PSQF:2115	Introduction to Counseling Psychology	3
PSY:1001	Elementary Psychology	3
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2601	Introduction to Cognitive Psychology	3
SOC:1010	Introduction to Sociology	3-4
SOC:1220	Principles of Social Psychology	3-4
TR:1070	Perspectives on Leisure and Play	3
URP:2020/ PBAF:2020	Environment and Society: Sustainability, Policy, and Politics	3

## Culture, Society, and the Arts

### Historical Perspectives

Courses in the Historical Perspectives area help students comprehend the historical processes of change and continuity; develop the ability to generalize, explain, and interpret historical change; and understand the past in its own terms.

All students must complete at least 3 s.h. of coursework in the Historical Perspectives area. The following courses are approved for the area.

Code	Title	Hours
ANTH:1201	World Archaeology	3
ARTH:1010	Art and Visual Culture	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1090	Earthly Paradises: A Global History of Gardens	3
ARTH:2320/ CLSA:2226	Ancient Art from the Great Pyramids of Egypt to the Colosseum in Rome	3
ARTH:2920	Introduction to American Art	3
CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:1830	Greek Civilization	3
CLSA:1840	Roman Civilization	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
FREN:3120	French Civilization	3
HIST:1010	History Matters	3
HIST:1016	The History That Made Our World	3
HIST:1101	The Modern World	3
HIST:1261	American History to 1877	3
HIST:1262	American History 1877-Present	3

HIST:1401	The West and the World: Ancient	3
HIST:1402	The West and the World: Medieval	3
HIST:1403	The West and the World: Modern	3
HIST:1601/ ASIA:1601	Civilizations of Asia: China from Origins to the 17th Century	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China from the 17th Century to the Present	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1606/ ASIA:1606/ RELS:1606	Civilizations of Asia: South Asia	3-4
HIST:1607/ ASIA:1607	Civilizations of Asia: Korea	3-4
HIST:2461/ CLSA:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
HONR:1610	Honors Seminar in Historical Perspectives	3
ITAL:2550	Images of Modern Italy	3
JMC:1200	Introduction to Media and Culture	3
JPNS:2127/ ASIA:2127/ CLSA:2127	Global Manuscript Cultures	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
PHIL:1033	The Meaning of Life	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1225/ HIST:1025	Medieval Religion and Culture	3
RELS:1250/ HIST:1050	Modern Religion and Culture	3
RELS:2930/ COMM:2079	Digital Media and Religion	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Traces of Ancient Russian Culture (IX-XVII Centuries): Vikings, Mongols, and Tsars	3
THTR:1400	Theatre and Society: Ancients and Moderns	3
THTR:1401	Theatre and Society: Romantics and Rebels	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3

### International and Global Issues

Courses in the International and Global Issues area focus predominantly on countries or issues outside the United States, encouraging students to understand contemporary

issues from an international perspective. Students develop knowledge of one or more contemporary global or international issues, gain a greater awareness of varied international perspectives, and improve their skills of analysis and critical inquiry.

All students must complete at least 3 s.h. of coursework in the International and Global Issues area. The following courses are approved for the area.

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046/ SJUS:1046	Environmental Politics in India	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Race, Place, and Power: Urban Anthropology	3
ARTH:1040	Arts of Africa	3
FREN:1006	Global Sports and National Cultures	3
FREN:1510	Cultural Misunderstandings: France and U.S.A.	3
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2910	The Global Economy	3
GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
GRMN:2720/ HIST:2420	Germany in the World	3
GRMN:4315	German Society Today	3
HIST:1016	The History That Made Our World	3
HIST:1403	The West and the World: Modern	3
HIST:1601/ ASIA:1601	Civilizations of Asia: China from Origins to the 17th Century	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China from the 17th Century to the Present	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1606/ ASIA:1606/ RELS:1606	Civilizations of Asia: South Asia	3-4
HIST:1607/ ASIA:1607	Civilizations of Asia: Korea	3-4
IS:2000	Introduction to International Studies	3
ITAL:2770	The Mafia and the Movies	3
LING:1040/ ANTH:1040	Language Rights	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1401	Introduction to Russian Politics	3

POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:2415/ LAS:2415	Latin American Politics	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
RELS:3855/IS:3855	Human Rights and Islam	3
RUSS:1132	Russia Today	3
RUSS:2050/ WLLC:2050	Women from an Unknown Land: The Fight for Independence	3
SPST:2170	Sport and Globalization	3

## Literary, Visual, and Performing Arts

Courses in the Literary, Visual, and Performing Arts area provide students with opportunities to appreciate the arts and to analyze them within their historical and theoretical contexts. They also help students develop the analytic, expressive, and imaginative abilities necessary for understanding, appreciating, and creating art.

All students must complete at least 3 s.h. of coursework in the Literary, Visual, and Performing Arts area. The following courses are approved for the area.

Code	Title	Hours
AFAM:1240/ MUS:1740	The Art of Listening to Jazz	3
AMST:1800	American Gothic: Film, Literature, and Popular Culture	3
ARTH:1010	Art and Visual Culture	3
ARTH:1020	Masterpieces: Art in Historical and Cultural Perspectives	3
ARTH:1030	Themes in Global Art	3
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095/ NAIS:1095	Native American Art	3
ARTH:2920	Introduction to American Art	3
ARTS:1010	Elements of Art	3
ARTS:1030	Elements of Jewelry and Metal Arts	3
ARTS:1050	Elements of Printmaking	3
ARTS:1080	Elements of Sculpture	3
CERM:2010	Ceramics I: Handbuilding	3
CHIN:1702	Chinese Popular Culture	3

CINE:1100	The Art of Smartphone Filmmaking	3
CINE:1602	Introduction to Film Studies	3
CINE:1610	Contemporary Cinema	3
CL:1240/ CLSA:1040/ TRNS:1240	World Literature in Translation I	3
CL:1241/TRNS:1241	World Literature: 1700 to Present	3
CLSA:1010	Hero, God, Mortal: Literature of Greece	3
CLSA:1020	Love and Glory: The Literature of Rome	3
CLSA:1740/ WRIT:1740	Writing Strategies: Word Origins and Word Choice	3
CLSA:2016	Classical Mythology	3
CNW:1620	Introduction to Creative Nonfiction	3
CW:1800	Creative Writing Studio Workshop	3
DANC:1010	Beginning Tap	2
DANC:1020	Beginning Jazz	2
DANC:1025	Beginning Hip Hop Dance	2
DANC:1030	Beginning Ballet	2
DANC:1040	Beginning Modern Dance	2
DANC:1110	Continuing Tap	1-2
DANC:1120	Continuing Jazz	2
DANC:1125	Continuing Hip Hop Dance	2
DANC:1130	Continuing Ballet	2
DANC:1140	Continuing Modern Dance	2
DANC:2020	Intermediate Jazz	2
DANC:2025	Intermediate Hip Hop Dance	2
DANC:2029	Intermediate Ballet for Nonmajors	2
DANC:2040	Majors Intermediate Contemporary Movement Practices	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts	3
ENGL:1100	City of Literature	3
FREN:4100	French Cinema	3-4
GRMN:2275	Scandinavian Crime Fiction	3
GRMN:2630	German Cinema: Greatest Hits	3-4
GRMN:2666/ WLLC:2666	Pact with the Devil	3
GRMN:2785	Cyborgs, Monsters, and the Uncanny	3
ITAL:2440	Italian Arts for International Success	3
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1012	Creativity in Music	3
MUS:1020	Performance Instruction for Nonmajors	1

MUS:1066	Introduction to Film Music	3
MUS:1301	Concepts and Contexts of Western Music	3
MUS:1302	Great Musicians	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:1800/ DPA:1800	World of the Beatles	3
MUS:2005	Issues in Popular Music: Women Who Rock	3
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
PORT:2850/ LAS:2850/ SPAN:2850	Brazilian Narrative in Translation	3
SCLP:2810	Undergraduate Sculpture I	3
SPAN:1700/ LATS:1700	Latina/o/x Literature in the United States	3
SPAN:1800	Contemporary Spanish American Narrative	3
THTR:1140	Basic Acting	3
THTR:1400	Theatre and Society: Ancients and Moderns	3
THTR:1401	Theatre and Society: Romantics and Rebels	3
THTR:1412/ DANC:1412/ DPA:1412	The Arts in Performance	3
THTR:2301	Playwriting I	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3

## Values and Culture

Courses in the Values and Culture area focus on how culture shapes the human experience and the role of values in society, with students asking fundamental questions regarding the human experience while exploring their own values and beliefs.

All students must complete at least 3 s.h. of coursework in the Values and Culture area. The following courses are approved for the area.

Code	Title	Hours
AMST:1010	Understanding American Cultures	3
AMST:1154	Food in America	3
AMST:2000	Introduction to American Studies	3
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:2175/ JPNS:2175	Japanese Society and Culture	3
ARTH:1030	Themes in Global Art	3
ARTH:1045	Race and Art in America	3
ARTH:1095/ NAIS:1095	Native American Art	3

ARTS:2000/ ASP:2000/ EDTL:2000/ RHET:2000	Big Ideas: Creativity for a Lifetime	3	RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3	RELS:1350/ AFAM:1250	Introduction to African American Religions	3
CHIN:1504	Asian Humanities: China	3	RELS:1404/ ASIA:1040/ HIST:1610	Living Religions of the East	3
CHIN:1800	Chinese Calligraphy and Culture	3	RELS:1506/ ASIA:1060/ HIST:1612	Introduction to Buddhism	3
CLSA:1340	Magic in the Ancient World	3	RELS:1702	Religion in America Today	3
CLSA:1875	Ancient Sports and Leisure	3	RELS:1810	Happiness in a Difficult World	3
CLSA:2016	Classical Mythology	3	RELS:1903	Quest for Human Destiny	3
CLSA:2482/ RELS:2182	Ancient Mediterranean Religions	3	RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
CLSA:2651/ GWSS:2651	Gender and Sexuality in the Ancient World	3	RELS:2986	Religion and Women	3
COMM:1174	Media and Society	3	RHET:2070	Persuasive Stories	3
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3	RUSS:1082	Youth Subcultures After Socialism	3
EPLS:4180	Human Relations for the Classroom Teacher	3	RUSS:1131/ WLLC:1131	Introduction to Russian Culture	3
GRMN:2550/ WLLC:2550	Mardi Gras and More: Cultures of Carnival	3-4	RUSS:1132	Russia Today	3
GRMN:2618/ WLLC:2618	Film and Literature of the Holocaust	3	RUSS:1531	Slavic Folklore	3
GRMN:2650	German Nationalism from Enlightenment to Present	3-4	RUSS:1532	Traces of Ancient Russian Culture (IX-XVII Centuries): Vikings, Mongols, and Tsars	3
GRMN:2655/IS:2600	Muslim Minorities in the West	3-4	RUSS:2100	Russian Mindset: Sex, Business, and Politics	3
GWSS:1060/ AMST:1060/ ENGL:1410	Sex and Popular Culture in America	3	SOAS:1502/ ASIA:1502/ RELS:1502	Asian Humanities: India	3
HHP:2200	Physical Activity and Health	3	SOC:1310/ GWSS:1310	Gender and Society	3
HIST:1609/ ASIA:1609	India Now! Surveying the World's Largest Democracy	3-4	SOC:2710	The American Family	3
HIST:1708	Civilizations of Africa	3	SOC:2810	Social Inequality	3
HONR:1670	Values and Culture	3	SPAN:1700/ LATS:1700	Latina/o/x Literature in the United States	3
ITAL:2550	Images of Modern Italy	3	SPAN:2901	Diversity and Cultures in Spain	3
ITAL:2880	Italian Food Culture	3	SRM:1072	Leisure and the Liberal Arts	3
JMC:1500	Introduction to Social Media	3	SSW:1022/ SOC:1022	Social Justice and Social Welfare in the United States	3
JPNS:1506	Asian Humanities: Japan	3	THTR:1411	Comedy and Society	3
LING:2900	Language, Gender, and Sexuality	3	THTR:1412/ DANC:1412/ DPA:1412	The Arts in Performance	3
MUS:1009	Jazz Cultures in America and Abroad	3			
MUS:1720	History of Jazz	3			
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3			
NAIS:1049/ AMST:1049/ HIST:1049	Introduction to Native American and Indigenous Studies	3			
PHIL:1401	Matters of Life and Death	3			
PHIL:1861	Introduction to Philosophy	3			
PHIL:2402	Introduction to Ethics	3			
POLI:1300	Introduction to Political Thought and Action	3			
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3			
RELS:1080	Introduction to the New Testament	3			

# African American Studies

## Chair

- Venise T. Berry

**Undergraduate major:** African American studies (B.A.)

**Undergraduate minor:** African American studies

**Graduate degree:** M.A. in African American world studies

**Graduate certificate:** African American studies

**Faculty:** <https://africanamericanstudies.uiowa.edu/people>

**Website:** <https://africanamericanstudies.uiowa.edu/>

African American studies (AAS) examines the unique experiences of African-descended people throughout the diaspora, drawing on a rich tradition of civic engagement, scholarship, and teaching. The faculty introduce students to the foundations of African American studies and collaborate with them to understand new intellectual perspectives. Courses and research revolve around three core areas of study: history, religion, and the diaspora; literature and performing arts; and media, politics, and society. Within these areas, students carefully consider the construction of race, ethnicity, and identity and the performance of class, gender, and sexuality. Students who take courses in African American studies acquire a special skill set that enables them to critically interrogate their own culture and other cultures in the world around them.

## Cocurricular Activities

### Afro-American Cultural Center

African American studies encourages students to use the Afro-American Cultural Center (Afro House). The center serves as a museum housing educational artifacts. Offering enrichment for the University of Iowa and promoting diversity among all members of the Iowa City community, the center also provides a cultural hub for African American students.

### African American Studies Student Association

The African American Studies Student Association aims to promote knowledge about Black life in the United States by hosting speakers, publicizing artistic performances, and sponsoring relevant programs with various campus collaborators. The association is primarily designed for AAS majors and minors; however, any University of Iowa student interested in African American studies is eligible to become a member.

### Seminar and Lecture Series

The African American Studies Seminar Series and the Darwin Turner Lecture bring important scholars and creative artists to the University of Iowa campus. Guests of the lecture and seminar series have included Amiri Baraka, Trudier Harris, Ta-Nehisi Coates, Michelle Wallace, Mary Patillo, J. Lorand Matory, Paul Butler, Gabrielle Forman, and Valerie Smith.

### African American Studies Annual Awards Program

Each spring, the African American Studies Program honors AAS majors and minors, along with exceptional University of Iowa students and organizations. Scholarships are awarded by the Marie Nesbitt Foundation, the African American Studies Program, the National Association of Black Journalists, and the Iowa Black Alumni Association. Awards are offered that

recognize student efforts in community service, leadership, creative arts, graduate research, cultural appreciation, and academic achievement.

## Graduate Student Mentoring and Advising

The African American Studies Program sponsors several intellectual and social gatherings for graduate students across multiple disciplines. During these events, the Society of Black Graduate and Professional Students (BGAPS) and other graduate students connect with others interested in African American studies and receive advice about becoming faculty members, being productive members of the academic profession, and career options outside of academia.

## Iowa Black Alumni Association

The Iowa Black Alumni Association (IBAA) promotes the general mission of the University of Iowa. The group enhances the career connections of prospective, current, and former Black University of Iowa students. It also recognizes these individuals for their service. The IBAA also supports the African American Studies Program in various ways, such as with fundraising and the advisory board.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in African American Studies (Bachelor of Arts) [p. 37]

#### Minor

- Minor in African American Studies [p. 41]

### Graduate Programs of Study

#### Major

- Master of Arts in African American World Studies

The African American Studies Program is not accepting graduate students at this time.

#### Certificate

- Certificate in African American Studies [p. 43]

## Courses

### African American Studies Courses

**AFAM:1000 First-Year Seminar** **1 s.h.**  
Small discussion class; topics chosen by instructor. Requirements: first-year standing.

**AFAM:1020 Introduction to African American Culture** **3 s.h.**  
Examination of Black cultural experiences in the United States and the African diaspora; focus on literature, music, film, comics, anime, popular culture, and visual/performing arts. GE: Diversity and Inclusion. Same as AMST:1030.



- AFAM:1030 Introduction to African American Society** 3 s.h.  
Examination of Black social and historical institutions in the United States and the African diaspora; focus on education, sports, political science, religion, health, criminal justice, history, sociology, and other disciplines. GE: Diversity and Inclusion.
- AFAM:1041 African American Religion and Popular Culture** 3 s.h.  
Examination of the role African American religions play in shaping 20th century and contemporary popular culture in the United States; students explore recent histories of Black Christianity, American Islam, and African diaspora religions; gender and race; cultural production in hip hop, jazz, rhythm and blues, literature, poetry, film, sports, cuisine, visual art, and style. Same as RELS:1041.
- AFAM:1130 The History of African American Film** 3 s.h.  
History of African American cinema; examination of various cycles of Black movie fare between 1912-1999. GE: Diversity and Inclusion.
- AFAM:1140 Introduction to African American Art** 3 s.h.  
Introduction to African American art in the United States; exploration of major art events (i.e., Harlem Renaissance, Black Arts Movement); study of specific African American artists and their work; influence of race on artistic expression. Same as ARTS:1140.
- AFAM:1240 The Art of Listening to Jazz** 3 s.h.  
What is jazz and its importance; guided introduction to jazz music, anatomy of jazz music, cultural context; development of skills to become an informed listener; process of performing jazz music, its connection with Black culture; focused listening/analysis of prominent jazz artists' work from past and present, including intersection between jazz and hip hop; formal music experience or training not required. GE: Literary, Visual, and Performing Arts. Same as MUS:1740.
- AFAM:1241 The Soundtrack of Black America** 3 s.h.  
Linkage of African American culture and music; Black musical innovations that shaped mainstream American musical tastes over the last century; exploration of relationship between Black music and culture; examples of blues, jazz, gospel, hip hop; artists including Bessie Smith (blues), Mahalia Jackson (gospel), Miles Davis (jazz), Nas and Talib Kweli (hip hop). GE: Diversity and Inclusion. Same as MUS:1741.
- AFAM:1250 Introduction to African American Religions** 3 s.h.  
GE: Values and Culture. Same as RELS:1350.
- AFAM:1900 Diverse Topics in African American Studies** 3 s.h.  
Examination of African American experience based on a range of topics covering history and contemporary themes; significant contributions by African Americans to American society and around the world in the arts, literature, politics, music, religion, science, and other areas; evolution of African American culture and critical evaluation of issues, including intersectionality and inequality within specific subjects; social, cultural, and historical resources that challenge assumptions and biases when it comes to racial backgrounds and perspectives; key elements within each selected environment, along with meaningful events and individuals.
- AFAM:2064 African American Families: Urban and Suburban** 3 s.h.  
Racial inequality and experiences of African American families in the United States during the 20th and 21st centuries; historical context for contemporary research on African American family; relative impact of structural and cultural factors on various aspects of African American family life, declining marriage rates, family formation patterns; intersections of race and class in family life; research methods used to examine dynamics of African American family life, including quantitative analysis, structured qualitative interviews, and ethnography. GE: Diversity and Inclusion. Same as SOC:2064.
- AFAM:2070 Black Television Culture** 3 s.h.  
Social and political impact of television dramas featuring people of African descent in the West; examination of production, reception, representation, and industry as it relates to the African American images that are granted tenure on television screens. GE: Diversity and Inclusion. Same as COMM:2069.
- AFAM:2072 African American Popular Culture** 3 s.h.  
Examination of global popularity and impact of African American popular culture. Same as COMM:2072.
- AFAM:2076 Race, Ethnicity, and Media** 3 s.h.  
Introduction to debates about media portrayals of race and ethnicity; focus primarily on entertainment media; use of general analytic perspectives (stereotype analysis, aesthetic analysis, history) applied to real-world examples; address one or more racial/ethnic groups in the United States. Same as COMM:2076.
- AFAM:2079 Race and Ethnicity in Sport** 3 s.h.  
Structural and ideological barriers to racial and ethnic equality in sport, with focus on African American sport experiences; historical and contemporary issues, media representations. Same as SPST:2079.
- AFAM:2130 African American Film Seminar** 3 s.h.  
Major historical and cultural movements in Black cinema; independent and early Hollywood films, animation, blaxploitation, the Black renaissance, Black auteurs (e.g., Spike Lee, Julie Dash), hip hop cinema, womanist films, 21st-century developments in film (e.g., theatre to film adaptations of Tyler Perry), new media's effect on film and cinema; particular attention given to gender, sexualities, region, ethnicity, and class. Same as AMST:2130.
- AFAM:2266 Civil War and Emancipation** 3 s.h.  
160 years later, what can we learn about American history from studying a war that both killed and liberated an unprecedented number of people? Why did it take a war to end slavery? How did emancipation occur and how did enslaved people accelerate the destruction of U.S. slavery during the war? Same as HIST:2266.
- AFAM:2267 African American History to 1877: From Slave Cabin to Senate Floor** 3 s.h.  
Experiences of African and African American people in the American colonies and the states of the new nation; history of Africans and African Americans as early settlers, enslaved and free, in places such as Detroit, Chicago, New York, and New Orleans; interactions with Indigenous people; role in the war for American independence; long history of resistance to slavery and racial discrimination; exploration of the rich history of community building, creation of significant Black social and cultural institutions, and formation of Black political thought and political activism. GE: Diversity and Inclusion. Same as HIST:2267.

**AFAM:2268 African American History Since the Civil War 3 s.h.**

Exploration of racial oppression of African Americans and multiracial struggles against that oppression since the Civil War era; students examine the history of racism at individualized and systematic levels; historical efforts made by individuals and collective movements in service of the long Black freedom struggle; and the ways these twinned histories have shaped modern America. GE: Diversity and Inclusion. Same as HIST:2268.

**AFAM:2463 Topics in African American Literature 3 s.h.**

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:2463.

**AFAM:2465 Selected African American Authors 3 s.h.**

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:2465.

**AFAM:2500 Black Culture and Experience: Contemporary Issues 3 s.h.**

Exploration of various contemporary social topics (e.g., education, religion, literature, theater, media, politics, sports, criminal justice, health, economics); use of readings, interactive experiences, course assignments (reading essays, interview/profile, observation analysis, case study, final paper), and unit quizzes to understand Black life in the 21st century. GE: Diversity and Inclusion.

**AFAM:2700 The Black Image in Sequential Art: Comics, Graphic Novels, and Anime 3 s.h.**

Provides a foundation to critically interpret the representation of people of African descent in sequential art; primary focus on serial comic strips, gags, comic books, graphic novels, video games, animation, anime, Manga, film, zines, and televisual examples of Blackness; emphasis of readings and viewing materials on gender, sexualities, economics, ethnicity, the transnational circulation and commodification of the Black image, fandom communities, independent and mainstream sequential art producers. Same as AMST:2700.

**AFAM:2770 Black and White Community Politics 3 s.h.**

Students study the movement for environmental justice within the broader context of U.S. land use and development to understand environmental racism's prevalence and how it can be addressed; topics include pollution, health, food access, transportation and agricultural practice to land loss, public space, and infrastructure; exploration of perspectives on the environment and environmentalism. Same as GHS:2770, SOC:2770.

**AFAM:2800 African American Women, Health, Hair, and Sexuality 3 s.h.**

From the exotic to the erotic, African American women's bodies have been constructed to fulfill a variety of personal and cultural fantasies as well as social functions that are "killing us softly"; how cultural icons and myths of Black women—Jezebel, Mammy, Tragic Mulatto, Aunt Jemima, Sapphire, Matriarch, Welfare Queen, and more recently, the overachieving Black woman—shape and create restrictions and visions of the self that contribute to health disparities; engaging Black feminist/womanist theory to explore how larger images influence everyday acts of self-care and pleasure, such as hair and sexuality, on the health of African American women. Same as GWSS:2800.

**AFAM:3053 The Civil Rights Movement 3 s.h.**

History of the American civil rights movement. Same as AMST:3053, HIST:3253.

**AFAM:3100 Critical Race Theory: Culture, Power, and Society 3 s.h.**

Examination of the historical context of race and racism in U.S. history; focus on how social structures perpetuate longstanding patterns of racial inequality. Same as AMST:3100, SOC:3100.

**AFAM:3110 Race, Organizations, and Workplace 3 s.h.**

Examination of racial discrimination in the American workplace and organizations; historical context for development of complex organizations; various forms of racial discrimination; longstanding patterns of racial inequality central to American organizations. Same as SOC:3110.

**AFAM:3245 Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter 3 s.h.**

Twentieth- and twenty-first-century African American religious history; major political and cultural movements including civil rights, Black power, Black feminism/womanism, hip hop, and Black Lives Matter; their impact on Black Christianity and Islam in the United States. Same as RELS:3745.

**AFAM:3257 Civil Rights and Racial Justice: A Tour Through the South 1-3 s.h.**

Exploration of the history of modern civil rights movement through lectures, shared readings, videos, and discussion; includes preparation and two-week tour of civil rights sites in the South. Prerequisites: SJUS:1001 or SJUS:2250 or GWSS:1002 or CCCC:2220 or AFAM:1030 or AFAM:2268 or HIST:2268 or AFAM:3053 or AMST:3053 or HIST:3253 or HIST:3232 or HIST:4260 or AFAM:3100 or HIST:3160 or HIST:3260 or AFAM:3260 or HIST:3282 or GWSS:3282 or HIST:4130 or HIST:4260. Same as GWSS:3257, HIST:3257, SJUS:3257.

**AFAM:3260 Violence in Black America 3 s.h.**

Examination of violence—physical, structural, gendered, and psychological—and its impact of shaping Black American experience through resistance, cultural production, and community development. Same as HIST:3260.

**AFAM:3262 The Black Midwest: History, Literature, and Culture 3 s.h.**

Exploration of history, culture, and art of the Black Midwest using literature and scholarly readings, poems, music, and film; modern issues impacting Black Midwesterners; cultural, social, and political contributions of Black Midwesterners to the region and nation. Same as HIST:3262.

- AFAM:3275 History of Slavery in the U.S.A.** 3-4 s.h.  
Beginning, expansion, and ending of American slavery; how our national memory of slavery in popular culture (in high school history, in historical landmarks and museums) helps or hinders our understanding of history of slavery in the U.S. Same as HIST:3275.
- AFAM:3459 African American Literature Before 1900** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3459.
- AFAM:3460 African American Literature After 1900** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3460.
- AFAM:3461 Twenty-First Century African American Literature** 3 s.h.  
African American literature from 20th- and 21st-century writers; African American experience(s) of race, sexuality, gender, class, and privilege in contemporary era; various ways poets, rappers, authors tackle these themes within literary forms (i.e., fiction, creative nonfiction, autobiography, poems, songs); societal structures of power. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English majors and English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3461.
- AFAM:3462 African American Drama** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3462, THTR:3462.
- AFAM:3465 African American Autobiography** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3465.
- AFAM:3500 Malcolm X, King, and Human Rights** 3 s.h.  
Religion and politics of Malcolm X and Martin Luther King, Jr. in the context of U.S. civil rights and international human rights in West Africa and the Muslim world; emphasis on civil rights connections to Gandhi, the Nobel Peace prize, and other international experiences that have impacted Pan Africanists, such as Stokely Carmichael, who worked on human rights. Recommendations: international studies major or undergraduate standing. Same as HIST:3160, RELS:3808.
- AFAM:3550 African Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3550.
- AFAM:3555 Topics in African Cinema** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3555.
- AFAM:3600 Digitizing Blackness** 3 s.h.  
Examination of Black cultural experiences in digital spheres, including digital humanities and new information technologies; focus on Afrofuturism, gaming, augmented reality, digital mapping, podcasting, social media, and digital cultures; exposure to digital tools and methods. Same as AMST:3600.
- AFAM:3630 The Racial Wealth Gap: Black Debt, White Debt** 3 s.h.  
Exploration of extent, historical origins, and contemporary factors of the racial wealth gap with special attention to role of debt in U.S. race relations; potential topics include education debt, monetary sanctions in criminal justice, redlining, recession, bankruptcy, and reparations. Same as SOC:3630.
- AFAM:3758 The Ancient African Past** 3 s.h.  
Africa to 1880; oral tradition and other sources; political development, ecological change, slavery and slave trade. Same as HIST:3758.
- AFAM:3760 The Making of Modern Africa** 3 s.h.  
Africa in colonial and postcolonial period; economics, political structures of colonialism; social change, political life in the 20th century. Same as HIST:3760.
- AFAM:3900 Topics in African American Studies** arr.  
Different topic each semester.
- AFAM:3925 African Americans and the Media** 3 s.h.  
Exploration of the theoretical notion of racialism in various genres of mass communication (i.e., music, print media, television/cable, film, social media); analysis and discussion of contemporary images and messages in media related to African American culture with close attention to impact of stereotypes, historical myths, stigmas, problematic representations, biased framing, and traditional racism. Same as JMC:3165.
- AFAM:4770 Environmental Justice** 3 s.h.  
Introduction to the field of environmental justice; understanding and addressing the processes that lead poor and marginalized communities to face a disproportionate degree of environmental risks and hazards. Same as GEOG:4770, GHS:4770.
- AFAM:4910 Special Topics** 3 s.h.  
Selected topics, issues, and debates about various components of African American culture including literature, sociology, psychology, media, history, rhetoric, theater, sports, health, and education.
- AFAM:4980 Independent Study** arr.  
Topics vary.
- AFAM:4990 Honors Project** arr.  
Independent research and writing on interdisciplinary topic.

**AFAM:5900 Advanced Readings in African American Studies: Historic and Contemporary Debates arr.**

Weekly readings and discussions of scholarly book chapters and articles related to key topics; students synthesize, debate, and critically evaluate all course material; topic areas include African American history, culture, politics, Black feminist criticism, critical race theory, intersectionality, and more; introduction to current research of African American studies faculty members; for students interested in conducting research about African American culture.

**AFAM:6500 Critical Readings in Cultural Studies: Stuart Hall's Legacy and Influences 3 s.h.**

Exploration of the scholarship of Stuart Hall along with theories, methods, and history of cultural studies; focus on major areas of Hall's work including Marxist thought and the political economy, diasporas and globalization, cultural production and popular culture, film and cinema studies, race, ethnicity, identity, and difference; key theorists that influenced Stuart Hall (e.g., Marx, Foucault, Fanon, Gramsci, Althusser) and scholars in cultural studies that have made appropriate use of Hall's writings and theories in their own work; role of theory in everyday life and the critical role of public intellectuals. Same as AMST:6500, ENGL:6050.

**AFAM:6580 Seminar: Religion and Society 3 s.h.**

Same as RELS:6580.

**AFAM:6635 Crossing Borders Seminar 2-3 s.h.**

Taught in English. Same as ANTH:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

**AFAM:7205 New Histories: U.S. Slavery arr.**

Our approach to study of slavery and discipline of history have been upended by recent works by and about women; exploration of that scholarship and consideration of where it takes us in grappling with systems and subjectivity of slavery. Same as GWSS:7205, HIST:7205.

**AFAM:7210 The Long Civil Rights Movement arr.**

Exploration of the history and historiography of the modern Black freedom struggle in the United States, with particular attention to how historians in recent years have reconsidered traditional framings of that struggle's chronology, geography, gender politics, political aspirations, and achievements. Same as HIST:7210.

**AFAM:7214 Readings: African American Women's History arr.**

Same as GWSS:7214, HIST:7214.

**AFAM:7710 Seminar: Interpreting Oral Histories arr.**

Interpretations and methods applied by historians in various world regions to different forms of oral history, from old oral traditions to contemporary autobiographical testimony. Same as HIST:7710.

# African American Studies, B.A.

## Learning Outcomes

Students will:

- understand basic facts, principles, key figures, and events related to African American experience in American society, plus recognize the significant contributions of African Americans in the United States and abroad;
- become familiar with the foundations of the discipline of African American studies and the development of the field, specifically conceptual ideas that shape the academic study of African American life;
- acquire the tools for contextualizing and understanding the intersectionality of race, class, gender, and/or sexual orientation in an effort to identify relevant challenges and solve human problems related to the African American community;
- learn to critically analyze cultural issues shaping the lives and conditions of African Americans through curriculum, community service, and service learning as they confirm the value of diversity in the 21st century; and
- be prepared for potential careers or postbaccalaureate work in African American studies and related fields through the development of skills in critical thinking, oral and written communication, and research.

## Requirements

The Bachelor of Arts with a major in African American studies requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer credit is evaluated individually and is limited to a maximum of 9 s.h.

The B.A. with a major in African American studies requires the following coursework.

Code	Title	Hours
	Introductory Courses	6
	African American Studies Core	18
	Electives	6
	<b>Total Hours</b>	<b>30</b>

## Introductory Courses

Students are required to complete the following introductory courses.

Code	Title	Hours
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:1030	Introduction to African American Society	3

Introduction to African American Culture (AFAM:1020) examines the evolution of cultural experiences and developments in the United States and the African diaspora (e.g. the Harlem Renaissance, graphic novels, blues, hip hop, soul, and gospel). The course includes readings in literature, music, film, comics, anime, popular culture events, plus the visual and performing arts.

Introduction to African American Society (AFAM:1030) examines the construction of social and historical institutions in the United States and the African diaspora (e.g., Black church, Black family, Black traditions, and social movements). The course includes readings in education, sports, political science, religion, health, criminal justice, history, sociology, and other disciplines.

## African American Studies Core

In addition to the two required introductory courses, all students must complete at least two courses from each of the three topical areas below (minimum of 18 s.h.). Other courses may be approved for the topical areas; consult with an African American studies advisor.

### History, Religion, and the Diaspora

Code	Title	Hours
Two of these:		
AFAM:1041/ RELS:1041	African American Religion and Popular Culture	3
AFAM:1250/ RELS:1350	Introduction to African American Religions	3
AFAM:1900	Diverse Topics in African American Studies (when topic is history, religion, or the diaspora)	3
AFAM:2266/ HIST:2266	Civil War and Emancipation	3
AFAM:2267/ HIST:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
AFAM:2268/ HIST:2268	African American History Since the Civil War	3
AFAM:3245/ RELS:3745	Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter	3
AFAM:3260/ HIST:3260	Violence in Black America	3
AFAM:3262/ HIST:3262	The Black Midwest: History, Literature, and Culture	3
AFAM:3275/ HIST:3275	History of Slavery in the U.S.A.	3-4
AFAM:3555/ ENGL:3555	Topics in African Cinema	3
AFAM:3758/ HIST:3758	The Ancient African Past	3
AFAM:3760/ HIST:3760	The Making of Modern Africa	3
AFAM:3900	Topics in African American Studies (when topic is history, religion, or the diaspora)	arr.
AFAM:7205/ GWSS:7205/ HIST:7205	New Histories: U.S. Slavery	arr.
EPLS:5126	Twentieth-Century Educational Movements	2-3

## Literature and Performing Arts

Code	Title	Hours
Two of these:		
AFAM:1130	The History of African American Film	3
AFAM:1140/ ARTS:1140	Introduction to African American Art	3
AFAM:1240/ MUS:1740	The Art of Listening to Jazz	3
AFAM:1241/ MUS:1741	The Soundtrack of Black America	3
AFAM:1900	Diverse Topics in African American Studies (when topic is literature or performing arts)	3
AFAM:2463/ ENGL:2463	Topics in African American Literature	3
AFAM:2465/ ENGL:2465	Selected African American Authors	3
AFAM:2700/ AMST:2700	The Black Image in Sequential Art: Comics, Graphic Novels, and Anime	3
AFAM:3459/ ENGL:3459	African American Literature Before 1900	3
AFAM:3460/ ENGL:3460	African American Literature After 1900	3
AFAM:3461/ ENGL:3461	Twenty-First Century African American Literature	3
AFAM:3462/ ENGL:3462/ THTR:3462	African American Drama	3
AFAM:3465/ ENGL:3465	African American Autobiography	3
AFAM:3900	Topics in African American Studies (when topic is literature or performing arts)	arr.

## Media, Politics, and Social Institutions

Code	Title	Hours
Two of these:		
AFAM:1900	Diverse Topics in African American Studies (when topic is media, politics, or social institutions)	3
AFAM:2064/ SOC:2064	African American Families: Urban and Suburban	3
AFAM:2070/ COMM:2069	Black Television Culture	3
AFAM:2072/ COMM:2072	African American Popular Culture	3
AFAM:2076/ COMM:2076	Race, Ethnicity, and Media	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
AFAM:2130/ AMST:2130	African American Film Seminar	3
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
AFAM:2770/ GHS:2770/ SOC:2770	Black and White Community Politics	3

AFAM:3053/ AMST:3053/ HIST:3253	The Civil Rights Movement	3
AFAM:3100/ AMST:3100/ SOC:3100	Critical Race Theory: Culture, Power, and Society	3
AFAM:3110/ SOC:3110	Race, Organizations, and Workplace	3
AFAM:3500/ HIST:3160/ RELS:3808	Malcolm X, King, and Human Rights	3
AFAM:3600/ AMST:3600	Digitizing Blackness	3
AFAM:3630/ SOC:3630	The Racial Wealth Gap: Black Debt, White Debt	3
AFAM:3900	Topics in African American Studies (when topic is media, politics, or social institutions)	arr.
AFAM:3925/ JMC:3165	African Americans and the Media	3
AFAM:4770/ GEOG:4770/ GHS:4770	Environmental Justice	3

## Electives

Students also must take two elective courses (minimum of 6 s.h.) selected from the three topical areas listed above. With the approval of an African American studies advisor, students may substitute relevant courses offered by other departments for one or both electives; the substituted courses may not be cross-listed with African American studies. Students must gain the advisor's approval before enrolling in a substitute course.

Code	Title	Hours
Two electives selected from the three topical areas above, or approved substitutes		6

## Language Requirement

The language requirement for the African American studies major is the same as the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Students are encouraged, but not required, to take African language courses (Swahili is currently offered) or Spanish language courses to fulfill the World Languages requirement.

## Honors

### Honors in the Major

Students majoring in African American studies have the opportunity to graduate with honors in the major. Honors in the major offers students the opportunity to pursue special interests and individual in-depth research.

Honors students must complete all required coursework for the major while maintaining a University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 for courses in the major (30 s.h.). Students must register for up to 6 s.h. of AFAM:4990 Honors Project which enhances a student's ability to complete honors projects under the guidance of the supervising faculty member. Students enroll in AFAM:4990 with the approval of an African American studies faculty member, who will supervise the course. They may count up to 6 s.h. earned in AFAM:4990 toward the 30 s.h. required for the major.

Under the guidance of the African American studies faculty member, an honors student defines a research project (thesis) using primary, secondary, or archival sources. Students submit a project proposal by the end of their junior year. They complete a thesis under the guidance of a supervising faculty member and present the results as a senior essay to a committee of three, including the supervising African American studies faculty member, one other African American studies faculty member, and the African American studies chair. A student's committee may choose to hear an oral defense of the honors thesis, usually during the student's last semester.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the African American studies major.

### Career Advancement

The African American studies major provides valuable background for careers in a diverse society, in areas such as community work, public school teaching, religion, government, political science, and law. Some graduates go on to advanced study, many preparing for work as teachers and administrators at colleges and universities.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

During the first year of study, students should focus on completing the GE CLAS Core [p. 20], perhaps including Swahili or Spanish coursework to begin satisfying the World Languages requirement.

**Before the fifth semester begins:** at least three courses in the major, including AFAM:1020 Introduction to African American Culture and AFAM:1030 Introduction to African American Society.

**Before the seventh semester begins:** at least seven courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least nine courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## African American Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
AFAM:1030 or AFAM:1020	Introduction to African American Society <sup>b</sup> or Introduction to African American Culture	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
AFAM:1030 or AFAM:1020	Introduction to African American Society <sup>b</sup> or Introduction to African American Culture	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: history, religion, and the diaspora topical area course		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: history, religion, and the diaspora topical area course		3
Major: media, politics, and social institutions topical area course		3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: literature and performing arts topical area course		3
Major: media, politics, and social institutions topical area course		3

GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>	4 - 5
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 16-17**

### Spring

Major: literature and performing arts topical area course	3
GE CLAS Core: Social Sciences <sup>c</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>	4 - 5
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 16-17**

### Fourth Year

#### Fall

Major: elective course <sup>f</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

#### Spring

Major: elective course <sup>f</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)  
g

**Hours 15**

**Total Hours 123-129**

requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Students are required to complete 6 s.h. in electives selected from the three topical areas. With the approval of an African American studies advisor, students may substitute relevant courses offered by other departments for one or both electives.

g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all



# African American Studies, Minor

## Requirements

The minor in African American studies requires a minimum of 15 s.h., including 12 s.h. taken at the University of Iowa. At least two of the African American studies core courses must be taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Coursework completed for another major or minor may not be counted toward the minor in African American studies.

The minor must include the following coursework.

Code	Title	Hours
Introductory Courses		6
African American Studies Core		9
History, Religion, and the Diaspora Course		
Literature and Performing Arts Course		
Media, Politics, and Social Institutions Course		
<b>Total Hours</b>		<b>15</b>

## Introductory Courses

Students are required to complete the following introductory courses.

Code	Title	Hours
Both of these:		
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:1030	Introduction to African American Society	3

## African American Studies Core

Students must complete one course from each of the three topical areas below (9 s.h.), with at least two courses taken at the University of Iowa.

### History, Religion, and the Diaspora

Code	Title	Hours
One of these:		
AFAM:1041/ RELS:1041	African American Religion and Popular Culture	3
AFAM:1250/ RELS:1350	Introduction to African American Religions	3
AFAM:1900	Diverse Topics in African American Studies (when topic is history, religion, or the diaspora)	3
AFAM:2266/ HIST:2266	Civil War and Emancipation	3
AFAM:2267/ HIST:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
AFAM:2268/ HIST:2268	African American History Since the Civil War	3

AFAM:3245/ RELS:3745	Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter	3
AFAM:3260/ HIST:3260	Violence in Black America	3
AFAM:3262/ HIST:3262	The Black Midwest: History, Literature, and Culture	3
AFAM:3275/ HIST:3275	History of Slavery in the U.S.A.	3-4
AFAM:3555/ ENGL:3555	Topics in African Cinema	3
AFAM:3758/ HIST:3758	The Ancient African Past	3
AFAM:3760/ HIST:3760	The Making of Modern Africa	3
AFAM:3900	Topics in African American Studies (when topic is history, religion, or the diaspora)	arr.
AFAM:7205/ GWSS:7205/ HIST:7205	New Histories: U.S. Slavery	arr.
EPLS:5126	Twentieth-Century Educational Movements	2-3

## Literature and Performing Arts

Code	Title	Hours
One of these:		
AFAM:1130	The History of African American Film	3
AFAM:1140/ ARTS:1140	Introduction to African American Art	3
AFAM:1240/ MUS:1740	The Art of Listening to Jazz	3
AFAM:1241/ MUS:1741	The Soundtrack of Black America	3
AFAM:1900	Diverse Topics in African American Studies (when topic is literature or performing arts)	3
AFAM:2463/ ENGL:2463	Topics in African American Literature	3
AFAM:2465/ ENGL:2465	Selected African American Authors	3
AFAM:2700/ AMST:2700	The Black Image in Sequential Art: Comics, Graphic Novels, and Anime	3
AFAM:3459/ ENGL:3459	African American Literature Before 1900	3
AFAM:3460/ ENGL:3460	African American Literature After 1900	3
AFAM:3461/ ENGL:3461	Twenty-First Century African American Literature	3
AFAM:3462/ ENGL:3462/ THTR:3462	African American Drama	3
AFAM:3465/ ENGL:3465	African American Autobiography	3
AFAM:3900	Topics in African American Studies (when topic is literature or performing arts)	arr.

## Media, Politics, and Social Institutions

Code	Title	Hours
One of these:		
AFAM:1900	Diverse Topics in African American Studies (when topic is media, politics, or social institutions)	3
AFAM:2064/ SOC:2064	African American Families: Urban and Suburban	3
AFAM:2070/ COMM:2069	Black Television Culture	3
AFAM:2072/ COMM:2072	African American Popular Culture	3
AFAM:2076/ COMM:2076	Race, Ethnicity, and Media	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
AFAM:2130/ AMST:2130	African American Film Seminar	3
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
AFAM:2770/ GHS:2770/ SOC:2770	Black and White Community Politics	3
AFAM:3053/ AMST:3053/ HIST:3253	The Civil Rights Movement	3
AFAM:3100/ AMST:3100/ SOC:3100	Critical Race Theory: Culture, Power, and Society	3
AFAM:3110/ SOC:3110	Race, Organizations, and Workplace	3
AFAM:3500/ HIST:3160/ RELS:3808	Malcolm X, King, and Human Rights	3
AFAM:3600/ AMST:3600	Digitizing Blackness	3
AFAM:3630/ SOC:3630	The Racial Wealth Gap: Black Debt, White Debt	3
AFAM:3900	Topics in African American Studies (when topic is media, politics, or social institutions)	arr.
AFAM:3925/ JMC:3165	African Americans and the Media	3
AFAM:4770/ GEOG:4770/ GHS:4770	Environmental Justice	3

# African American Studies, Graduate Certificate

## Requirements

The graduate Certificate in African American Studies requires a least 12 s.h. of credit. Students must maintain a g.p.a. of at least 2.75 in work for the certificate. With civil and corporate work environments taking a distinct interest in the diversity of people, training, and ideas within their respective environments, the certificate provides a means of formally acknowledging cultural and intellectual understanding that is being sought by potential employers.

Students must be enrolled in a graduate degree program of study to earn the certificate. They meet yearly with their certificate advisor to plan their certificate coursework.

The Certificate in African American Studies requires the following work.

Code	Title	Hours
AFAM:5900	Advanced Readings in African American Studies: Historic and Contemporary Debates	3

Three courses (3 s.h. each) related to African American studies numbered 3000 or above; at least 6 s.h. of these must be taken in a department other than a student's primary area of study (consult advisor)	9
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## Admission

Doctor of Philosophy students are encouraged to apply for the certificate program in their first year of graduate study, and students earning their master's degree in their first semester. Students then have sufficient time to select coursework in an area of African American studies that is most appealing to them. Applicants must have a g.p.a. of at least 2.75 at the time of application.

Applicants who have taken courses that may apply toward the certificate can review a list of acceptable coursework on the Graduate Certificate in African American Studies web page. They should note the courses that may apply toward the certificate on their certificate application in addition to a written justification, or they may meet with the African American studies director of graduate studies as soon as possible to begin the consideration process.

Admission to the certificate program is determined by application. Applications are reviewed by the African American Studies Graduate Steering Committee twice each year. Applications should be received no later than October 15 for spring entry; March 15 for summer or fall entry.

For more information on formal application to the certificate program, contact the African American Studies director of graduate studies or view the Graduate Certificate in African American Studies website.

# Aging and Longevity Studies

## Director, School of Social Work

- Mercedes E. Bern-Klug

## Coordinator, Aging and Longevity Studies

- Nadia G. Sabbagh Steinberg

**Undergraduate minor:** aging and longevity studies  
**Undergraduate certificate:** aging and longevity studies  
**Graduate certificate:** aging and longevity studies  
**Faculty:** <https://socialwork.uiowa.edu/people>  
**Website:** <https://socialwork.uiowa.edu/>

Aging and Longevity Studies offers undergraduate and graduate programs and a selection of courses open to students in all majors.

Undergraduate students in the College of Liberal Arts and Sciences who would like to focus on aging and longevity studies as their major or as a second major should consider the individualized plan of study track offered by the Interdepartmental Studies Program; see Interdepartmental Studies [p. 713] in the Catalog. Entry into the program requires approval of a plan of study.

Undergraduate students working on a Bachelor of Arts degree in the School of Social Work have the option to use some aging-related coursework as an area of focus in their major. Graduate students earning a Master of Social Work degree can declare gerontology/aging as an area of focus by completing coursework in aging. For more information, contact the School of Social Work.

Aging and Longevity Studies is administered by the School of Social Work [p. 1049].

## Programs

### Undergraduate Programs of Study

#### Minor

- Minor in Aging and Longevity Studies [p. 46]

#### Certificate

- Certificate in Aging and Longevity Studies [p. 47]

### Graduate Program of Study Certificate

- Certificate in Aging and Longevity Studies [p. 49]

## Career Advancement

The Aging and Longevity Studies Program minor or undergraduate or graduate certificate is an important asset for employment in any field. Working with an aging population and the issues affecting them will be increasingly important as the population of older adults also rises.

Among the organizations that have hired University of Iowa students and alumni are assisted living centers, retirement communities, senior centers, long-term care organizations,

hospice centers, elder services, state government, businesses, advocacy organizations, and athletic clubs.

Areas of employment for individuals with specializations in aging and longevity studies include the following.

- State and local government agencies: State Department on Aging; Area Agency on Aging; all departments will be affected by population aging, even if they do not specialize in working with older adults, such as transportation, energy, housing, human services, small business supports, veterans services, among others.
- Nonprofit organizations: senior centers; the American Association of Retired Persons (national, regional, and state offices); Exploritas/Elderhostels (travel options for older adults).
- Social service organizations: Meals on Wheels, congregate meal sites, heating assistance programs, and transportation.
- Private corporations: human resources departments.

## Courses

### Aging and Longevity Studies Courses

#### ASP:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### ASP:1800 Aging Matters: Introduction to Gerontology 3 s.h.

Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as CSD:1800, NURS:1800, SSW:1800, TR:1800.

#### ASP:2000 Big Ideas: Creativity for a Lifetime 3 s.h.

Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; identification of ways for students to be more creative in their own lives and work. GE: Values and Culture. Same as ARTS:2000, EDTL:2000, RHET:2000.

#### ASP:2181 The Anthropology of Aging 3 s.h.

Comparative anthropological perspective on aging; ethnographies from diverse contexts used to examine intersections of kinship, religion, health, and medicine in later life. Same as ANTH:2181, GHS:2181.

#### ASP:2265 Hard Cases in Healthcare at the End of Life 3 s.h.

Preparation for future healthcare providers to make difficult ethical decisions regarding the end of life; interactive course. Same as GHS:2265, RELS:2265.

- ASP:3135 Global Aging** 3 s.h.  
Demographic factors that contribute to the worldwide phenomena of population aging in context of WHO Active Aging and the United Nation's Principles for Older Persons frameworks. Same as GHS:3050, SSW:3135.
- ASP:3150 Psychology of Aging** 3 s.h.  
The later years of human life viewed from perspectives of developmental psychology, biology, sociology.
- ASP:3151 The Anthropology of the Beginnings and Ends of Life** 3 s.h.  
Examination of diverse understandings of birth and death, drawing on anthropological analysis of personhood, kinship, ritual, and medicine; how social inequality and new technologies shape human experience at life's margins. Prerequisites: ANTH:1101 or ANTH:2100. Same as ANTH:3151, GHS:3151.
- ASP:3152 Anthropology of Caregiving and Health** 3 s.h.  
Diverse understandings and practices of care around the world; focus on relationships between caregiving practices and health across the life course. Same as ANTH:3152, GHS:3152.
- ASP:3160 Biology of Aging** 3 s.h.  
Biogerontology; definition of aging and senescence, biological theories of aging, demographics, model systems foraging, premature aging syndromes, aging of organ systems in humans.
- ASP:3170 Health and Aging** 3 s.h.  
Lifespan approach to understanding human biological development with emphasis on the experience of older adulthood and health; key concepts and how they are measured, including health promotion, wellness, and optimal aging. Recommendations: ASP:1800.
- ASP:3300 Mapping the Creative Legacy** 3 s.h.  
Reviewing a lifetime of creative work offers a unique window into the influences and perspectives that shape an artist's development over decades; understanding creativity throughout the lifespan; fieldwork with senior artists to document the evolution of their original output; generating oral histories, documenting a substantial number of artistic works, and helping to produce a creative legacy; course culminates with a gallery exhibition of senior artists' work, curated by the students.
- ASP:3400 Film, Media, and Aging** 3 s.h.  
Examination of trends in the way that aging and older adulthood are portrayed in film and other media.
- ASP:3519 Politics of Aging** 3 s.h.  
Core concepts and methods related to aging and policies that address the needs of older persons; demographic measures of population health and aging, including incidence and distribution of specific conditions relevant in older age; theories of public policy and involvement of older persons in the political process; key historical and current policies, at both the federal and state/local levels, that influence service provision and the well-being of older persons in the United States. Same as POLI:3519.
- ASP:3740 End-of-Life Care for Adults and Families** 3 s.h.  
End-of-life issues in care of adults, older adults, and their families. Same as MED:3740, NURS:3740.
- ASP:3786 Death/Dying: Issues Across the Life Span** 3-4 s.h.  
Introduction to the field of end-of-life care; examination of student concerns about death, dying, and grieving process; historical, cultural, societal, and personal perspectives of death and dying in modern society. Same as SSW:3786.
- ASP:3900 Independent Study in Gerontology** arr.  
Individual projects and/or research.
- ASP:3920 Service Learning in Aging Studies** 1-3 s.h.  
Experiential learning in settings with older adults. Corequisites: ASP:1800, if not taken as a prerequisite.
- ASP:4000 Senior Living and Support Services for Older Adults and Persons with Disabilities** 3 s.h.  
Overview of continuum of care and services designed to meet needs of older adults and persons with disabilities; services for functionally independent persons; focus on older adults with mild to moderate functional limitations; how services are financed; basic screening and assessment tools and techniques; exploration of services available in individual and group settings (i.e., senior centers, home health, rehab, assisted living, nursing homes, hospice).
- ASP:4165 Communication Disorders and Aging** 1-2 s.h.  
Introduction to speech, language, and hearing processes and disorders among older adults; survey of characteristics of communication and communication breakdown, remediation, and strategies for improving communication with older adults with communication disorders; primarily for majors and other health care service providers. Same as CSD:4165.
- ASP:4190 Aging Studies Internship and Seminar** 3 s.h.  
Opportunities for students in various disciplines to relate their areas of study to older adults and aging; interdisciplinary relationships, approaches to meeting needs of older adults; an online seminar that meets regularly is included in this experience. Same as SSW:4190.
- ASP:4470 Physiology of Aging** 3 s.h.  
Aging's effects on cells, tissues, and organs; how aging influences function of major body organ systems and the whole organism; physiological mechanisms that underlie age-related changes in body function and performance; integrative approach with focus on human aging. Prerequisites: HHP:3500 or HHP:3550. Same as HHP:4470.
- ASP:5401 The Care of the Frail Elderly** 3 s.h.  
Clinical management of the elderly; emphasis on economic considerations, principles of gerontological care, common syndromes, ethical issues; clinical application experience in a long-term care setting. Prerequisites: NURS:5035. Corequisites: NURS:6200 and NURS:6701. Same as NURS:5401.
- ASP:5750 Medicare and Medicaid Policy** 3 s.h.  
Health policies most pertinent to Americans over age of 65. Same as HMP:5750.
- ASP:6000 Graduate Gerontology Capstone** 3 s.h.  
Review of core concepts as identified by the Academy for Gerontology in Higher Education (AGHE) in the form of core competencies; students engage in discussions related to gerontological ethical issues at individual, family, and societal levels; receive guidance in developing and writing a major research paper relevant to their field; and engage in discussions related to uses of their gerontological knowledge in terms of looking for a job or pursuing further education.
- ASP:8355 Introduction to Geriatric Dentistry** 2 s.h.  
Biological, psychological, and social aspects of aging; normal aging and disease processes associated with aging; pathological changes that affect oral health treatment of dental diseases and patient management. Requirements: D.D.S. enrollment or completion of dental hygiene program. Same as PCD:8355.

# Aging and Longevity Studies, Minor

## Requirements

The undergraduate minor in aging and longevity studies requires a minimum of 15 s.h. in aging-related coursework. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor. Coursework in the minor may not be taken pass/nonpass. Courses for the minor must be approved by the Aging and Longevity Studies Program if they are not aging and longevity studies courses (prefix ASP) or are not cross-listed with aging and longevity studies courses. Students earning the minor may not enroll in ASP:4190 Aging Studies Internship and Seminar.

The minor may be earned by undergraduate students in the Colleges of Liberal Arts and Sciences, Education, Engineering, Nursing, and the Tippie College of Business.

Students may earn the minor or the undergraduate certificate in aging and longevity studies, but not both.

The minor in aging and longevity studies requires the following coursework.

Code	Title	Hours
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology (recommended as first course for the minor)	3
Aging and longevity studies courses with the prefix ASP (except ASP:4190) or courses cross-listed with aging and longevity courses; at least 6 s.h. of these must be numbered 3000 or above and must be taken at the University of Iowa		12

# Aging and Longevity Studies, Certificate

## Requirements

The undergraduate Certificate in Aging and Longevity Studies requires 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Undergraduate students may earn the undergraduate certificate or the minor in aging and longevity studies, but not both.

The Certificate in Aging and Longevity Studies takes a multidisciplinary approach to gerontology. Its coursework has been coordinated and sequenced to provide a broad background in aging for students from varied disciplines. Students should speak with the aging and longevity studies coordinator about their intent to earn the certificate and declare the certificate program in MyUI. They work with their academic advisors and the coordinator to develop an individual plan of study that complements their degree program and career interests.

The certificate's required 18 s.h. of credit must be earned in aging and longevity studies courses (prefix ASP) and other courses approved for the program. With permission from the aging and longevity studies coordinator, students also may be able to use other aging-related courses for the certificate. Students must earn at least 12 s.h. of certificate credit in courses numbered 2000 or above, and they must earn at least 12 s.h. toward the certificate at the University of Iowa.

Certificate requirements include a core curriculum of five courses and an additional 3 s.h. of elective coursework from the list of approved aging-related courses. Students may take core courses before or concurrently with other courses in the program, but they should complete the core courses before they enroll in the internship.

Students who complete an aging-related internship or practicum in their major field may be able to count that experience as their aging and longevity studies internship; consult with the aging and longevity studies coordinator. Transfer credit requests are evaluated individually by the aging and longevity studies coordinator.

The Certificate in Aging and Longevity Studies requires the following coursework.

## Core Courses

All certificate students must complete five core courses.

Code	Title	Hours
Both of these:		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology (recommended as first course for the certificate)	3
ASP:3150	Psychology of Aging	3
One of these:		

ASP:2181/ ANTH:2181/ GHS:2181	The Anthropology of Aging	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
One of these:		
ASP:3160	Biology of Aging	3
ASP:3170	Health and Aging	3
ASP:4470/HHP:4470	Physiology of Aging	3
NURS:3138	Nursing and Pharmacological Interventions I	5
One of these:		
ASP:4190/ SSW:4190	Aging Studies Internship and Seminar	3
NURS:3615	Adult Medical/Surgical Nursing Practicum	3

## Electives

Students must complete an additional 3 s.h. of elective coursework selected from aging and longevity studies courses (prefix ASP), NURS:3620 Gerontological Nursing, and/or from approved aging-related courses offered by other academic units. Practicum and/or research courses offered by other academic units may be accepted for internship credit if they focus on aging; students who wish to apply coursework from other departments should consult the Aging and Longevity Studies Program.

Courses not used to satisfy the Core Courses requirement can be used to meet the Electives requirement.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Aging and Longevity Studies, Certificate

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate Certificate in Aging and Longevity Studies requires 18 s.h. of credit.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
ASP:1800	Aging Matters: Introduction to Gerontology <sup>a</sup>	3
Certificate: aging and longevity studies elective (prefix ASP or other approved course) <sup>b</sup>		3
<b>Hours</b>		<b>6</b>
<b>Second Year</b>		
<b>Any Semester</b>		
ASP:4470 or ASP:3160 or ASP:3170	Physiology of Aging <sup>c</sup> or Biology of Aging or Health and Aging	3

ASP:3150	Psychology of Aging	3
ASP:3135 or ASP:2181	Global Aging or The Anthropology of Aging	3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
ASP:4190 or NURS:3615	Aging Studies Internship and Seminar <sup>d</sup> or Adult Medical/Surgical Nursing Practicum	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>18</b>

a This foundation course is recommended to be taken prior to other required or elective courses, if possible.

b See General Catalog for list of approved electives. Nursing students may also take NURS:3620 to satisfy this requirement.

c Nursing students may also take NURS:3138 to satisfy this requirement.

d ASP:4190 is restricted and requires that the student discuss with the certificate coordinator what required courses have been completed prior to enrollment. It is allowable to be finishing one certificate course while also taking the internship.



# Aging and Longevity Studies, Graduate Certificate

## Requirements

The graduate Certificate in Aging and Longevity Studies requires 12 s.h. of credit taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.75 in coursework to earn the certificate. The certificate program is open to University of Iowa graduate students with aging-related career interests and needs.

Credit for the certificate must be earned in Aging and Longevity Studies Program courses (prefix ASP) and other courses approved for the program. With permission from the aging and longevity studies coordinator, students may be able to apply other aging-related courses to the certificate.

The Certificate in Aging and Longevity Studies takes a multidisciplinary approach to gerontology. Its coursework is coordinated and sequenced to provide a broad background in aging for students from varied disciplines.

The Certificate in Aging and Longevity Studies requires the following coursework.

## Core Courses

Students must complete three core courses.

Code	Title	Hours
Both of these:		
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
ASP:3150	Psychology of Aging	3
One of these:		
ASP:3160	Biology of Aging	3
ASP:3170	Health and Aging	3
ASP:4470/HHP:4470	Physiology of Aging	3

## Capstone Course

Code	Title	Hours
This course:		
ASP:6000	Graduate Gerontology Capstone	3

## Admission

University of Iowa students pursuing a graduate degree in any field who are in good academic standing are eligible to apply to the certificate program. To apply, students should complete the application form.

Domestic or international individuals who are not already enrolled in the Graduate College at the University of Iowa and who do not intend to earn a graduate degree must first apply for admission on the Office of Admissions website as a nondegree graduate student. Prospective students should indicate an intention to pursue the certificate on their application. They will then receive a second application form directly from the program.

# American Sign Language

## Director, Division of World Languages, Literatures and Cultures

- Jill Beckman (Linguistics)

## Director of Undergraduate Studies, American Sign Language

- Rebecca "Becca" Clark (World Languages, Literatures and Culture)

**Undergraduate minor:** American Sign Language

**Faculty:** <https://asl.uiowa.edu/people>

**Website:** <https://asl.uiowa.edu/>

The American Sign Language Program offers an undergraduate minor. It also offers a number of courses open to all students. They include a four-semester course sequence in American Sign Language (ASL), and courses on fingerspelling, Deaf culture, ASL literature, ASL interpreting, and other topics. The four-course ASL sequence satisfies the World Languages requirement of the GE CLAS Core [p. 20] (see "Language for GE CLAS Core" below). Classroom instruction is supplemented by video materials and interactive software.

The American Sign Language Program is administered by the Division of World Languages, Literatures and Cultures [p. 395].

## Language for GE CLAS Core

The following four-course sequence satisfies the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Students must demonstrate proficiency in the expressive and receptive elements of each course in order to register for the next course in the sequence.

Code	Title	Hours
ASL:1001	American Sign Language I	4
ASL:1002	American Sign Language II	4
ASL:2001	American Sign Language III	4
ASL:2002	American Sign Language IV	4

Students taking more than one calendar year off from the American Sign Language (ASL) sequence are required to contact the ASL Program to schedule a placement test which will determine their placement in an American Sign Language I-IV course. Students are strongly advised to complete the ASL sequence without such a gap whenever possible. Students taking the placement test and not placing into the next course in the sequence may be retested before the class begins if they have undertaken a significant experience since the last placement test that might warrant retesting. All retesting is at the discretion of the ASL Program.

## Programs

### Undergraduate Program of Study Minor

- Minor in American Sign Language [p. 52]

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC), five All-in-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignALL lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

## Courses

- American Sign Language Courses [p. 50]
- American Sign Language in English Courses [p. 51] (language of instruction is English)

## American Sign Language Courses

### ASL:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings) and visits to Deaf Awareness Week events. Requirements: first- or second-semester standing.

### ASL:1001 American Sign Language I 4 s.h.

Introductory conversational skills and basic American Sign Language grammar; introduction to the ASL cultural community through readings and videos. Taught in American Sign Language. GE: World Languages First Level Proficiency.

### ASL:1002 American Sign Language II 4 s.h.

Continuation of ASL:1001; emphasis on ASL grammar and syntax; exploration of Deaf culture through readings and videos. Taught in American Sign Language. Prerequisites: ASL:1001. GE: World Languages Second Level Proficiency.

### ASL:1101 Fingerspelling and Numbers I 2 s.h.

Development of expressive and receptive American Sign Language fingerspelling, lexicalized fingerspelling, and number skills based on word, phrase, and number recognition. Taught in American Sign Language. Prerequisites: ASL:1002.

### ASL:1102 Fingerspelling and Numbers II 1 s.h.

Development of expressive and receptive American Sign Language fingerspelling, lexicalized fingerspelling, and number skills based on word, phrase, and number recognition. Taught in American Sign Language. Prerequisites: ASL:1101.

### ASL:1500 Introduction to Deaf Studies 3 s.h.

Exploration of an overlooked American minority—the Deaf community; students learn to challenge the medical model for deafness with discussions of Deaf experiences, American Sign Language, and Deaf culture. Taught in English.

**ASL:2001 American Sign Language III 4 s.h.**

Continuation of ASL:1002; emphasis on ASL grammar and the signer's perspective; exploration of Deaf culture through readings and videos. Taught in American Sign Language. Prerequisites: ASL:1002. GE: World Languages Third Level Proficiency.

**ASL:2002 American Sign Language IV 4 s.h.**

Continuation of ASL:2001; emphasis on spatial and depicting verb vocabulary; improvement of conversational fluency and familiarity with American Deaf culture. Taught in American Sign Language. Prerequisites: ASL:2001. GE: World Languages Fourth Level Proficiency.

**ASL:3001 American Sign Language V 4 s.h.**

Continuation of ASL:2002; introduction to advanced grammatical constructions and vocabulary; improvement of conversational fluency as well as familiarity with American Deaf culture. Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C.

**ASL:3100 American Sign Language Conversation 3 s.h.**

Continuation of ASL:2002; emphasis on receptive and expressive conversational ASL skills through small group discussion and class presentations. Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: concurrent enrollment in ASL:2002 if not taken as a prerequisite.

**ASL:3200 Topics in Deaf Studies 3 s.h.**

Current topics in Deaf studies; skill development in communicative fluency in ASL. Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

**ASL:3300 American Deaf Culture 3 s.h.**

Cultural practices, beliefs, and values of the American Deaf community. Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

**ASL:3400 Issues in ASL and Deaf Studies 3 s.h.**

Current issues in American Sign Language and the American Deaf community, such as linguistics, culture, and literacy. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

**ASL:3500 Deafness in the Media 3 s.h.**

Exploration of various ways Deaf people are constructed and presented for hearing audiences from the silent film era to current mainstream productions (e.g., commercial television, movies, advertisements). Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

**ASL:3600 American Sign Language Literature 3 s.h.**

Introduction to the world of ASL literature, as recorded on videotape or film and in live performance; traditional folklore, storytelling, poetry, drama, oratory, jokes, and nonfiction narrative; analysis of genres in their social and cultural contexts as expressions of Deaf experience; how historical and current issues in Deaf culture are represented in literary form. Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

**ASL:3700 Deaf Gain: Reframing Deaf People, Cultures, and Languages 3 s.h.**

With advances in genetic research and medical technologies, there may come a point in time when we are asked, "Why should Deaf people and signed languages continue to exist? Introduction to Deaf studies' response to this question—Deaf Gain; students explore the cognitive, cultural, and creative aspects of Deaf Gain to develop an argument for the continued existence of Deaf communities and their signed languages. Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information.

**ASL:3800 Independent Study arr.**

American Sign Language/Deaf studies topic; individual study.

**ASL:4201 History of the American Deaf Community 3-4 s.h.**

Students discuss the roots of American Deaf community, exploring the development of a distinct language known today as ASL and the culture of Deaf people in America during 19th and 20th centuries. Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information. Same as HIST:4201.

## American Sign Language in English Courses

The courses listed below are taught in English.

**ASLE:2500 Introduction to Interpreting 3-4 s.h.**

Introduction to interpreting; history and current nature of the field, available opportunities, certification, training, ethics. Taught in spoken English. Requirements: students should have some familiarity with a language not their own (spoken or signed); ASL:2002 is prerequisite for the ASL discussion section.

**ASLE:3905 Teaching Deaf and Hard of Hearing Students 3-4 s.h.**

Issues in d/Deaf education; management techniques, communication strategies, teaching strategies, instructional materials, hands-on activities, assessments, parent involvement; use of technology, ethnic and cultural diversity, classroom management, pre-reading techniques, literacy development, educational program options. Taught in English and/or American Sign Language. Requirements: for 4 s.h. option—concurrent enrollment in ASL:2002, if not taken as a prerequisite. Same as EDTL:3905.

# American Sign Language, Minor

## Requirements

The undergraduate minor in American Sign Language (ASL) requires 16 s.h. of ASL coursework, including 12 s.h. in advanced courses numbered 2500 or above taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The minor must include ASL:2002 American Sign Language IV or demonstrated equivalent proficiency. Only one American Sign Language in English course (prefix ASLE) may be applied to the minor in ASL; if students choose to apply an ASLE course toward the minor, it must be taken for 4 s.h. All ASLE courses are taught in English.

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on track to graduate in the typical four-year time frame to meet requirements for the ASL minor:

- before the third semester begins, students should have completed ASL:1001 American Sign Language I (this course should be taken as early as possible); and
- before the sixth semester begins, students should have completed ASL:2002 American Sign Language IV.

The minor in American Sign Language requires the following coursework.

Code	Title	Hours
This course:		
ASL:2002	American Sign Language IV	4
At least 12 s.h. from these:		
ASL:3001	American Sign Language V	4
ASL:3100	American Sign Language Conversation	3
ASL:3200	Topics in Deaf Studies	3
ASL:3300	American Deaf Culture	3
ASL:3400	Issues in ASL and Deaf Studies	3
ASL:3500	Deafness in the Media	3
ASL:3600	American Sign Language Literature	3
ASL:3700	Deaf Gain: Reframing Deaf People, Cultures, and Languages	3
ASL:4201/ HIST:4201	History of the American Deaf Community	3-4
ASLE:2500	Introduction to Interpreting	4
ASLE:3905/ EDTL:3905	Teaching Deaf and Hard of Hearing Students	4

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## American Sign Language, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in American Sign Language (ASL) requires 16 s.h. of ASL coursework, including 12 s.h. of advanced courses numbered 2500 or above taken at the University of Iowa. Students must maintain a GPA of at least 2.00 in all courses for the minor. Coursework in the minor may not be taken pass/nonpass.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ASL:1001	American Sign Language I <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
ASL:1002	American Sign Language II <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
ASL:2001	American Sign Language III <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
ASL:2002	American Sign Language IV <sup>b, c</sup>	4
<b>Hours</b>		<b>4</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: ASL elective <sup>d, e</sup>		3 - 4
<b>Hours</b>		<b>3-4</b>
<b>Spring</b>		
Minor: ASL elective <sup>d, e</sup>		3 - 4
<b>Hours</b>		<b>3-4</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Minor: ASL elective <sup>d, e</sup>		3 - 4
<b>Hours</b>		<b>3-4</b>
<b>Spring</b>		
Minor: ASL elective <sup>d, e</sup>		3 - 4
<b>Hours</b>		<b>3-4</b>
<b>Total Hours</b>		<b>28-32</b>

- a This course is a prerequisite for the required minor courses.
- b Language level placement will be determined by placement exam score and/or interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.
- c Minor must include ASL:2002 or demonstrated equivalent proficiency.
- d Choose from: ASL:3001, ASL:3100, ASL:3200, ASL:3300, ASL:3400, ASL:3500, ASL:3600, ASL:3700, ASL:4201/HIST:4201, ASLE:2500, ASLE:3905/EDTL:3905.
- e Only one American Sign Language course taught in English (ASLE) may be applied to the minor in ASL; if students

choose to apply an ASLE course toward the minor, it must be taken for 4 s.h.

# American Studies

## Interim Chair

- Thomas P. Oates

**Undergraduate majors:** American studies (B.A.); sport studies (B.A.)

**Undergraduate minors:** American studies; sport studies

**Graduate degrees:** M.A. in American studies; Ph.D. in American studies

**Faculty:** <https://americanstudies.uiowa.edu/people>

**Website:** <https://americanstudies.uiowa.edu/>

The Department of American Studies provides an interdisciplinary introduction to American culture, past and present. It helps students acquire a broad familiarity with the dynamics of cultural experience and explore aspects of life in the United States, such as sport, popular and fine arts, institutions, values, gender and ethnic relations, artifacts, and the everyday life of a diverse citizenry.

The department offers undergraduate programs of study in American studies and in sport studies as well as graduate programs of study in American studies, with a sport studies subprogram available in the Ph.D. program of study.

The department also is the administrative home of the Native American and Indigenous Studies Program, which offers an undergraduate minor and undergraduate and graduate certificates; see Native American and Indigenous Studies [p. 910] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in American Studies (Bachelor of Arts) [p. 60]
- Major in Sport Studies (Bachelor of Arts) [p. 63]

#### Minors

- Minor in American Studies [p. 67]
- Minor in Sport Studies [p. 68]

### Graduate Programs of Study

#### Majors

- Master of Arts in American Studies [p. 69]
- Doctor of Philosophy in American Studies [p. 71]

## Courses

- American Studies Courses [p. 54]
- Sport Studies Courses [p. 57]

### American Studies Courses

**AMST:1000 First-Year Seminar** 0-1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, field trips). Requirements: undergraduate first-year standing.

**AMST:1010 Understanding American Cultures** 3 s.h.

The United States in historical, contemporary, and transnational perspective; social and cultural diversity and conflict in American life; debates on concepts of America, the American Dream, national culture, citizenship. GE: Values and Culture.

**AMST:1030 Introduction to African American Culture** 3 s.h.

Examination of Black cultural experiences in the United States and the African diaspora; focus on literature, music, film, comics, anime, popular culture, and visual/performing arts. GE: Diversity and Inclusion. Same as AFAM:1020.

**AMST:1049 Introduction to Native American and Indigenous Studies** 3 s.h.

Exploration of past, present, and future of American Indians in the United States and beyond through film, art, music, and comedy. GE: Values and Culture. Same as HIST:1049, NAIS:1049.

**AMST:1060 Sex and Popular Culture in America** 3 s.h.

Critical and historical introduction to representation of human sexuality in American popular culture from World War II to the present. GE: Values and Culture. Same as ENGL:1410, GWSS:1060.

**AMST:1074 Inequality in American Sport** 3 s.h.

Cultural meanings of sport in contemporary U.S. culture; sport experiences, inclusion, and exclusion as affected by social class, gender and sexuality, age and ability, race and ethnicity, and religion. GE: Diversity and Inclusion. Same as GWSS:1074, SPST:1074.

**AMST:1075 American Popular Music: Rock and Roll to 1980** 3 s.h.

**AMST:1076 Rock and Roll 1980 to the Present** 3 s.h.

From the beginning, rock and roll subcultures have deliberately challenged and changed the values, attitudes, and behaviors of the mainstream (as well as the music itself); during the past 40 years, movements such as punk, hip hop, and electronica have confronted conventional notions of race, gender, sexual identity, social justice, and economic disparities in ways that reveal much about the underlying tensions of American life; using music as a lens, students examine these aspects of the nation's social history from 1980 to the present; materials are drawn from music, films, music videos, popular magazines, newspapers, and books.

**AMST:1080 American Political Humor** 3 s.h.

How political humor reflects and influences American attitudes regarding government institutions, elected officials, the democratic process; how humor works; examples from Revolutionary War present and from varied media, including cartoons, fiction, film, television, internet.

**AMST:1154 Food in America** 3 s.h.

Cultural significance of production, distribution, and consumption of food in the United States. GE: Values and Culture.

**AMST:1290 Native American Foods and Foodways 3 s.h.**

Native Americans as original farmers of 46 percent of the world's table vegetables; examination of food as a cultural artifact (e.g., chocolate, tobacco); food as a primary way in which human beings express their identities; environmental, material, and linguistic differences that shape unique food cultures among Native peoples across the Western Hemisphere; close analysis of Indigenous foods, rituals, and gender roles associated with them; how colonization transformed Native American, European, and African American cultures. GE: Diversity and Inclusion. Same as GHS:1290, HIST:1290, NAIS:1290.

**AMST:1300 American Popular Culture Abroad 3 s.h.**

Exploration of global circulation of American popular culture; how American popular culture depicts the world outside of U.S. borders.

**AMST:1600 War Stories 3 s.h.**

Exploration of the history of U.S. conflicts from Vietnam to the War on Terror through novels, film, and other cultural forms; specific focus on how U.S. social structures influence experiences of war. Same as LATS:1600, SJUS:1600.

**AMST:1630 U.S. History Through Objects 3 s.h.**

Interpretation of U.S. history through stories embedded in material artifacts ranging from guns, farming tools, and religious relics to mechanical toys, office gadgets, and vehicles; invention, manufacture, and marketing of tools and objects; their use and adaptation by various groups of Americans (women, African Americans, immigrants); meanings and memories invested in them; preservation of objects in museums, attics, and time capsules.

**AMST:1700 Fake News: A History of Misinformation in the United States 3 s.h.**

Fake news is sometimes imagined as a recent phenomenon, but misinformation campaigns have a long history in the United States; students survey some of the most significant instances of misinformation in U.S. history from the 18th century to present, explore the historical context that motivated the attempt at misinformation, consider how people sought to combat it, and reflect on outcomes and implications of these campaigns; tools to effectively identify and combat misinformation in contemporary life. Recommendations: basic knowledge of U.S. history.

**AMST:1800 American Gothic: Film, Literature, and Popular Culture 3 s.h.**

Gothic eruptions of the uncanny in 19th- through 21st-century American literature, film, and mass culture; how ghosts, vampires, and visitants from the dark side call attention to fluid or liminal social space while communicating information and anxieties about repressed histories, economic change, and unstable intersections of gender, sexuality, race, religion, and class identities; special attention given to modernity and post-modernity of American gothic as an artifact of U.S. consumer culture and mass visual media. GE: Literary, Visual, and Performing Arts.

**AMST:1847 Hawkeye Nation: On Iowa and Sport 3 s.h.**

Identity, community, and place explored within local frameworks: the University of Iowa, Iowa City, State of Iowa; how sport, literature, film, other cultural institutions forge connections to community and shape Iowa's image in the public imagination; identity and community as complex and contested issues; local rituals, sites of memorialization, acts of erasure, management and use of public and private space such as UI athletic complex, Field of Dreams, Iowa Writers' Workshop, Iowa Avenue Literary Walk, Blackhawk Park; interdisciplinary approaches grounded in American studies, sport studies, Native American and Indigenous studies, literature, history. Same as SPST:1847.

**AMST:1900 Time in America: Clocks, Calendars, and Capsules 3 s.h.**

History of technologies for telling the time, from ancient water clocks to atomic clocks; changing methods of measuring, subdividing, and regulating time in 19th- and 20th-century America; implementation of (and resistance to) time discipline in factories, plantations, and offices; rituals for marking historical time (e.g., time capsules); fantasies of time travel in fiction and film; debates about the acceleration of time and emergence of a "slow movement."

**AMST:2000 Introduction to American Studies 3 s.h.**

Variety of historic and contemporary sources, such as literature, law, photography, painting, film, TV, music, fashions, environments, events of everyday life. GE: Values and Culture.

**AMST:2025 Diversity in American Culture 3 s.h.**

History and variety of American identities, examined through citizenship, culture, social stratification; conflict and commonalities among groups according to race, ethnicity, gender, class, sexuality; how art, literature, music, film, photography, and other cultural artifacts represent diversity of identities. GE: Diversity and Inclusion.

**AMST:2050 The American Vacation 3 s.h.**

Development of the Idea of vacation from upper-class origins to acceptance as part of middle- and working-class life; Niagara Falls, Saratoga Springs, the Catskills, Atlantic City, Idlewild, Coney Island, national parks of the American West, Chicago World's Fair, Gettysburg, Disneyland; how vacation experiences and meanings are shaped by social class, race, gender, age; growth of leisure time, labor legislation, proper use of leisure time, tourism, vacations as social rituals, golden age of family vacations. Same as SPST:2050.

**AMST:2084 Sport and Film 3 s.h.**

Sport films as means of exploring contemporary ideas about sport in the U.S.; focus on narrative structure, characterization, historical, and political contexts; formal aspects of film analysis (e.g., editing, lighting, cinematography). Same as SPST:2084.

**AMST:2100 This is America: The Cultural Politics of Popular Music 3 s.h.**

Cultural politics of U.S. popular music and broader soundscape of Americana; students examine how race, class, gender, and power factor into what sounds "American."

**AMST:2130 African American Film Seminar 3 s.h.**

Major historical and cultural movements in Black cinema; independent and early Hollywood films, animation, blaxploitation, the Black renaissance, Black auteurs (e.g., Spike Lee, Julie Dash), hip hop cinema, womanist films, 21st-century developments in film (e.g., theatre to film adaptations of Tyler Perry), new media's effect on film and cinema; particular attention given to gender, sexualities, region, ethnicity, and class. Same as AFAM:2130.

- AMST:2150 Money, Capitalism, and Culture** 3 s.h.  
Investigation of novels, film, and art that represent complicated social and cultural life of money; how money's movement through American society shapes and is shaped by gender, race, and class dynamics; social origins and historical consequences of money, capital, and stock market; how novelists, filmmakers and artists come to terms with capitalism's ever-expanding reach.
- AMST:2160 Love and Romance in America** 3 s.h.  
Exploration of the role of love and romance in the American experience; analysis of love and romance in their association with American ideals—pursuit of happiness, upward mobility, and liberation of self, nation, and world; history of romance as a genre; contemplation of picket fences, free love, bromance, valentines, green cards, desperate housewives, break-ups, hook-ups, and (un)happily ever after. Same as GWSS:2160.
- AMST:2165 Native Peoples of North America** 3 s.h.  
History, culture of American Indian peoples; emphasis on North America. GE: Diversity and Inclusion. Same as ANTH:2165, NAIS:2165.
- AMST:2230 Fame and Celebrity in U.S. History** 3 s.h.  
Cultural history of the meanings and implications of fame and celebrity in America; conception of fame in the 18th century as something earned through great deeds and conferred by future generations; rise of a culture of celebrity in 19th- and 20th-century America; focus on theater, sports, movie, and musical stars; use of celebrities to sell products; implications for presidential campaigns; instant and ephemeral celebrity generated by television and the internet. Same as HIST:2230.
- AMST:2300 Native Americans in Film** 3 s.h.  
Representations of Native Americans in film from the western to science fiction and animation. Same as NAIS:2300.
- AMST:2700 The Black Image in Sequential Art: Comics, Graphic Novels, and Anime** 3 s.h.  
Provides a foundation to critically interpret the representation of people of African descent in sequential art; primary focus on serial comic strips, gags, comic books, graphic novels, video games, animation, anime, Manga, film, zines, and televised examples of Blackness; emphasis of readings and viewing materials on gender, sexualities, economics, ethnicity, the transnational circulation and commodification of the Black image, fandom communities, independent and mainstream sequential art producers. Same as AFAM:2700.
- AMST:3050 Topics in American Cultural Studies** 3 s.h.  
Special topics in American history, literature, culture.
- AMST:3053 The Civil Rights Movement** 3 s.h.  
History of the American civil rights movement. Same as AFAM:3053, HIST:3253.
- AMST:3078 Archiving Women's History** 3 s.h.  
Exploration of girls' and women's history in Iowa through collections at the Iowa Women's Archives; introduction to archival research, digital humanities, and Omeka (a digital collection and exhibit platform) with focus on sport-related collections; guided individualized research and exhibit development. Same as GWSS:3078, SPST:3078.
- AMST:3100 Critical Race Theory: Culture, Power, and Society** 3 s.h.  
Examination of the historical context of race and racism in U.S. history; focus on how social structures perpetuate longstanding patterns of racial inequality. Same as AFAM:3100, SOC:3100.
- AMST:3171 Baseball in America** 3 s.h.  
Forces that influenced political, economic, and social development of professional baseball in the United States; rise of major league baseball, its relationship to the minor leagues, and development of organized baseball industry. Same as SPST:3171.
- AMST:3178 Making It: Modern Sport and U.S. Society** 3 s.h.  
Growth and institutionalization of sport from colonial times to 1900. Same as SPST:3178.
- AMST:3179 Twentieth-Century American Sport** 3 s.h.  
Historic development of sport in the United States between 1900 and 2000; economic forces, professionalization, growth of media, and increasing opportunities and ongoing challenges for various sporting populations. Same as SPST:3179.
- AMST:3195 American Cultures and American Photography** 3 s.h.  
Introduction to visual, cultural, and historical frameworks to view and interpret photographs as material artifacts.
- AMST:3198 New Media and the Future of Sport** 3 s.h.  
Emergence and significance of internet blogs, social media, convergence journalism, video games, and fantasy sports; economic, regulatory, and cultural forces that shape new media sport journalism and entertainment. Same as JMC:3135, SPST:3198.
- AMST:3205 American Cultural History** 3 s.h.  
Nineteenth- and twentieth-century U.S. history from a cultural perspective; culture defined broadly to encompass paintings, sculpture, theater, novels, and newer forms of entertainment made available by lithography, photography, cinema, the phonograph, radio, and television; rather than assume Americans were passive consumers of commercial culture, students examine how Americans expressed themselves through foodways, home decor, clothing fashions, or slang; how Americans drew on these cultural forms in social/political struggles over race, gender, class, and sexuality. Same as HIST:3205.
- AMST:3249 History of Iowa and the Midwest** 3 s.h.  
People of Iowa and surrounding Midwestern states—a land where people work hard, are practical, down to earth, and honest; the idea of a place in the heartland as real or simply a myth; history of Midwestern states from Native American occupation to present; how reality, ideas, and images are portrayed. Same as HIST:3249.
- AMST:3251 The Office: Business Life in America** 3 s.h.  
History of business life in America from birth of Wall Street to rise of Silicon Valley; modes of managing and regulating office workers; changing designs of office buildings, furniture, gadgets; corporate response to rise of class inequalities and growing gender and racial diversity in workforce; portrayal of businessperson in novels, movies, television, art, photography. Same as HIST:3251.



- AMST:3265 American Monuments** 3 s.h.  
History of public monuments in America from the inception of first major monuments in the 1820s to the latest incarnations (e.g., counter-monuments such as the 9/11 Memorial, spontaneous and temporary monuments, online memorials); how monuments have depicted Indians, Blacks, Southern confederates, women, and other groups; how monuments have commemorated wars, Indian massacres, lynchings, and political movements (e.g., civil rights, women's suffrage); how monuments have been reinterpreted through popular protests and depositing of artifacts; why monuments have attracted so much controversy, culminating in recent events at Charlottesville. Same as HIST:3265.
- AMST:3410 Undocumented America: Citizenship, Race, and Immigration** 3 s.h.  
Examination of how literature and culture responds to and rearticulates culture, history, legal logic, and economic parameters that frame who is "legal" and "illegal" and how undocumented immigrants document and contest their lack of rights; how designations of immigrant's illegal or undocumented status depend on and maintain U.S. discourse about race and ethnicity. Same as LATS:3410.
- AMST:3415 Latina/o/x Protest, Movement, Resistance** 3 s.h.  
Examination of history, form, and function of protest, social movement, and resistance by Latina/o/x peoples in the United States. Same as LATS:3415, SJUS:3415.
- AMST:3420 Latinas/os/x and the Law** 3 s.h.  
Introduction and survey of Latina/o/x legal history; topics include segregation, educational rights, immigration, voting rights, citizenship, and the criminal justice system. Same as LATS:3420, POLI:3427, SJUS:3420.
- AMST:3430 Women on Stage** 3 s.h.  
Examination of how and why women in the United States have expressed themselves through theatre and performance from 1776 to present; students study plays as performed events in specific times and places for specific audiences through works by African American, Asian American, European American, Latina, Native American, and lesbian/queer writers; what the theater—as a public, embodied art form—offers female writers; how stakes differ for women of diverse backgrounds in using this often suspect and uniquely powerful medium in particular historical moments; how changing definitions of gender and sexuality come into play; prior background in theater not required. Same as GWSS:3430, THTR:3430.
- AMST:3450 Queer Latina/o/x Studies** 3 s.h.  
Relationship of Latina/o/x culture with gender, sexuality, and queerness. Same as LATS:3430, SJUS:3430.
- AMST:3600 Digitizing Blackness** 3 s.h.  
Examination of Black cultural experiences in digital spheres, including digital humanities and new information technologies; focus on Afrofuturism, gaming, augmented reality, digital mapping, podcasting, social media, and digital cultures; exposure to digital tools and methods. Same as AFAM:3600.
- AMST:3900 Seminar in American Cultural Studies** 3 s.h.  
Interdisciplinary perspectives on a single theme or period.
- AMST:3994 Independent Study** arr.
- AMST:4800 Latina/o/x Popular Culture** 3 s.h.  
Role of Latina/o/x popular culture as a site of contemporary social practice and cultural politics in both local and global contexts; specific attention to notions of citizenship, identity, and culture. Taught in English. Same as LATS:4800, SPAN:4820.
- AMST:4999 Honors Project** arr.  
Independent interdisciplinary research, writing.
- AMST:5000 Interdisciplinary Research in American Cultures** 3 s.h.  
Research, theories, and methods in the interdisciplinary study of American cultures.
- AMST:5002 Critical Theories and Cultural Studies** 3 s.h.  
Exploration and application of critical theories to contemporary sport; feminism, Marxism, critical race theory, whiteness studies, queer theory, postcolonial theory, postmodernism, and poststructuralism. Same as SPST:5002.
- AMST:6050 Seminar: Topics in American Studies** 3 s.h.  
American cultural history; urbanization, mass media, pluralism, assimilation.
- AMST:6074 Seminar in Sport History** 3 s.h.  
Topics in sport history; theoretical and methodological issues. Same as SPST:6074.
- AMST:6140 Engaged Scholarship in the Humanities** 0,3 s.h.  
Survey of literature on community-engaged scholarship (CES) in the humanities; exploration of the pioneering work of engaged scholars in Native American, Latino, and African American studies; students write a research prospectus that is consistent with CES methodologies. Same as HIST:6140.
- AMST:6300 Writing for Learned Journals** 1-4 s.h.  
Seminar that supports graduate students in bringing written work to publishable form; analysis of target journals' audiences, interests, and citation politics; submission and the publication process; response to reader reports and criticism; best writing and research practices; discussion of knowledge cultures and discourses in disciplines and the contemporary academy. Same as GRAD:6300, GWSS:6300, RHET:6330.
- AMST:6500 Critical Readings in Cultural Studies: Stuart Hall's Legacy and Influences** 3 s.h.  
Exploration of the scholarship of Stuart Hall along with theories, methods, and history of cultural studies; focus on major areas of Hall's work including Marxist thought and the political economy, diasporas and globalization, cultural production and popular culture, film and cinema studies, race, ethnicity, identity, and difference; key theorists that influenced Stuart Hall (e.g., Marx, Foucault, Fanon, Gramsci, Althusser) and scholars in cultural studies that have made appropriate use of Hall's writings and theories in their own work; role of theory in everyday life and the critical role of public intellectuals. Same as AFAM:6500, ENGL:6050.
- AMST:7077 Sport Studies Workshop** 1 s.h.  
Development of individual research projects for group discussion. Requirements: graduate standing in American studies or sport studies. Same as SPST:7070.
- AMST:7085 Dissertation Writing Workshop** 1 s.h.  
Dissertation preparatory work with peer and faculty critiques, including preparation of a prospectus, research activities, and chapter writing. Requirements: American studies graduate standing with postcomprehensive examination status.
- AMST:7090 Ph.D. Thesis** arr.
- AMST:7994 Independent Study** arr.
- ## Sport Studies Courses
- SPST:1000 First-Year Seminar** 1-2 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

- SPST:1074 Inequality in American Sport** 3 s.h.  
Cultural meanings of sport in contemporary U.S. culture; sport experiences, inclusion, and exclusion as affected by social class, gender and sexuality, age and ability, race and ethnicity, and religion. GE: Diversity and Inclusion. Same as AMST:1074, GWSS:1074.
- SPST:1847 Hawkeye Nation: On Iowa and Sport** 3 s.h.  
Identity, community, and place explored within local frameworks: the University of Iowa, Iowa City, State of Iowa; how sport, literature, film, other cultural institutions forge connections to community and shape Iowa's image in the public imagination; identity and community as complex and contested issues; local rituals, sites of memorialization, acts of erasure, management and use of public and private space such as UI athletic complex, Field of Dreams, Iowa Writers' Workshop, Iowa Avenue Literary Walk, Blackhawk Park; interdisciplinary approaches grounded in American studies, sport studies, Native American and Indigenous studies, literature, history. Same as AMST:1847.
- SPST:2050 The American Vacation** 3 s.h.  
Development of the Idea of vacation from upper-class origins to acceptance as part of middle- and working-class life; Niagara Falls, Saratoga Springs, the Catskills, Atlantic City, Idlewild, Coney Island, national parks of the American West, Chicago World's Fair, Gettysburg, Disneyland; how vacation experiences and meanings are shaped by social class, race, gender, age; growth of leisure time, labor legislation, proper use of leisure time, tourism, vacations as social rituals, golden age of family vacations. Same as AMST:2050.
- SPST:2077 Sport and Religion in America** 3 s.h.  
Sport as a religion; religiosity in sports; examination of religion and sport as connected in important ways in American society. Same as RELS:2877.
- SPST:2078 Women, Sport, and Culture** 3 s.h.  
Feminist analysis of girls' and women's sports experiences, including reproduction of gender through sport, recent changes in women's intercollegiate athletics, media representations of women's sport, feminist critiques, alternatives to sport. Same as GWSS:2078.
- SPST:2079 Race and Ethnicity in Sport** 3 s.h.  
Structural and ideological barriers to racial and ethnic equality in sport, with focus on African American sport experiences; historical and contemporary issues, media representations. Same as AFAM:2079.
- SPST:2081 Theory and Ethics of Coaching** 3 s.h.  
Philosophical bases, ethical issues; theoretical, practical applications.
- SPST:2084 Sport and Film** 3 s.h.  
Sport films as means of exploring contemporary ideas about sport in the U.S.; focus on narrative structure, characterization, historical, and political contexts; formal aspects of film analysis (e.g., editing, lighting, cinematography). Same as AMST:2084.
- SPST:2170 Sport and Globalization** 3 s.h.  
Sport as both a global and local phenomenon; influence of global economic, political, and cultural forces on local sporting expressions, experiences, and identities; global sporting cultures from cricket to capoeira; global sporting spectacles from the Olympics and Paralympics to the FIFA World Cup; global sporting celebrities and athlete migrants from Maria Sharapova and Cristiano Ronaldo to Yao Ming and Dominican Republic baseball; global sporting production, consumption, and development from global labor and environmental concerns to sport for development and peace. GE: International and Global Issues.
- SPST:2500 Sport and Technology** 3 s.h.  
Connections between sport and technology; performance enhancement to paralympians, sex testing to scientific racism, Fitbits to e-sports, data analytics and journalism; cultural approaches to understanding how science, medicine, and technology impact active bodies, sporting industries, and infrastructure; debates regarding risks and responsibilities; exploration of various roles (e.g., athletes, administrators, architects, engineers, programmers, trainers) in creating and sustaining past, present, and future of sports.
- SPST:3078 Archiving Women's History** 3 s.h.  
Exploration of girls' and women's history in Iowa through collections at the Iowa Women's Archives; introduction to archival research, digital humanities, and Omeka (a digital collection and exhibit platform) with focus on sport-related collections; guided individualized research and exhibit development. Same as AMST:3078, GWSS:3078.
- SPST:3171 Baseball in America** 3 s.h.  
Forces that influenced political, economic, and social development of professional baseball in the United States; rise of major league baseball, its relationship to the minor leagues, and development of organized baseball industry. Same as AMST:3171.
- SPST:3172 Football in America** 3 s.h.  
Forces that influenced political, economic, and cultural development of college and professional football in the United States; rise of the National Football League and its relationship to college football and commercial media interests.
- SPST:3173 Cultures of Basketball** 3 s.h.  
Exploration of different ways basketball has been played, marketed, and celebrated in the United States and globally. Recommendations: background in U.S. history and/or African-American history.
- SPST:3175 Sport and the Media** 3 s.h.  
Examination of sport and media's intimate relationship; aesthetic, cultural, political, economic, and industrial factors that shape it. Same as JMC:3183.
- SPST:3176 Sport and Nationalism** 3 s.h.  
Role of sport in the phenomenon of nationalism; selected theories; case studies on Ireland, Australia, British West Indies, Cold War United States, and fascist Europe.
- SPST:3177 Sport in the Western World** 3 s.h.  
Development of Western sport; relation to social, political, economic, intellectual factors.
- SPST:3178 Making It: Modern Sport and U.S. Society** 3 s.h.  
Growth and institutionalization of sport from colonial times to 1900. Same as AMST:3178.

- SPST:3179 Twentieth-Century American Sport 3 s.h.**  
Historic development of sport in the United States between 1900 and 2000; economic forces, professionalization, growth of media, and increasing opportunities and ongoing challenges for various sporting populations. Same as AMST:3179.
- SPST:3181 The Business of Sport Communication 3 s.h.**  
Critical and practical approach to understanding contemporary sports media and business practices that mark it; focus on sports media industries and institutions; branding, marketing, demographic, public relations, and promotional factors that shape content. Same as JMC:3540.
- SPST:3182 Sport, Scandal, and Strategic Communication in Media Culture 3 s.h.**  
Use of sport scandal to consider relationship between sport and media in American and global popular culture; broad range of case studies used to consider what constitutes a sport scandal, how this definition shifts in different circumstances; crucial roles media play in creating, communicating, and diffusing these crises; how phenomenon of sports scandal has intensified along with emergence of cable television, internet, and social media. Same as JMC:3182.
- SPST:3184 Narrative Sports Journalism 3 s.h.**  
Historical review of long-form sports journalism to understand development of subjects, form, and technique of sports coverage and long-form nonfiction writing; students read several long-form articles and books that incorporate reporting about sports, and propose an original long-form work about sports. Same as JMC:3184.
- SPST:3193 Independent Study arr.**  
Problem in a specific area.
- SPST:3198 New Media and the Future of Sport 3 s.h.**  
Emergence and significance of internet blogs, social media, convergence journalism, video games, and fantasy sports; economic, regulatory, and cultural forces that shape new media sport journalism and entertainment. Same as AMST:3198, JMC:3135.
- SPST:3500 The Olympics 3 s.h.**  
Real-time analysis and evaluation of current Winter or Summer Olympic and Paralympic Games; cultural history of modern Olympic Games (1896 to present); economics and politics of mega-events (e.g., cancellations, boycotts, protests); amateurism, professionalism, and athlete migrants; commercialization, broadcasting rights, and branding; nationalism, internationalism, and (post)colonialism; social and cultural impacts and controversies (e.g., social and environmental sustainability); Olympic bids, committees, and hosts; sex, gender, and racial discrimination; doping; technology, television, and social media.
- SPST:3911 Sport Since 9/11 3 s.h.**  
Profound impact of events of September 11, 2001 in the United States and abroad; how sport has often played a role in constructing understandings of the United States and what it means to be a U.S. citizen; use of sport to interrogate U.S. nationalism and what it means to be a U.S. citizen in post-9/11 era; investigation of stories about the United States after 9/11 using responses from MLB and NFL, 2002 Olympics, and others; the future; how more critically nuanced understandings of sport's role in the United States might lead us to become more reflective and active citizens.
- SPST:4999 Honors Project 1-3 s.h.**
- SPST:5002 Critical Theories and Cultural Studies 3 s.h.**  
Exploration and application of critical theories to contemporary sport; feminism, Marxism, critical race theory, whiteness studies, queer theory, postcolonial theory, postmodernism, and poststructuralism. Same as AMST:5002.
- SPST:6010 Nonprofit Organizational Effectiveness I 3 s.h.**  
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, MGMT:9150, PBAF:6278, RELS:6070, SSW:6247, URP:6278.
- SPST:6020 Nonprofit Organizational Effectiveness II 3 s.h.**  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, MGMT:9160, PBAF:6279, RELS:6075, SSW:6248, URP:6279.
- SPST:6072 Seminar in Cultural Studies of Sport 3 s.h.**  
Current theoretical debates in sport studies; applications of critical cultural studies theories to critical analysis of sport.
- SPST:6074 Seminar in Sport History 3 s.h.**  
Topics in sport history; theoretical and methodological issues. Same as AMST:6074.
- SPST:7070 Sport Studies Workshop 1 s.h.**  
Development of individual research projects for group discussion. Requirements: graduate standing in American studies or sport studies. Same as AMST:7077.
- SPST:7090 Thesis: Ph.D. arr.**
- SPST:7940 Independent Study arr.**

# American Studies, B.A.

American studies majors develop broad training in cultural analysis and communication. Students take courses that make sense of the contemporary world, both nationally and internationally, using a variety of approaches to the study of culture, including film, the digital humanities, art, theater, and literature. Building on the strengths of the faculty, students use a variety of approaches to study culture that includes racial and ethnic studies, gender studies, media studies, the digital humanities, history, art, theater, and literature.

## Learning Outcomes

Upon completion of the B.A. in American studies, students should have:

- a deepened knowledge and critical understanding of American history, cultures, and society;
- the ability to interpret a range of sources (literature, painting, maps, diaries, music, census data, material objects) and to integrate those sources into a persuasive argument about American culture; and
- the ability to explain one's own perspective on American identity and to place that identity in the diverse, global context of our time.

## Requirements

The Bachelor of Arts with a major in American studies requires a minimum of 120 s.h., including 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. At least 24 s.h. for the major must be earned at the University of Iowa.

The major in American studies stresses broad training in cultural analysis and communication. American studies students may arrange internships (1-3 s.h.) for credit toward their major through the University's Pomerantz Career Center.

Shortly after declaring the major, students should meet with their advisor to explore the range of coursework available and to begin shaping a plan of study. By the second semester in the major, students and their advisor should have agreed upon a plan of study for completing the requirements for the major.

The B.A. with a major in American studies usually requires the following 11 courses.

Code	Title	Hours
AMST:1010	Understanding American Cultures	3
AMST:2000	Introduction to American Studies	3
AMST:2025	Diversity in American Culture	3
AMST:3900	Seminar in American Cultural Studies	3
One additional American studies course numbered 2000 or above		3
One additional American studies course numbered 3000 or above		3
Five additional American studies courses		15
<b>Total Hours</b>		<b>33</b>

## Honors

### Honors in the Major

Students majoring in American studies may graduate with honors in the major. They must maintain a University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in the major.

The honors project is usually undertaken in a student's final semester. Students should identify a potential project topic and an advisor from the American studies faculty the semester before. Work for the honors project is done under the supervision of a faculty member with expertise in the topic the student is exploring. Projects typically take the form of traditional scholarly research. However, they also can be organized around public engagement, the digital humanities, or other formats decided on in consultation with the faculty advisor.

Students should enroll in AMST:4999 Honors Project for 3 s.h. The credit counts toward the 33 s.h. of work required for the American studies major.

Students who pursue honors projects in two departments may not submit the same project for both unless special permission is obtained from each department. Such an option would require more substance and depth than projects undertaken in one department. Students should check with honors advisors from both departments before they pursue such projects.

### University of Iowa Honors Program

In addition to honors in the major, students may pursue honors study through the University of Iowa Honors Program. University honors students must maintain a 3.33 g.p.a., complete 12 s.h. of coursework designated as honors courses, and complete 12 s.h. of an experiential learning project. Visit Honors at Iowa for more details.

Membership in the UI Honors Program is not required to earn honors in the American studies major.

## Career Advancement

American studies provides preparation for careers in business, public relations, marketing, advertising, diversity outreach, tourism, education, politics and government, social service, media and journalism, museums, and the arts. It also provides a good foundation for graduate studies in the humanities, the social sciences, theology, business, or law.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** declaration of the major and discussion of a plan of study with an American studies advisor.

**Before the seventh semester begins:** at least six courses from the plan of study and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least nine courses from the plan of study.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### American Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
AMST:1010	Understanding American Cultures <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		1 - 3
<b>Hours</b>		<b>13-17</b>
<b>Spring</b>		
AMST:2025	Diversity in American Culture <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		1 - 2
<b>Hours</b>		<b>14-17</b>
<b>Second Year</b>		
<b>Fall</b>		
AMST:2000	Introduction to American Studies	3
GE CLAS Core: Social Sciences <sup>e</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: 2000-level or above course		3
Major: elective course <sup>f</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5

Elective course <sup>d</sup>	3
<b>Hours</b>	<b>17-18</b>

### Third Year

#### Fall

Major: 3000-level or above course	3
Major: elective course <sup>f</sup>	3
GE CLAS Core: Historical Perspectives <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

#### Spring

Major: elective course <sup>f</sup>	3
GE CLAS Core: International and Global Issues <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

### Fourth Year

#### Fall

Major: elective course <sup>f</sup>	3
Major: elective course <sup>f</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

#### Spring

AMST:3900	Seminar in American Cultural Studies	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours 15**

**Total Hours 120-129**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students are required to complete 15 s.h. of additional American studies courses.

g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Sport Studies, B.A.

## Learning Outcomes

Graduates of the B.A. in sport studies learn how to study sport critically and understand its complex cultural meanings. This entails an understanding of:

- contemporary U.S. sport's relationship to institutions and contexts including media, politics, and the economy;
- the diversity of sport experiences in the U.S., including how opportunities for and the nature of participation are influenced by social class, race, ethnicity, nationality, gender, sexuality, age, and ability/disability;
- the historical and cultural forces that shape U.S. sport from the 19th century to the present;
- how U.S. sport relates to global sport and the historical, political, and social factors that impact it; and
- the theories and research methods that allow students to forge their own well-informed and clearly communicated critical studies of sport.

## Requirements

The Bachelor of Arts with a major in sport studies requires a minimum of 120 s.h., including 45 s.h. of work for the major (30 s.h. in sport studies and 15 s.h. in an outside concentration area or a minor). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. At least 24 s.h. of credit for the major must be earned at the University of Iowa. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The sports studies major examines the meaning, history, and culture of sport. Coursework provides students with the critical skills necessary to understand sport's relationship to media, economics, politics, and education. A focus on race, class, and gender in sport is central to the major.

The B.A. with a major in sport studies requires the following coursework.

Code	Title	Hours
	Sport Studies Foundation Courses	6
	Sport Studies Core Courses	12
	Electives (approved courses)	12
	Outside Concentration Area or Minor	15
<b>Total Hours</b>		<b>45</b>

## Sport Studies Foundation

Students should complete the foundation courses as early as possible.

Code	Title	Hours
Both of these:		
AMST:1010	Understanding American Cultures	3
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3

## Sport Studies Core

Students must complete one course from each of the following four content areas (total of 12 s.h.).

## Diversity in Sport

Code	Title	Hours
One of these:		
SPST:2078/ GWSS:2078	Women, Sport, and Culture	3
SPST:2079/ AFAM:2079	Race and Ethnicity in Sport	3

## International Dimensions

Code	Title	Hours
One of these:		
SPST:2170	Sport and Globalization	3
SPST:3176	Sport and Nationalism	3
SPST:3177	Sport in the Western World	3
SPST:3500	The Olympics	3

## Contemporary Sport in America

Code	Title	Hours
One of these:		
SPST:3175/ JMC:3183	Sport and the Media	3
SPST:3911	Sport Since 9/11	3

## History of Sport and Leisure in America

Code	Title	Hours
One of these:		
SPST:3178/ AMST:3178	Making It: Modern Sport and U.S. Society	3
SPST:3179/ AMST:3179	Twentieth-Century American Sport	3

## Electives

Students must complete at least 12 s.h. of approved elective courses; the department suggests courses from the following list. Courses not used to satisfy the sport studies core can serve as electives; see "Sport Studies Core" above.

Code	Title	Hours
AMST:2000	Introduction to American Studies	3
SPST:1847/ AMST:1847	Hawkeye Nation: On Iowa and Sport	3
SPST:2077/ RELS:2877	Sport and Religion in America	3
SPST:2081	Theory and Ethics of Coaching	3
SPST:2084/ AMST:2084	Sport and Film	3
SPST:2500	Sport and Technology	3
SPST:3171/ AMST:3171	Baseball in America	3
SPST:3172	Football in America	3
SPST:3173	Cultures of Basketball	3
SPST:3181/ JMC:3540	The Business of Sport Communication	3
SPST:3182/ JMC:3182	Sport, Scandal, and Strategic Communication in Media Culture	3
SPST:3184/ JMC:3184	Narrative Sports Journalism	3

SPST:3193	Independent Study	arr.
SPST:3198/ AMST:3198/ JMC:3135	New Media and the Future of Sport	3
SPST:4999	Honors Project	1-3

## Outside Concentration Area or Minor

All sport studies students must complete 15 s.h. of coursework in an allied field of concentration outside the major (e.g., American studies; journalism and mass communication; business; gender, women's, and sexuality studies). Work for the concentration must include 6 s.h. earned in courses numbered 3000 or above or in courses that are designated advanced by the department or program that offers them. Concentration area courses may not be taken pass/nonpass.

Students select their allied field of concentration in consultation with the sport studies advisor, and they must have their advisor's written approval for the area.

Students also may satisfy the concentration requirement by earning a second major or a minor in another discipline. Students who satisfy the requirement in this way are responsible for ensuring that they have fulfilled the requirements for the second major or the minor.

## Coaching Authorization or Endorsement

Students may prepare for coaching by completing additional coursework that also qualifies them for a coaching authorization from the State of Iowa. The following courses are recommended.

Code	Title	Hours
HHP:1100	Human Anatomy	3
HHP:3300	Human Growth and Motor Development	3
SPST:2081	Theory and Ethics of Coaching	3

Students who successfully complete the requirements for the coaching authorization must submit an application to the Iowa Board of Educational Examiners. For more information, visit Coaching for Iowa K-12 Schools on the board's website.

## Honors

### Honors in the Major

Students majoring in sport studies may graduate with honors in the major. They must maintain a University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in the major.

The honors project is usually undertaken in a student's final semester. Students should identify a potential project topic and advisor from the sport studies faculty the semester before. Work for the honors project is done under the supervision of a faculty member with expertise in the topic the student is exploring. Projects typically take the form of traditional scholarly research. However, they also can be organized around public engagement, the digital humanities, or other formats decided on in consultation with the faculty advisor.

Students should enroll in SPST:4999 Honors Project for 3 s.h. The course counts toward sport studies elective credit.

Students who pursue honors projects in two departments may not submit the same project for both unless special permission is obtained from each department. Such an option would require more substance and depth than projects undertaken in one department. Students should check with honors advisors from both departments before they pursue such projects.

## University of Iowa Honors Program

In addition to honors in the major, students may pursue honors study through the University of Iowa Honors Program. University honors students must maintain a 3.33 g.p.a., complete 12 s.h. of coursework designated as honors courses, and complete 12 s.h. of an experiential learning project. Visit Honors at Iowa for more details.

Membership in the UI Honors Program is not required to earn honors in the sport studies major.

## Career Advancement

Many sport studies students use their experience to prepare for graduate school. For others, the required second area of concentration or minor serves as an introduction to careers in a number of fields, such as sports journalism, sports information, sport management, law, or coaching.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** declaration of the major.

**Before the sixth semester begins:** area of concentration determined.

**Before the seventh semester begins:** at least six sport studies courses and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least eight sport studies courses.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.



## Sport Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
AMST:1010	Understanding American Cultures <sup>b, c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
SPST:1074	Inequality in American Sport <sup>b, c</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
GE CLAS Core: Foreign Language Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: international dimensions course <sup>g, h</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
SPST:3178 or SPST:3179	Making It: Modern Sport and U.S. Society <sup>g</sup> or Twentieth-Century American Sport	3
GE CLAS Core: Social Sciences <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Third Year</b>		
<b>Fall</b>		
SPST:3175 or SPST:3911	Sport and the Media <sup>g</sup> or Sport Since 9/11	3
Major: elective course <sup>i</sup>		3
Major: outside concentration course <sup>j</sup>		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

## Spring

SPST:2079 or SPST:2078	Race and Ethnicity in Sport <sup>g</sup> or Women, Sport, and Culture	3
Major: elective course <sup>i</sup>		3
Major: outside concentration course <sup>j</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

## Fourth Year

<b>Fall</b>		
Major: elective course <sup>i</sup>		3
Major: outside concentration course <sup>j</sup>		3
Major: outside 3000-level concentration course <sup>j</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

## Spring

Major: elective course <sup>i</sup>		3
Major: outside 3000-level concentration course <sup>j</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)		

<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120-125</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students should complete these foundation courses as early as possible.

c Fulfills a major requirement and may fulfill a GE requirement.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Students must complete one course from each of the four content areas: Diversity in Sport, International Dimensions, Contemporary Sport in America, and History of Sport and Leisure in America.

h Choose one course from SPST:2170, SPST:3176, SPST:3177, SPST:3500.

i Students must complete at least 12 s.h. of approved sport studies elective courses.

j Students must complete 15 s.h. of coursework in an allied field of concentration outside the major (e.g., American studies; journalism and mass communication; business; gender, women's, and sexuality studies). Work for the

concentration must include 6 s.h. earned in courses numbered 3000 or above or in courses that are designated advanced by the department or program that offers them. Students also may satisfy the concentration requirement by earning a second major or a minor in another discipline.

k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# American Studies, Minor

## Requirements

The undergraduate minor in American studies requires a minimum of 15 s.h. in American studies courses (prefix AMST), including 12 s.h. numbered above AMST:1010 Understanding American Cultures taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students select courses for the minor according to their interests and the recommendation of their advisor.

# Sport Studies, Minor

## Requirements

The undergraduate minor in sport studies requires a minimum of 15 s.h. in University of Iowa sport studies courses (prefix SPST), including 12 s.h. numbered above SPST:1074 Inequality in American Sport. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students select courses for the minor according to their interests and the recommendation of their advisor.

# American Studies, M.A.

## Learning Outcomes

Students must demonstrate:

- comprehension of the history, values, and methods of interdisciplinary scholarship in the field of American studies;
- knowledge of the multiple forums that exist for the communication, implementation, and praxis of American studies scholarship in social and institutional contexts where diversity, equity, and inclusion are guiding values;
- proficiency in advanced research and scholarly writing skills in the field of American studies;
- ability to articulate one's own intellectual commitments and professional goals within and in relationship to the field;
- hands-on participation in university certificate programs, community-based projects and internships, or digital humanities projects, training in college teaching pedagogy where consistent with their individual development plan; and
- critical thinking, writing, and speaking skills that are central to being an effective teaching assistant in 1000-level university or college courses, and creation of a teaching portfolio.

## Requirements

The Master of Arts program in American studies requires a minimum of 36 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00. The degree generally is offered without thesis; students must petition the director of graduate studies for permission to pursue the thesis option.

Each M.A. student designs an interdisciplinary field of concentration in consultation with the student's American studies advisor.

The M.A. with a major in American studies requires the following work.

Code	Title	Hours
AMST:5000	Interdisciplinary Research in American Cultures (taken twice in consecutive years)	6
	Two graduate seminars in American studies	6
	Five courses in the interdisciplinary field of concentration	15
	Electives	9
	M.A. portfolio	
<b>Total Hours</b>		<b>36</b>

Each student must complete a portfolio or thesis. The portfolio includes a research paper, faculty evaluations for all courses taken during the student's first full year of graduate study, and a self-evaluation essay.

The research paper is a graduate seminar paper that demonstrates a student's skills as a research scholar and writer and represents the student's strongest work. The paper should be 25-30 pages, including a bibliography.

The self-evaluation essay summarizes the American studies methods and materials that have shaped the student's interdisciplinary work in the field and states how the

master's degree work in American studies has contributed to, challenged, or complicated the student's goals and ambitions beyond the degree.

Students assemble the M.A. portfolio under the guidance of their advisors and should submit it no later than December 1 of their third semester in residency. The portfolio is evaluated on a satisfactory/unsatisfactory (S/U) basis by a three-person American studies faculty committee. Students whose portfolio receives a U may resubmit the portfolio during their fourth semester of residency.

For students who wish to continue their education with doctoral study, the M.A. portfolio serves as the application for admission to the Ph.D. program in American studies. The department informs applicants whether they have been accepted into the Ph.D. program by the end of the fall semester in which they submit their M.A. portfolio; admission is contingent upon successful completion of the M.A. during a student's fourth semester of residency.

## Thesis Option

As an alternative to the portfolio, students may complete a master's thesis. Students planning to write a thesis should inform their advisor as early as possible, and at least one or two semesters in advance of graduation. A thesis involves interdisciplinary research and analysis, and represents an original contribution to knowledge. In most cases, the thesis is a 50-75 page manuscript. However, students may propose alternatives to the traditional form, provided they have the dissertation committee's approval and complete a memorandum of understanding with the director of graduate studies in American studies.

The thesis will be assessed by a committee composed of a student's advisor and two other faculty members. The thesis is distributed to the committee at least two weeks ahead of an oral defense.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

American studies students' career goals are as varied as the topics they study. Graduates are well prepared for careers in a wide range of areas, such as business, education, arts and museum administration, government, journalism, or social services.

The program also provides a good foundation for graduate studies in the humanities, the social sciences, theology, and business as well as for professional studies in law or medicine.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## American Studies, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
36 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
AMST:5000	Interdisciplinary Research in American Cultures <sup>b</sup>	3
	Interdisciplinary Field of Concentration course <sup>c</sup>	3
	Interdisciplinary Field of Concentration course <sup>c</sup>	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
	American Studies seminar course <sup>d</sup>	3
	Interdisciplinary Field of Concentration course <sup>c</sup>	3
	Elective course <sup>e</sup>	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
AMST:5000	Interdisciplinary Research in American Cultures <sup>b</sup>	3
	American Studies seminar course <sup>d</sup>	3
	Interdisciplinary Field of Concentration course <sup>c</sup>	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
	Interdisciplinary Field of Concentration course <sup>c</sup>	3
	Elective course <sup>e</sup>	3
	Elective course <sup>e</sup>	3
	Final Exam <sup>f</sup>	
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>36</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Take twice in consecutive years.

c Each student designs an interdisciplinary field of concentration which consists of at least five courses (15 s.h.). Work with faculty advisor to determine appropriate graduate coursework.

d Work with faculty advisor to determine appropriate graduate seminars.

e Work with faculty advisor to determine appropriate graduate elective coursework.

f Completion of an MA portfolio, which includes a research paper, faculty evaluations for all courses taken during the student's first full year of graduate study, and a self-evaluation essay.

# American Studies, Ph.D.

## Learning Outcomes

Students must demonstrate:

- comprehension of the history, values, and methods of interdisciplinary scholarship in the discipline of American studies, and (for sport studies subprogram students) this involves a knowledge of the current and foundational theory and methods in critical sport studies, as well as of the contributions to sport studies to American studies and vice-versa;
- knowledge of the multiple forums that exist for the communication, implementation, and praxis of American studies scholarship in social and institutional contexts, especially where diversity, equity, and inclusion are guiding values;
- ability to articulate one's own values, intellectual commitments, and professional goals within and in relationship to the field;
- proficiency in advanced research and scholarly writing skills in the field;
- hands-on participation in university certificate programs, community-based projects and internships, or digital humanities projects, training in college teaching pedagogy where consistent with the student's individual development plan;
- proficiency at situating and interpreting American social and cultural materials historically, while grasping the diversity and distinctness of historical factors as economic, colonial, racializing, transnational, global, and/or linguistic;
- proficiency and experience in communicating American studies scholarship publicly in professional contexts that must include at least three of the following—conference presentations and/or conference organizing, exhibitions/installations, editorial or curatorial work, invited talks, public engagement or Humanities for the Public Good project, publications, or digital humanities project;
- demonstrated proficiency in the conceptualization, communication, and organizational skills that are crucial to pedagogy at multiple levels of a university or college curriculum, and creation of a teaching portfolio;
- learn major movements and debates in critical theory and cultural studies, as well as the theoretical and methodological issues and debates in sport history (for sport studies subprogram students); and
- understand how historical method, critical theory, and cultural studies concepts are utilized in critical sport studies scholarship, and identify sports studies' place within and contributions to the wider study of culture and power (for sport studies subprogram students).

## Requirements

The Doctor of Philosophy program in American studies requires a minimum of 72 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00. They may focus on American studies or choose the sport studies subprogram.

Students work with their faculty advisor to map out a coherent plan of study that reflects their particular interests. Students are permitted considerable flexibility in constructing their study plan, but they must meet certain basic requirements, which include foundation courses, area foundation courses,

two interdisciplinary fields of concentration, a research skills course, elective coursework, and a dissertation.

The two fields of concentration may be defined to correspond with a student's strongest intellectual interests, but they must be interdisciplinary in concept and multidisciplinary in scope. Each must include coursework from more than one of the University's departments and programs. The two concentration areas may, and usually should, have an intellectual relationship with each other.

Students are expected to address the cultural diversity of American life in their coursework and reading.

The Ph.D. with a major in American studies requires the following work. Some course requirements are different for American studies and sports studies.

## Coursework

### Required Foundation Courses

All students complete the required foundation courses and should take them as early as possible.

Code	Title	Hours
AMST:5000	Interdisciplinary Research in American Cultures (taken twice in consecutive years)	6

### Area Foundation Courses

Code	Title	Hours
<b>American Studies Students</b>		
Two American studies graduate seminars		6
<b>Sport Studies Students</b>		
SPST:5002	Critical Theories and Cultural Studies	3
SPST:6074	Seminar in Sport History	3

### First Field of Concentration

Code	Title	Hours
<b>American Studies Students</b>		
Courses in an interdisciplinary field with a historical concentration designed with the advisor and approved by the department's Plan of Study Committee		18
<b>Sport Studies Students</b>		
Courses on sport in cultural and historical contexts selected with the advisor and approved by the department's Plan of Study Committee		18

### Second Field of Concentration

Code	Title	Hours
<b>American Studies Students</b>		
Courses in an interdisciplinary field designed with the advisor and approved by the department's Plan of Study Committee		18
<b>Sport Studies Students</b>		
Courses in an interdisciplinary field designed with the advisor and approved by the department's Plan of Study Committee; may be a second field in sport studies or a field outside sport studies		18

## Research Skills

Code	Title	Hours
<b>All Ph.D. Students</b>		
AMST:7085	Dissertation Writing Workshop (taken two or three times for 1 s.h. each)	2-3

## Additional Requirements

Code	Title	Hours
<b>All Ph.D. Students</b>		
All of these (to meet semester hours requirement to graduate):		
AMST:7090	Ph.D. Thesis	arr.
Electives		

## Admission to Ph.D. Candidacy

Admission to Ph.D. candidacy signifies that the department judges a doctoral student qualified to take the comprehensive examination. Doctoral students advance to Ph.D. candidacy based on a review conducted during their second year in the Ph.D. program (typically during fall semester); the review assesses a student's readiness to complete studies through the comprehensive examination and the dissertation, which is an original work of scholarship. In addition to judging a student's readiness for Ph.D. candidacy, the review provides a progress report on the student's work and a tentative prognosis for future prospects in the field.

## Comprehensive Examination

The comprehensive examination comprises three written exams and one oral exam.

The first exam is taken under the supervision of an American studies faculty member, who also chairs the comprehensive examination. The candidate takes a timed, take-home written exam of no less than four hours and no longer than two days. The exam details the candidate's approach to American studies (methods and models), including the student's position and critical engagement with models of American studies scholarship.

The remaining two written exams explore the candidate's major fields; these are at least four hours long and may be given on a take-home basis at the examiner's discretion.

The oral exam covers material from the written exams.

## Dissertation

The final requirement for the Ph.D. is the dissertation. A dissertation in American studies is a substantive work of scholarship that involves interdisciplinary research and analysis, and represents an original contribution to knowledge. In most cases, the dissertation takes the form of a book-length manuscript. However, students may propose alternatives to the traditional form, provided they have the dissertation committee's approval and complete a memorandum of understanding with the director of graduate studies in American studies. All dissertations must be approved by a committee of four faculty members, including at least two from the Department of American Studies.

## Internships

Qualified graduate students in American studies can arrange internships with a number of local agencies, including the State Historical Society of Iowa, the Division of Historic

Preservation, the University of Iowa Stanley Museum of Art, the Iowa Humanities Board, BruceMuseum, the Herbert Hoover Presidential Library and Museum, the Englert Theatre, and the Putnam Museum and Science Center. With special permission, candidates conducting research during on-the-job training may receive academic credit through AMST:7994 Independent Study. Other internships with social agencies, government, or business also may be arranged.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

American studies students' career goals are as varied as the topics they study. Graduates are well prepared for careers in a wide range of areas, such as business, education, arts and museum administration, government, journalism, or social services.

The program also provides a good foundation for further graduate studies in the humanities, the social sciences, theology, and business as well as for professional studies in law or medicine.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## American Studies, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Students work with their faculty advisor to map out a plan of study that reflects their particular interests; needs to include foundation courses, area foundation courses, two interdisciplinary fields of concentration, a research skills course, elective coursework, and a dissertation. <sup>b</sup>		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
AMST:5000	Interdisciplinary Research in American Cultures <sup>c</sup>	3
American Studies seminar course <sup>d</sup>		3
Field of Concentration course <sup>e</sup>		3
		<b>9</b>
<b>Spring</b>		
American Studies seminar course <sup>d</sup>		3
Field of Concentration course <sup>e</sup>		3
Field of Concentration course <sup>f</sup>		3
		<b>9</b>



**Second Year****Fall**

AMST:5000	Interdisciplinary Research in American Cultures <sup>c</sup>	3
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Field of Concentration course <sup>e</sup>		3
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Field of Concentration course <sup>f</sup>		3
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<b>Hours</b>		<b>9</b>
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**Spring**

Field of Concentration course <sup>e</sup>		3
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Field of Concentration course <sup>e</sup>		3
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Field of Concentration course <sup>f</sup>		3
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<b>Hours</b>		<b>9</b>
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**Third Year****Fall**

Comprehensive Exam <sup>g</sup>		
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Field of Concentration course <sup>e</sup>		3
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Field of Concentration course <sup>f</sup>		3
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Field of Concentration course <sup>f</sup>		3
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<b>Hours</b>		<b>9</b>
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**Spring**

AMST:7085	Dissertation Writing Workshop <sup>h</sup>	1
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Field of Concentration course <sup>f</sup>		3
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Elective course <sup>i</sup>		3
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<b>Hours</b>		<b>7</b>
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**Fourth Year****Fall**

Prospectus Defense		
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AMST:7085	Dissertation Writing Workshop <sup>h</sup>	1
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Elective course <sup>i</sup>		3
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Elective course <sup>i</sup>		3
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<b>Hours</b>		<b>7</b>
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**Spring**

AMST:7085	Dissertation Writing Workshop <sup>h</sup>	1
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Elective course <sup>i</sup>		3
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Elective course <sup>i</sup>		3
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<b>Hours</b>		<b>7</b>
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**Fifth Year****Fall**

AMST:7090	Ph.D. Thesis	3
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<b>Hours</b>		<b>3</b>
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**Spring**

AMST:7090	Ph.D. Thesis	3
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Final Exam <sup>j</sup>		
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<b>Hours</b>		<b>3</b>
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<b>Total Hours</b>		<b>72</b>
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d Work with faculty advisor to determine appropriate graduate seminars.

e Complete at least 18 s.h. in a first field of concentration; work with faculty advisor to determine appropriate graduate coursework in an interdisciplinary field with a historical concentration.

f Complete at least 18 s.h. in a second field of concentration; work with faculty advisor to determine appropriate graduate coursework in an interdisciplinary field.

g Consists of three written and one oral exam.

h Take two or three times (2-3 s.h. total).

i Work with faculty advisor to determine appropriate graduate elective coursework; includes AMST:7090.

j Dissertation defense.

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b The two fields of concentration may be defined to correspond with a student's strongest intellectual interests, but they must be interdisciplinary in concept and multidisciplinary in scope. Each must include coursework from more than one department and program. The two concentration areas may, and usually should, have an intellectual relationship with each other.

c Take twice in consecutive years.

# Anthropology

## Interim Chair

- Robert Franciscus

## Director of Graduate Studies

- Margaret Beck

## Director of Undergraduate Studies

- Theodore Powers

**Undergraduate major:** anthropology (B.A., B.S.)

**Undergraduate minor:** anthropology

**Graduate degrees:** M.A. in anthropology; Ph.D. in anthropology

**Faculty:** <https://anthropology.uiowa.edu/people>

**Website:** <https://anthropology.uiowa.edu/>

Anthropology is the comparative study of peoples and cultures past and present. The discipline's four major subfields—cultural anthropology, biological anthropology, linguistic anthropology, and archaeology—share a holistic, global perspective and commitment to field-based methodologies. Anthropological knowledge constructively contributes these perspectives and methods to work in other social sciences, physical and biological sciences, and the arts and humanities.

Anthropology provides a framework for understanding the relation of human beings to their natural environment and to the social and cultural worlds they create and inhabit. The field provides insight into biological and sociocultural evolution and examines how economic, social, and political processes, symbolic systems, and social structures interact to shape human experience. Fieldwork-based, comparative studies of past and present cultures yield information on regularities and differences, and special insight into the diversity of human creativity and cultural change.

Anthropological training provides skills useful in a variety of careers. The department offers a course, ANTH:3016 Career Paths in Anthropology (1 s.h.), that helps students relate anthropological training to their diverse career goals. As the American Anthropological Association points out, "careful record-keeping, attention to details, analytical reading, and clear thinking are taught by anthropological courses. Social ease in strange situations, critical thinking, and strong skills in oral and written expression are cultivated by anthropological training."

For undergraduates, the department offers four tracks within the major—culture and heritage management, environmental anthropology, gender and culture, and medical anthropology—for students with specialized interests in these areas.

The Department of Anthropology also offers numerous courses that undergraduate students in all majors may use to fulfill GE CLAS Core [p. 20] requirements.

At the graduate level, the department grants both M.A. and Ph.D. degrees in anthropology. Most students enter the Ph.D. program, and are awarded an M.A. after fulfilling program requirements at the end of their second year. The department also offers a terminal M.A. degree with a focus on cultural resource management—archaeology (CRM), which provides academic preparation for a professional career in this field. Students work closely with faculty and staff from the Office of the State Archaeologist.

In addition to offering undergraduate and graduate degree programs, the Department of Anthropology administers the

University's Museum Studies Program [p. 854], which offers an undergraduate certificate.

## Faculty

Members of the anthropology faculty work within and across the discipline's four subfields, and conduct both localized and multi-sited field research at locations worldwide, including East, South, and Southeast Asia; Europe; southern Africa; North America (especially the United States); South America; and the Pacific (especially Hawaii and New Zealand).

Current faculty interests include cultural evolution, cultural politics, environmental anthropology, European archaeology, feminist anthropology and sexuality studies, medical anthropology, paleoanthropology, science and technology studies, and Asian studies. For more details, visit Faculty on the Department of Anthropology website.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Anthropology (Bachelor of Arts) [p. 82]
- Major in Anthropology (Bachelor of Science) [p. 89]

#### Minor

- Minor in Anthropology [p. 96]

### Graduate Programs of Study

#### Majors

- Master of Arts in Anthropology [p. 97]
- Doctor of Philosophy in Anthropology [p. 100]

## Resources, Facilities

The department has well-equipped laboratories for the study of archaeology, biological anthropology, computational genetics, evolutionary anthropology, and a state-of-the-art multimedia linguistic anthropology laboratory. Resources include a GIS/quantitative analysis laboratory, ground penetrating radar, x-ray fluorescence equipment, and 3D scanning equipment.

Under the direction of University archaeologists, students acquire skills in data recovery and interpretive techniques. Opportunities are available for students to participate in archaeological field research in Portugal, Sicily, and at various sites in the United States. Occasional fieldwork in East and Southeast Asia is available to graduate students in the paleoanthropology research program.

Individual faculty members maintain field laboratories and conduct research outside the United States, maintaining ties with research institutions in other countries, including Gemeente Nijmegen, Bureau Archeologie, Nijmegen, the Netherlands; the Deutsches Archäologisches Institut of Madrid, Spain; and the National University of Singapore, Singapore.

The department has access to the Iowa Archaeological Collections through the Office of the State Archaeologist and maintains its own archaeological collections (midwestern prehistoric and historical and comparative faunal material).

The department maintains a documented human osteology teaching collection amassed by the University of Iowa Carver College of Medicine and the Department of Anatomy and Cell Biology, and it holds a substantial documented human osteology research collection originally from Stanford University's medical school that is maintained jointly with the Office of the State Archaeologist.

The University is a charter member of the Human Relations Area Files (HRAF), an extensively annotated set of source materials on the peoples of the world—their environments, behavioral patterns, social lives, and cultures. Through HRAF and other library resources, anthropology students have access to source materials on more than 400 different cultures.

The University's exchange programs for Iowa students provide opportunities and some scholarships for study abroad.

## Courses

### Anthropology Courses

- ANTH:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g. films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- ANTH:1001 Issues in Anthropology** 3 s.h.  
In-depth exploration of methodological and theoretical issues in contemporary anthropology; emphasis on critical reading of primary texts.
- ANTH:1040 Language Rights** 3 s.h.  
Language minorities and linguistic human rights in the United States and worldwide; language and identity, culture, power; case studies of language rights deprivation. GE: International and Global Issues. Same as LING:1040.
- ANTH:1046 Environmental Politics in India** 3 s.h.  
How resources, commodities, people, and ideas cross borders; examination of globalization through issues of technology, social justice, environment; perspectives from anthropology, gender studies, geography, energy science, and development. GE: International and Global Issues. Same as GEOG:1046, GWSS:1046, SJUS:1046.
- ANTH:1101 Cultural Anthropology** 3 s.h.  
Comparative study of culture, social organization. GE: Social Sciences; Values and Culture. Same as IS:1101.
- ANTH:1201 World Archaeology** 3 s.h.  
What do archaeologists know about the past, and how do they know about the past? Evolution of human cultures from ice ages to first cities; archaeological methods used to understand the past. GE: Historical Perspectives.
- ANTH:1301 Human Origins** 3 s.h.  
Processes, products of human evolution from perspectives of heredity and genetics, evolutionary theory, human biological characteristics, fossil record, artifactual evidence, biocultural behaviors. GE: Natural Sciences without Lab.
- ANTH:1401 Language, Culture, and Communication** 3 s.h.  
Human language in context of animal communication; development, acquisition of language; biological base; language as a linguistic system in cultural social context. GE: Social Sciences.
- ANTH:2009 Individual Study** 1-3 s.h.  
Readings in area or subdivision of anthropology in which student has had basic coursework.
- ANTH:2100 Anthropology and Contemporary World Problems** 3 s.h.  
Selected world problems from an anthropological perspective; current dilemmas and those faced by diverse human groups in recent times and distant past. GE: International and Global Issues; Social Sciences.
- ANTH:2102 Anthropology of Marriage and Family** 3 s.h.  
Classic anthropological theories of kinship and marriage, including topics such as cousin marriage and incest; recent work on new reproductive technologies and transnational marriage. Same as GWSS:2102.
- ANTH:2103 Introduction to Global Health Studies** 3 s.h.  
Global health as a study of the dynamic relationship between human health and social, biological, and environmental factors that drive the spread of disease; core areas of global health research that may include health inequalities, maternal and child health, infectious diseases, nutrition, environmental health, and health interventions. GE: International and Global Issues. Same as GHS:2000.
- ANTH:2105 Cultural Worlds of Science and Scientists** 3 s.h.  
Anthropological introduction to science and technology studies (STS)—an interdisciplinary field that examines how production of scientific knowledge and impacts of new technologies are shaped by social and cultural factors; how anthropology takes a constructively critical approach that is neither "anti-" or "pro-" science, but moves beyond this contrast; course materials focus on examples of scientific controversies and portraits of scientists at work in order to more richly understand promises and problems that can accompany how scientific knowledge is produced and applied.
- ANTH:2108 Gendering India** 3 s.h.  
Aspects of Indian culture, including nation, family, sexuality, work, and religion, through the lens of gender; Hindu India, differences in region, caste, and class. Same as GWSS:2108.
- ANTH:2120 Gender and Technology** 3 s.h.  
Study of the technology field as it relates to gender in global perspective; core topics may include gender and STEM fields, gender in technology workplaces, and gender in the design and use of technological products such as mobile technology, artificial intelligence, and video games. Same as GWSS:2120.
- ANTH:2136 Race, Place, and Power: Urban Anthropology** 3 s.h.  
Cross-cultural approach to urban anthropology; urbanizing processes, migration and adaptation, aspects of class and ethnicity in urban settings, urban economic relations. GE: International and Global Issues; Social Sciences.
- ANTH:2140 Food, Drink, and Culture** 3 s.h.  
Passion of food, eating, and drinking in our lives; students are challenged to study eating and drinking in all its variety and importance in different contemporary cultures of the world; exploration of how and why food and drink hold the power to bind people together or to set groups apart, how national cuisines are made, and how people connect food and drink to ritual and health care systems; these topics and many more linked with the study of food and drink production and consumption to examine societal processes, such as the construction of identities and symbolic meanings attached to eating and drinking.

**ANTH:2151 Global Migration in the Contemporary World** 3 s.h.

Examination of social, economic, and cultural dimensions of global migration in the contemporary world from a transnational and anthropological perspective; primary focus is on Asian migration to the United States, but in comparison to other migration trajectories. Recommendations: an introductory course in cultural anthropology is useful, but not required. GE: Diversity and Inclusion. Same as GWSS:2151, IS:2151.

**ANTH:2160 Culture, Health, and Wellness: Southeast Asia in Focus** 3 s.h.

Exploration of complex cross-cultural interactions between health, wellness, and culture; insights drawn from the culturally diverse region of Southeast Asia including Indonesia, Vietnam, Singapore, Malaysia, Thailand, Cambodia, Burma, and Philippines, among others. Same as GHS:2160.

**ANTH:2164 Culture and Healing: An Introduction to Medical Anthropology** 3 s.h.

Health professions are increasingly focused on how to best provide health care to culturally diverse populations; introduction to key cultural and social influences on sickness and healing; worldwide examples. Same as GHS:2164.

**ANTH:2165 Native Peoples of North America** 3 s.h.

History, culture of American Indian peoples; emphasis on North America. GE: Diversity and Inclusion. Same as AMST:2165, NAIS:2165.

**ANTH:2166 Arts of Native North America** 3 s.h.

Introduction to Native North American arts and artists including modern, recent, and pre-Columbian work; modern Native artists and their messages within context of recent social and political developments, as well as deeper histories and artistic traditions; prior study of anthropology or art history not required.

**ANTH:2175 Japanese Society and Culture** 3 s.h.

Cultural anthropology of Japan, including historical tradition, religious ethos, social organization, human ecology, educational and political institutions; emphasis on how these aspects relate to and influence one another. GE: Values and Culture. Same as JPNS:2175.

**ANTH:2181 The Anthropology of Aging** 3 s.h.

Comparative anthropological perspective on aging; ethnographies from diverse contexts used to examine intersections of kinship, religion, health, and medicine in later life. Same as ASP:2181, GHS:2181.

**ANTH:2182 Africa: Health and Society** 3 s.h.

Cultural, political, and economic diversity of African societies from precolonial period to present day; relationship between lived experiences of African people and understanding of their societies from afar; why Africa, more than any other region, is associated with warfare, hunger, and disease; idea of "Africa" in the world today; shared misunderstanding of life on continent contrasted with everyday lives of people who are not so different from ourselves. Same as GHS:2182.

**ANTH:2190 Love Rules: Law and the Family Across Cultures** 3 s.h.

Recent debates over legalizing gay marriage remind us that the law is not an abstract concept, it is a social creation that emphasizes certain cultural norms over others, both powerful and changeable; family law outlines what one cultural vision of relationships—those between lovers, parent and child, and between kin—supposedly should look like in a given society, a vision always marked by gendered, racial, and sexual divisions of power; students consider what happens when legal norms intersect with diverse ways that people make families through topics including marriage, divorce, custody, and surrogacy across the world. Same as GWSS:2190, IS:2190.

**ANTH:2191 Love, Sex, and Money: Sexuality and Exchange Across Cultures** 3 s.h.

Everything from pop songs to advertisements warn us of the evils of gold diggers, "blingsexuals," or "buyfriends"; in America, money is seen to corrupt the purity and authenticity of love and desire, but money also is an inevitable part of sex, love, and intimacy; cross-cultural examination of how relationships between love, money, and sexuality are organized in different places; different ways people form relationships with lovers, spouses, and persons who enable childbearing; rethinking gender roles, work, value, and power. Same as GWSS:2900.

**ANTH:2220 The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica** 3 s.h.

Archaeological data related to the evolution of civilization in Mesoamerica; sequence from hunter-gatherers to A.D. 1519; emphasis on Central Mexico, Maya area, Oaxaca. Same as LAS:2220.

**ANTH:2248 The Invention of Writing: From Cuneiform to Computers** 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

**ANTH:2261 Human Impacts on the Environment** 3 s.h.

Long-term patterns of human-environment interactions surveyed through archaeological case studies; varied scales of human impacts, including animal extinction, habitat destruction, agricultural practices, urban growth, state-level societies. GE: Sustainability. GE: Social Sciences.

**ANTH:2265 Tools, Treasures, and Trash: Archaeology of the Material World** 3 s.h.

Different ways that archaeologists study material culture to gain insights into human lifeways and beliefs; consideration given to ways that people make objects and objects make people.

**ANTH:2290 Practicum in Archaeology** arr.

Intensive, hands-on examination of a wide range of materials recently recovered from archaeological sites; pottery, lithics (stone tools and related items), plant remains, animal bones; for students with strong archaeological interests or archaeological field experience.

- ANTH:2320 Origins of Human Infectious Disease** 3 s.h.  
Origin and evolution of important infectious diseases in human history; biological evolution of infectious agents and biocultural responses to emerging infectious diseases; primary focus on viruses and bacteria; selected world problems from an anthropological perspective; current dilemmas and those faced by diverse human groups in recent times and distant past. Same as GHS:2320.
- ANTH:2390 Laboratory Methods in Biological Anthropology** arr.  
Specimen preparation, cataloging, moulding and casting, photography, computer analyses, library research.
- ANTH:3001 Introduction to Museum Studies** 3 s.h.  
Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Stanley Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as EDTL:3001, MUSM:3001, SIED:3001.
- ANTH:3015 Independent Study** arr.
- ANTH:3016 Career Paths in Anthropology** 1 s.h.  
Exploration of careers and best ways to pursue career goals; students identify careers related to their skills and interests, and learn to create job application materials; activity-based. Requirements: anthropology major or minor.
- ANTH:3017 Decolonizing Anthropology in Native North America** 3 s.h.  
Anthropology is coming to terms with its rather strange combination of colonialist origins and anti-colonial/anti-racist themes, and these contradictions have generated well-earned criticism from Indigenous peoples; how Indigenous critiques have constructively called for changes that make anti-colonialism and anti-racism more central to the profession, and examination of how the profession is responding; works by Indigenous activists, artists, and scholars, including anthropologists; examples of ethnographic and archaeological research from regions of Native North America that complement those covered in ANTH:2165. Prerequisites: ANTH:1101 or ANTH:2165 or HIST:1049.
- ANTH:3101 Anthropology of Sexuality** 3 s.h.  
Practice, definition, and regulation of sex in different cultures and times; use of anthropological tools, including cross-cultural comparison and social constructionist analysis; how social and historical forces shape sex; how a range of topics relate to sexuality, including science, love, work, globalization, ethnicity, health, aging, pornography, and deviance; focus on ways that dynamics (i.e., class, race, gender norms) shape people's culturally and historically specific ways of having and thinking about sex. Same as GWSS:3101.
- ANTH:3103 Environment and Culture** 3 s.h.  
Individual and group responses to scarcities of natural resources such as land, water, food.
- ANTH:3107 Literature and Anthropology** 3 s.h.  
Topics vary. Same as ENGL:3107.
- ANTH:3109 Culture, Mind, and Mental Health** 3 s.h.  
Cultural diversity in constructions of self, mind, and emotion; religious experience, altered states of consciousness, behavioral disorders. Prerequisites: ANTH:1101.
- ANTH:3110 Colonialism and Indigenous Health Equity** 3 s.h.  
Health problems and services for Indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: ANTH:1101 or ANTH:2165 or GHS:2000 or HIST:1049. Same as GHS:3110, NAIS:3110.
- ANTH:3113 Religion and Healing** 3 s.h.  
Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as ASIA:3561, GHS:3113, RELS:3580.
- ANTH:3114 Anthropology of Religion** 3 s.h.  
Approaches; religious roles; shamanism, witchcraft, curing; mythology; place of religion in social and cultural change. Same as RELS:3714.
- ANTH:3117 Using Ethnographic Methods** 3 s.h.  
Ethnography, holistic, qualitative research in cultural context for anthropological and related research and careers involving interpersonal interaction; multiple ethnographic methods and their rationales. Recommendations: desire to interact with others, and prior coursework in fields that employ ethnographic or qualitative research (social sciences, social work, nursing, public health).
- ANTH:3118 Politics of Reproduction** 3 s.h.  
Debates over women's reproductive experience, including its medicalization. Same as GWSS:3118.
- ANTH:3121 Love, Marriage, and Family in India** 3 s.h.  
Anthropological understandings of love in India and the region of South Asia more broadly; emphasis on contemporary society; filial and motherly love, arranged marriage and romantic love, devotional and artistic expressions, love between siblings. Same as GWSS:3121.
- ANTH:3123 Making a Living: Perspectives on Economic Anthropology** 3 s.h.  
How different cultures and societies have organized allocation of work and goods; critical reflection of ongoing integration of world's societies into global market system; how it has become commonplace in the U.S. to believe that unemployment and debt are natural, inevitable aspects of human social organization during contemporary era; different approaches to division of work and resources among various groups of people in other societies; different approaches to dividing up society or world resources based on existing socioeconomic models.
- ANTH:3124 Technology and Inequality: Problems and Solutions from Health Care, Social Media, and Daily Life** 3 s.h.  
Use of anthropological concepts to analyze how cultural and systemic forms of inequality get baked into technologies we use every day; focus on case studies from health care, social media, labor markets, and other key aspects of life today, and how processes of technology development and use enable reproduction of inequalities; active participation in developing solutions, using key insights from medical, cultural, and design anthropology to identify and address problems as technology users and creators.
- ANTH:3125 Transnational Feminism** 3 s.h.  
Exploration of feminist perspectives from the United States and outside of the United States; how geopolitics shapes understanding of familiar feminist issues (e.g., reproduction, cultural practices, sexualities, poverty); emphasis on global south regions and populations. Same as GWSS:3350, IS:3350.
- ANTH:3127 Anthropology of Death** 3 s.h.  
How anthropologists and archaeologists study death, dying, mortuary rituals, and notions of the afterlife in contemporary North America and in different places and times. Prerequisites: ANTH:1201 or ANTH:1101. Requirements: ANTH:1101 or ANTH:1201 or graduate standing.

- ANTH:3131 Anthropology and Human Rights** 3 s.h.  
Complex history and evolving relationship of anthropology and international human rights discourses; concept deployment of culture and rights in human rights ideas, practice, discourse, and as a form of global law. Prerequisites: ANTH:1101 or ANTH:1301 or ANTH:1401 or ANTH:1201.
- ANTH:3133 Anthropology of Race** 3 s.h.  
Anthropological perspectives on race: history of race in anthropology; social, cultural, and political dimensions of race; intersections with gender; biology of human diversity. Recommendations: introductory course in social sciences. Same as GWSS:3133, SJUS:3133.
- ANTH:3151 The Anthropology of the Beginnings and Ends of Life** 3 s.h.  
Examination of diverse understandings of birth and death, drawing on anthropological analysis of personhood, kinship, ritual, and medicine; how social inequality and new technologies shape human experience at life's margins. Prerequisites: ANTH:1101 or ANTH:2100. Same as ASP:3151, GHS:3151.
- ANTH:3152 Anthropology of Caregiving and Health** 3 s.h.  
Diverse understandings and practices of care around the world; focus on relationships between caregiving practices and health across the life course. Same as ASP:3152, GHS:3152.
- ANTH:3171 Voices of Islam in Southeast Asia** 3 s.h.  
Islam and being Muslim in Southeast Asia; exploration of how different national cultures and sociopolitical trajectories in the region have produced different perceptions and practices of Islam.
- ANTH:3172 Chinese Marriage and Family in Comparative Perspective** 3 s.h.  
Exploration of Chinese marriage and family from cultural, historical, and sociological perspectives; topics include Chinese family values and traditions, family processes and structures, mate selection, and challenges and impact of social movements and governmental policies on family; readings highlight change and continuity of traditional values of marriage and family in Chinese society; students compare marriage and family processes and practices in American society with Chinese society, understand Chinese culture and society through aspects of marriage and family, and think critically on family issues in Chinese and American society. Same as ASIA:3172.
- ANTH:3180 Applied Anthropology** 3 s.h.  
Applied anthropology as a way to apply training in anthropology to careers outside academia; careers and methods may include archaeology, museum studies, biological anthropology and forensics, foreign language expertise, government, nonprofit and nongovernmental organization (NGO), business, design, and technology.
- ANTH:3190 Global Debt** 3 s.h.  
Economies as cultural systems that emphasize the role of worldviews and "meaning-making" in organizing economies; debt as a key mechanism in creation and maintenance of relationships; focus on how exchange, distribution, and obligation serve to shore up or sever various social institutions and links between debt, inequality, and power; debt in various forms, from a round of drinks to student loans, and from the U.S. mortgage crisis to development aid; diverse array of economies—from gift exchange to ceremonial destruction of wealth, and from Melanesia to Wall Street—to evaluate assumptions that undergird different systems of debt and credit. Requirements: introductory course in anthropology or international studies or gender, women's, and sexuality studies. Same as IS:3190, SJUS:3190.
- ANTH:3199 Anthropology and Global Health Policy** 3 s.h.  
Global health has grown as an area of practice and study, with well-being and livelihoods of increasing numbers of people now deeply influenced by these ideas, practices, and policies; students engage with ways that global health programs have influenced experiences of health and illness by those who participate in these programs, critically analyzing how global health interacts with local dynamics of inequality, race, gender, and power. Same as GHS:3199, IS:3198.
- ANTH:3204 Food in Ancient Mediterranean Society** 3 s.h.  
Practices and values influenced by consumption and production of food in ancient Mediterranean societies; varied topics, including methods of food production and distribution, hierarchies of status as associated with food, food and ethnic identity, food and health, food and religion; focus on classical Greek and Roman society, Egypt, the ancient Near East, and Persia. Recommendations: familiarity with Greek and Roman civilization and history. Same as CLSA:3836, HIST:3436.
- ANTH:3207 Animal Bones in Archaeology** 3 s.h.  
Use of faunal material in interpretation of archaeological remains, including skeletal anatomy, identification, taphonomy, determination of age and sex, seasonality, quantification, sampling, breakage and cutmarks, interpretations; laboratory sessions. Prerequisites: ANTH:1201.
- ANTH:3208 Archaeological Methods** 3 s.h.  
Current theoretical approaches, methods used to investigate the past; site formation processes, taphonomy, sampling and research design, typology and seriation, subsistence-settlement reconstruction, cultural evolution. Prerequisites: ANTH:1201.
- ANTH:3237 Politics of the Archaeological Past** 3 s.h.  
How control over management of material remains of the ancient past, and representations of that past, intersect with the identity of diverse groups, including archaeologists, Indigenous peoples, national governments, collectors, ethnic minorities and majorities, museum curators; struggles for control of the archaeological past at different scales (artifacts, skeletal remains, sites, imagery, narratives) and in different regions of the world. Same as HIST:3137, MUSM:3237.
- ANTH:3239 The Archaeology of the First Europeans** 3 s.h.  
Archaeology of European societies between the Mesolithic and Iron Age; how ideas about Europe's prehistoric past have been used for political purposes.

- ANTH:3240 Cultural Resources Management Archaeology: Practice and Practicalities** 3 s.h.  
Cultural Resources Management (CRM) archaeology is the largest sector of archaeological research in the United States in terms of employment, funding, field- and lab-related activity; students investigate the past and navigate complexities of compliance requirements from federal, state, and local regulations concerning historic preservation; introduction to legal, procedural, and practical foundations of CRM archaeology; preparation for employment by acquisition of skills from project planning through dissemination of results. Recommendations: completion of other anthropology, geography, history, or Native American studies courses. Same as NAIS:3240.
- ANTH:3241 Lithic Analysis in Archaeology** 3 s.h.  
Archaeological issues examined and addressed with lithic data; use of lithic data to study the past, specific techniques applied.
- ANTH:3243 Archaeology of the American Midcontinent** 3 s.h.  
Survey of the archaeology of the American midcontinent for students interested in the past beyond what historical documents reveal; exploration of Late Pleistocene and Archaic hunter-gatherer adaptations, Woodland and Late Prehistoric horticulturalists, Middle and Upper Mississippian emergent chiefdoms, and historic period first contact, fur trade, and fort sites; how archaeologists utilize regional archaeological data in addressing culture change issues to develop the essential grounding for understanding how people lived in different times and places in the past, and how prehistoric peoples relate to their modern descendants across the midcontinent. Recommendations: ANTH:1201. Same as NAIS:3243.
- ANTH:3255 Introduction to Archaeological Ceramics** 3 s.h.  
Introduction to ceramic analysis; focus on ceramics of Native North America; ceramics as an important line of evidence for past human activities (e.g., cooking, eating, feasting, trading, storage); students learn how archaeologists interpret broken ceramics from excavations by practicing various analytical techniques and conducting their own ceramic analysis.
- ANTH:3257 North American Archaeology** 3 s.h.  
Prehistoric cultural development north of Mexico from initial occupation to European contact and conquest; emphasis on dynamics of culture change. Same as NAIS:3257.
- ANTH:3258 Southwestern Archaeology** 3 s.h.  
Anthropological overview of prehistoric cultures of the American Southwest; emphasis on understanding archaeological arguments concerning major processes in the past. Same as NAIS:3258.
- ANTH:3260 Pleistocene Peopling of the Americas** 3 s.h.  
Major themes in earliest human settlement of the Americas, including human mobility, subsistence, technology, human impacts on the environment.
- ANTH:3261 Our Life With Dogs: The Anthropological Study of Animals in Human Societies** 3 s.h.  
Intricate connections between dogs and our social, economic, political, and spiritual lives; human relationships with dogs that extend back at least 16,000 years; process of dog domestication; roles dogs play in human ideology and past economies; modern interactions with dogs.
- ANTH:3265 Archaeology of the Great Plains** 3 s.h.  
Contrasting lifeways, diets, and technologies that humans used to survive on North America's Great Plains, from Ice Age hunter-gatherers to Euroamerican homesteaders.
- ANTH:3275 The Archaeology of Ancient Egypt** 3 s.h.  
Introduction to the archaeology of ancient Egypt from predynastic times to Roman Egypt, including monumental architecture; patterns of everyday life; social, economic, and demographic considerations; history of archaeology in Egypt. Same as CLSA:3596.
- ANTH:3276 Greek Archaeology and Ethnohistory** 3 s.h.  
Archaeology and ethnology of the Greek world, from end of Bronze Age to late Roman Empire; sociocultural processes that influence development and persistence of Greek civilization. Same as CLSA:3235.
- ANTH:3277 Roman Archaeology** 3 s.h.  
Archaeology and ethnology of Roman civilization from Iron Age eighth-century occupation of the Palatine Hill to the end of the Roman Empire in the West, A.D. 476. Same as CLSA:3240.
- ANTH:3278 Archaeology of Ancient Cities** 3 s.h.  
Archaeological exploration of ancient world cities; physical plant, social institutions, regional context, cultural influence; major cities considered include Uruk, Luxor, Athens, Rome, Alexandria, Kyongju, Loyang, Teotihuacan, and Tenochtitlan.
- ANTH:3295 Field Research in Archaeology** arr.  
Beginning skills in site surveying and excavation, lab work, record keeping at nearby prehistoric sites.
- ANTH:3300 Mothers and Motherhood** 3 s.h.  
Treatment of motherhood; role of motherhood and devaluation of social status. Same as GWSS:3300.
- ANTH:3305 Human Osteology** 3 s.h.  
The human skeletal system; normal and pathologic variation; skeletal measurement and analysis with application to paleoanthropology, forensic, and archaeological investigations.
- ANTH:3306 The Neanderthal Enigma** 3 s.h.  
Survey of Neanderthals as the most widely known, yet enigmatic, fossil human lineage; history of discoveries; current interpretations of Neanderthal's origins, anatomy and behavior, relationship to today's people, extinction.
- ANTH:3307 Modern Human Origins** 3 s.h.  
Current data and theories regarding the emergence of Homo sapiens; how human anatomical modernity is defined and recognized in the fossil record; competing models for modern humans' emergence—multiregional evolution, out of Africa, the assimilation model; interpretation of recent developments and discoveries in the human fossil record; contemporary contributions from genetics, developmental biology, evolutionary ecology, paleodemography.
- ANTH:3308 Human Variation** 3 s.h.  
Range and patterning of biological diversity in contemporary human populations; past and present attempts to organize and explain human genetic, morphological variation in light of recent data, theory.
- ANTH:3325 Human Evolutionary Genetics** 3 s.h.  
Application of molecular methods and theory to biological anthropology; how recent advances in genetics have provided insight into the evolution of human and nonhuman primates. Prerequisites: ANTH:1301.
- ANTH:3327 Genes, Culture, and Human Diversity** 3 s.h.  
New perspectives in evolutionary theory on the origin of human biology and cultural diversity; principles borrowed from evolutionary thinking that provide insight into how cultures change, basis of human institutions, and gene-culture coevolution.

- ANTH:3328 Molecular Genetics of Human Disease 3 s.h.**  
Disease as an unfortunate, but unavoidable, aspect of human condition; genetic nature of disease that reveals origins of inherited disease; variation of disease across the globe. Recommendations: biology or genetics course to provide substantial background knowledge.
- ANTH:3821 City of Athens: Bronze Age to Roman World 3 s.h.**  
Athens from Bronze Age to end of Roman period; topics include the city's role in development of political democracy and religion, as well as the art and archaeology of the city. Same as CLSA:3821, HIST:3403.
- ANTH:4080 Anthropology Internship arr.**  
Internship opportunity for work experience in student's field of interest; formal internship agreement established between sponsoring institution, student, and UI anthropology faculty that specifies duties and objectives of internship; internship supervisor at sponsoring institution evaluates student performance and reports directly to UI anthropology faculty. Requirements: anthropology major.
- ANTH:4130 Religion and Environmental Ethics 3 s.h.**  
How humans conceptualize the biophysical environment through religious beliefs and practices; how images of the environment influence people's activities, how they are used by grassroots environmental movements. Requirements: junior or senior standing. Same as RELS:4730.
- ANTH:4140 Feminist Activism and Global Health 3 s.h.**  
How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: ANTH:1101 or GWSS:1001 or CPH:1400 or GHS:2000. Same as CBH:4140, GHS:4140, GWSS:4140.
- ANTH:4315 Human Evolutionary Anatomy 3 s.h.**  
Interpretation of skeletal remains as the basis for reconstructing forms, adaptations, lifestyles of prehistoric humans; body size, musculature, stance, activity patterns, brain size, and sexual dimorphism. Prerequisites: ANTH:3305.
- ANTH:4700 Latin American Studies Seminar 3-4 s.h.**  
Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as HIST:4504, LAS:4700, PORT:4700, SPAN:4900.
- ANTH:4995 Honors Research Seminar 2-4 s.h.**  
Preparation for writing honors thesis, including project conception and research, proposal writing, oral and written presentations of student research. Corequisites: ANTH:4996, if not taken as a prerequisite. Requirements: honors standing in anthropology.
- ANTH:4996 Honors Research 2-4 s.h.**  
Project chosen in consultation with honors advisor.
- ANTH:5001 Graduate Teaching Proseminar 1 s.h.**  
Graduate student teaching skills: developing course guidelines, leading discussion, grading, review sessions, dealing with problem students and complaints; development of syllabi and teaching portfolios; mentoring of less-experienced teaching assistants.
- ANTH:5101 Seminar Sociocultural Anthropology 3 s.h.**  
Social institutions in the world's societies; problems in theory, method, interpretation. Requirements: graduate standing or undergraduate anthropology honors standing.
- ANTH:5110 Anthropological Data Analysis 3 s.h.**  
Applied statistics for quantitative analysis of anthropological data, including field notes, library materials, and archaeological information; introduction to elementary statistics and computational methods; discussion of hypothesis testing and correlation; emphasis on proper use and interpretation of statistical methods in anthropological research.
- ANTH:5120 Reading Transnational Feminist Theory 3 s.h.**  
Issues in transnational feminist scholarship, including coloniality and globalization as related to domains of gendered work, cultural traditions, and development; interdisciplinary readings—including from qualitative social science—consider connections across the Global North and South. Same as GWSS:5120.
- ANTH:5130 Food, Culture, and Social Theory 3 s.h.**  
Comparative and ethnographic approach to study of food and eating; intersections between social roles and meanings of food, political economies of food, and impact of food on bodies and well-being.
- ANTH:5135 Space, Place, and Identity 3 s.h.**  
Draws on insights from ethnographic inquiry to challenge accepted definitions of space, place, and identity to broaden our understanding of how we are shaping our world.
- ANTH:5201 Seminar: Archaeological Theory and Method 3 s.h.**  
Development, current status of theory, method in Americanist archaeology. Requirements: graduate standing or undergraduate anthropology honors standing.
- ANTH:5301 Seminar: Biological Anthropology 3 s.h.**  
Physical anthropology, including heredity and genetics, evolutionary theory, human biological characteristics, primate and human fossil record, primate behavior and ecology, human adaptations. Requirements: graduate standing or undergraduate anthropology honors standing.
- ANTH:5401 Seminar: Linguistic Anthropology 3 s.h.**  
Fundamental concepts and methods employed in the anthropological study of language; principal areas of current research. Requirements: graduate standing or undergraduate anthropology honors standing.
- ANTH:6005 Independent Study: Anthropology arr.**
- ANTH:6010 Research: Anthropology arr.**
- ANTH:6015 Thesis arr.**
- ANTH:6020 Seminar: Advanced Theory in Anthropology 3 s.h.**  
Opportunity to engage with advanced readings in anthropology; students enrich their theoretical training beyond the level provided in core/introductory graduate seminars in each subfield; topics and subfields vary. Recommendations: M.A. or Ph.D. standing, and previous graduate-level coursework in anthropology.
- ANTH:6115 Ethnographic Field Methods 3 s.h.**  
Basic data-gathering techniques for field research in sociocultural anthropology. Same as CBH:6115.
- ANTH:6410 Seminar: Semiotics 3 s.h.**  
Piercian semiotic and Saussurean semiological conceptual frameworks; focus on anthropological, linguistic issues.



**ANTH:6415 Seminar: Language, Gender, and Sexuality** **3 s.h.**

Role of language and discourse in cultural constructions of gender identities and relations, including domination and subordination; theoretical perspective and methodological approaches that have shaped thought on the language/gender nexus. Same as GWSS:6415, LING:6415.

**ANTH:6635 Crossing Borders Seminar** **2-3 s.h.**

Taught in English. Same as AFAM:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

**ANTH:7110 Research Design and Proposal Writing** **3 s.h.**

Anthropological research design; preparation of proposals for fieldwork or laboratory analysis.

**ANTH:7414 Slavery and Social Death: 1200 B.C.E. to 1865 C.E.** **3 s.h.**

Exploration of various slave systems in antiquity, the middle ages, and modernity in terms of their motivations, utilization, and broader social, economic, and political implications; use of literary sources and archaeological remains to investigate slave cultures in ancient Near East and Egypt, Jewish exploitation of enslaved persons, and use of chattel slavery in Greek, Roman, early Christian, and Islamic societies; antebellum U.S. slavery. Same as CLSA:7114, HIST:7414.

**ANTH:7501 Dissertation Writing Seminar** **1 s.h.**

Organization of dissertation, setting and meeting deadlines, writing a chapter, and workshopping drafts; seminar group work and consultation with advisors; completion and revision of at least one dissertation chapter; for anthropology graduate students who are beginning, or about to begin, their dissertation writing process. Requirements: anthropology graduate student who passed comprehensive exams (prospectus and essays).

# Anthropology, B.A.

## Learning Outcomes

Students should be able to:

- describe a broad range of changing and diverse human experiences and practices across time and space;
- demonstrate how diverse cultural backgrounds and structural inequalities, including race, gender, class, and other socially constructed categories of difference, relate to peoples' beliefs, experiences, and practices;
- explain the evolutionary perspective as it pertains to human and nonhuman primates, including origins, behavior, ecology, and biocultural variation;
- apply anthropological research tools to collect and interpret data; and
- communicate anthropological concepts and findings.

## Requirements

The Bachelor of Arts with a major in anthropology requires a minimum of 120 s.h., including 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major.

Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Anthropology courses that fulfill GE CLAS Core requirements are located under "Anthropology GE CLAS Core Courses" in the Department of Anthropology [p. 74] section of the Catalog.

The B.A. is designed to offer a comprehensive overview of anthropology's four main subfields and the broadest possible cross-cultural background.

Students may choose to complete one of four specialized tracks: gender and culture, cultural resource and heritage management, environmental anthropology, or medical anthropology. See "Optional Undergraduate Tracks" below.

Undergraduates majoring in anthropology, including transfer students, must earn a minimum of 15 s.h. for the major at the University of Iowa. Students may apply credit earned at approved field schools offered by other institutions toward the major, with Department of Anthropology approval.

Students who declare anthropology as their major when they are admitted to the College of Liberal Arts and Sciences are advised at the Academic Advising Center until they have earned 30 s.h. Students who have earned more than 30 s.h. are advised by the departmental undergraduate advisor.

The B.A. with a major in anthropology requires the following coursework.

Code	Title	Hours
	Common Requirements	24
	Electives	9
	Optional Track	
	<b>Total Hours</b>	<b>33</b>

## Common Requirements

Students must complete 11 courses from the lists below: five introductory courses, one course in archaeology or biological anthropology, one course in sociocultural or linguistic anthropology, one course in area studies, and a minimum of 9 s.h. in elective anthropology (prefix ANTH) courses numbered

2000 or above. Several courses are listed in more than one of these categories; students may not select the same course to fulfill requirements in more than one category.

## Introductory Courses

Code	Title	Hours
All of these:		
ANTH:1001	Issues in Anthropology	3
ANTH:1101	Cultural Anthropology	3
ANTH:1201	World Archaeology	3
ANTH:1301	Human Origins	3
ANTH:1401	Language, Culture, and Communication	3

## Archaeology or Biological Anthropology (Area or Topical)

Code	Title	Hours
One of these:		
ANTH:2166	Arts of Native North America	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:2265	Tools, Treasures, and Trash: Archaeology of the Material World	3
ANTH:2290	Practicum in Archaeology	arr.
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:2390	Laboratory Methods in Biological Anthropology	arr.
ANTH:3204	Food in Ancient Mediterranean Society	3
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3261	Our Life With Dogs: The Anthropological Study of Animals in Human Societies	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3

ANTH:3276	Greek Archaeology and Ethnohistory	3	ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3277	Roman Archaeology	3	ANTH:3110	Colonialism and Indigenous Health Equity	3
ANTH:3278	Archaeology of Ancient Cities	3	ANTH:3113	Religion and Healing	3
ANTH:3295	Field Research in Archaeology	arr.	ANTH:3114	Anthropology of Religion	3
ANTH:3305	Human Osteology	3	ANTH:3117	Using Ethnographic Methods	3
ANTH:3306	The Neanderthal Enigma	3	ANTH:3118	Politics of Reproduction	3
ANTH:3307	Modern Human Origins	3	ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3308	Human Variation	3	ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3325	Human Evolutionary Genetics	3	ANTH:3125	Transnational Feminism	3
ANTH:3327	Genes, Culture, and Human Diversity	3	ANTH:3127	Anthropology of Death	3
ANTH:3328	Molecular Genetics of Human Disease	3	ANTH:3131	Anthropology and Human Rights	3
ANTH:4080	Anthropology Internship	arr.	ANTH:3133	Anthropology of Race	3
ANTH:4315	Human Evolutionary Anatomy	3	ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3

## Sociocultural or Linguistic Anthropology

Code	Title	Hours
One of these:		
ANTH:2102	Anthropology of Marriage and Family	3
ANTH:2103	Introduction to Global Health Studies	3
ANTH:2105	Cultural Worlds of Science and Scientists	3
ANTH:2108	Gendering India	3
ANTH:2120	Gender and Technology	3
ANTH:2136	Race, Place, and Power: Urban Anthropology	3
ANTH:2140	Food, Drink, and Culture	3
ANTH:2151	Global Migration in the Contemporary World	3
ANTH:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2164	Culture and Healing: An Introduction to Medical Anthropology	3
ANTH:2165	Native Peoples of North America	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:2190	Love Rules: Law and the Family Across Cultures	3
ANTH:2191	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3
ANTH:3017	Decolonizing Anthropology in Native North America	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3103	Environment and Culture	3
ANTH:3107	Literature and Anthropology	3

ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3110	Colonialism and Indigenous Health Equity	3
ANTH:3113	Religion and Healing	3
ANTH:3114	Anthropology of Religion	3
ANTH:3117	Using Ethnographic Methods	3
ANTH:3118	Politics of Reproduction	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3125	Transnational Feminism	3
ANTH:3127	Anthropology of Death	3
ANTH:3131	Anthropology and Human Rights	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ANTH:3172	Chinese Marriage and Family in Comparative Perspective	3
ANTH:3180	Applied Anthropology	3
ANTH:3190	Global Debt	3
ANTH:3300	Mothers and Motherhood	3
ANTH:4130	Religion and Environmental Ethics	3
ANTH:4140	Feminist Activism and Global Health	3

## Area Studies

Code	Title	Hours
One of these:		
ANTH:2108	Gendering India	3
ANTH:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2165	Native Peoples of North America	3
ANTH:2166	Arts of Native North America	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2182	Africa: Health and Society	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:3017	Decolonizing Anthropology in Native North America	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3243	Archaeology of the American Midcontinent	3

ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3276	Greek Archaeology and Ethnohistory	3
ANTH:3277	Roman Archaeology	3
ANTH:3306	The Neanderthal Enigma	3
ANTH:4700	Latin American Studies Seminar	3-4

## Electives

Anthropology electives offer many options, including courses dealing with environment and culture, expressive culture (art, verbal arts, literature, music, and dance), gender and sexuality, human evolution, human osteology, human prehistory, identity, language and culture, medical anthropology, molecular genetics, primatology, psychological anthropology, religion and ritual, and urban anthropology. Department faculty members offer area studies courses that focus on Latin America, Europe, Japan, South Asia, and Native North America.

Code	Title	Hours
A minimum of 9 s.h. in elective anthropology courses (prefix ANTH) numbered 2000 or above		

## Additional Requirements

Students are strongly encouraged to take courses and participate in archaeological field and laboratory research, biological anthropology laboratory research, ethnographic research methods in sociocultural anthropology, and multimedia research in linguistic anthropology.

## Optional Undergraduate Tracks

Students have the option of adding a particular focus to their study plan by completing a specialized track. They may choose one of four options: gender and culture [p. 84], cultural resource and heritage management [p. 84], environmental anthropology [p. 85], or medical anthropology [p. 85].

The optional tracks reflect broad issues bridging subfields in and outside of anthropology. Completion of a track indicates the acquisition of considerable expertise and is noted on a student's transcript.

The optional tracks each require 15 s.h. (five courses). By selecting courses carefully, students majoring in anthropology can complete a specialization track without adding to the semester hours required for graduation.

## Gender and Culture Track

Anthropological research regarding gender and sexuality has grown dramatically in recent years, enhancing and drawing from other theoretical and methodological approaches in anthropology. This research contributes a cross-cultural perspective to discussion surrounding these fundamental aspects of human experience, both in academia and in public life.

The gender and culture track requires 15 s.h. (five courses) chosen from the following list. Each course provides an integrated overview of essential theoretical and topical issues in the field.

Code	Title	Hours
Five of these:		
ANTH:2102	Anthropology of Marriage and Family	3
ANTH:2108	Gendering India	3
ANTH:2120	Gender and Technology	3
ANTH:2151	Global Migration in the Contemporary World	3
ANTH:2190	Love Rules: Law and the Family Across Cultures	3
ANTH:2191	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3118	Politics of Reproduction	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3125	Transnational Feminism	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3172	Chinese Marriage and Family in Comparative Perspective	3
ANTH:3300	Mothers and Motherhood	3
ANTH:4140	Feminist Activism and Global Health	3

## Cultural Resource and Heritage Management Track

In North America and throughout much of the rest of the world, modern land use continually threatens evidence of past land use. Most archaeological excavations are conducted as cultural resource management (CRM), so it is essential that all researchers who work with archaeological data and individuals committed to site preservation have a basic understanding of CRM. Students who choose this emphasis learn about the field and about how to address related ethical issues as well as technical and theoretical challenges.

The cultural resource and heritage management track requires 15 s.h. (five courses): a fundamental overview course, two area electives, a technical/practical elective, and a field school course. Students may use some of these courses to satisfy requirements for the major, such as the course in archaeology and the electives.

## Overview

Code	Title	Hours
This course:		
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3

## Area Electives

Code	Title	Hours
Two of these (or one of these and one other Department of Anthropology area course):		
ANTH:2165	Native Peoples of North America	3
ANTH:2166	Arts of Native North America	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3

## Technical/Practical Elective

Code	Title	Hours
One of these:		
ANTH:2265	Tools, Treasures, and Trash: Archaeology of the Material World	3
ANTH:2290	Practicum in Archaeology	arr.
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3305	Human Osteology	3

## Field School

Code	Title	Hours
One of these:		
ANTH:3295	Field Research in Archaeology	arr.
An equivalent course from another university		

## Environmental Anthropology Track

The interaction between humans and the environments they inhabit has long been a central issue in anthropology, and environmental degradation is a worldwide concern today. Pollution, loss of biodiversity, and global warming recognize no political boundaries, but attitudes and behaviors involving the natural environment vary widely from culture to culture. The understanding and incorporation of these varied perspectives are vital to the development and successful use of workable solutions.

The environmental anthropology track requires 15 s.h. (five courses): two theory courses, which deal primarily with human-environmental interactions; and three area or topical electives, which deal in part with environment, ecology, and subsistence technologies. The following are sample courses in each area (courses must be numbered 2000 or above).

## Theory Courses

Code	Title	Hours
Two of these:		
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:4130	Religion and Environmental Ethics	3

## Area or Topical Electives

Code	Title	Hours
Three of these:		
ANTH:2140	Food, Drink, and Culture	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment (if not taken as a Theory course)	3
ANTH:3103	Environment and Culture (if not taken as a Theory course)	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3261	Our Life With Dogs: The Anthropological Study of Animals in Human Societies	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3277	Roman Archaeology	3
ANTH:3278	Archaeology of Ancient Cities	3
ANTH:4130	Religion and Environmental Ethics (if not taken as a Theory course)	3

## Medical Anthropology Track

Human experiences of sickness and suffering are universal yet profoundly shaped by cultural and historical contexts. Medical anthropology explores cultural and biological diversity in sickness, health, and healing through approaches that include examining individual experiences of disrupted well-being, considering how biological and cultural factors interact to promote health or produce sickness, analyzing political-economic causes of health inequalities, and applying research to improve health research and services in an increasingly global world. Coursework in medical anthropology helps students prepare for a range of health professions and social services careers and for work in diverse settings that increasingly include nongovernmental organizations devoted to improving health. Future health professionals are increasingly called upon to understand how sociocultural and

biological factors intersect to produce experiences of health, sickness, and healing.

The medical anthropology track requires 15 s.h. (five courses): an introductory course plus four electives that focus on health-related topics. Electives include 2000- and 3000-level intermediate courses that apply medical anthropology to specific topics, as well as more advanced 4000-level courses that help students to engage with more complex topics in this field. Students can choose to mix intermediate and advanced electives in ways that best meet their interests and goals.

## Overview

Code	Title	Hours
This introductory course:		
ANTH:2164	Culture and Healing: An Introduction to Medical Anthropology	3

## Electives

Code	Title	Hours
Four intermediate and advanced courses from these:		
ANTH:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3110	Colonialism and Indigenous Health Equity	3
ANTH:3113	Religion and Healing	3
ANTH:3118	Politics of Reproduction	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3199	Anthropology and Global Health Policy	3
ANTH:3325	Human Evolutionary Genetics	3
ANTH:3327	Genes, Culture, and Human Diversity	3
ANTH:3328	Molecular Genetics of Human Disease	3
ANTH:4140	Feminist Activism and Global Health	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and

deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students majoring in anthropology have the opportunity to graduate with honors in the major. Departmental honors students must have a g.p.a. of at least 3.50 in anthropology coursework and a cumulative University of Iowa g.p.a. of at least 3.33. They must conduct an independent research project that culminates in a 30-50 page thesis. The project includes completion of 6 s.h. divided between ANTH:4995 Honors Research Seminar (offered only in fall semesters) and ANTH:4996 Honors Research, typically taken the next semester. Honors students also must take one of their anthropology courses at the graduate level.

Contact the department's director of undergraduate studies to learn more about honors in anthropology.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the anthropology major.

## Career Advancement

The major in anthropology prepares individuals for advanced training or careers in anthropology, allied fields, and professional programs. Students who complete an anthropology major gain special understanding of human relations and expertise for jobs involving international or cross-cultural work, cultural resource management, and in responding to social and ethnic diversity, whether in the United States or globally.

Upon graduation, anthropology majors embark on careers in government, international affairs, conservation, economic development, public health, cultural resource management, planning and public affairs, social work, museum work, and education. Many go on to help resolve contemporary world problems by working with international or domestic organizations such as AmeriCorps, the Peace Corps, and Teach for America. Some pursue graduate study in anthropology or related social and natural sciences, while others earn degrees in business, law, or the health professions.

Students may enroll in ANTH:3016 Career Paths in Anthropology to learn about working in a variety of anthropology-related fields.

The Pomerantz Career Center also offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** at least two courses in the major.

**Before the seventh semester begins:** at least seven courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least eight courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Anthropology, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ANTH:1101	Cultural Anthropology <sup>b, c</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>15-17</b>
<b>Spring</b>		
ANTH:1301	Human Origins <sup>b, c</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
	<b>Hours</b>	<b>16-18</b>
<b>Second Year</b>		
<b>Fall</b>		
ANTH:1201	World Archaeology <sup>b, c</sup>	3
ANTH:1401	Language, Culture, and Communication <sup>b, c</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		2
	<b>Hours</b>	<b>16-17</b>

#### Spring

ANTH:1001	Issues in Anthropology	3
Major: upper-level anthropology course/track course <sup>g</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>f</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
	<b>Hours</b>	<b>16-17</b>

#### Third Year

##### Fall

Major: Archaeology or Biological Anthropology course/track course <sup>g</sup>		3
GE CLAS Core: International and Global Issues <sup>f</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
	<b>Hours</b>	<b>15</b>

##### Spring

Major: Sociocultural or Linguistic Anthropology course/track course <sup>g</sup>		3
GE CLAS Core: Values and Culture <sup>f</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
	<b>Hours</b>	<b>15</b>

#### Fourth Year

##### Fall

Major: upper-level anthropology course/track course <sup>g</sup>		3
Major: Area Studies Anthropology course/track course <sup>g</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
	<b>Hours</b>	<b>15</b>

##### Spring

Major: upper-level anthropology course/track course <sup>g</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		

	<b>Hours</b>	<b>15</b>
	<b>Total Hours</b>	<b>123-129</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students may only use three ANTH courses to satisfy GE CLAS Core requirements.

c Fulfills a major requirement and may fulfill a GE requirement.

- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Students have the option to choose one of four tracks in the major: gender and culture, cultural resource and heritage management, environmental anthropology, or medical anthropology. Courses must be numbered 2000 or above.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Anthropology, B.S.

## Learning Outcomes

Students should be able to:

- describe a broad range of changing and diverse human experiences and practices across time and space;
- demonstrate how diverse cultural backgrounds and structural inequalities, including race, gender, class, and other socially constructed categories of difference, relate to peoples' beliefs, experiences, and practices;
- understand the evolutionary perspective as it pertains to human and nonhuman primates, including origins, behavior, ecology, and biocultural variation;
- apply anthropological research tools to collect and interpret data; and
- communicate anthropological concepts and findings.

## Requirements

The Bachelor of Science with a major in anthropology requires a minimum of 120 s.h., including a minimum of 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major.

Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Anthropology courses that fulfill GE CLAS Core requirements are located under "Anthropology GE CLAS Core Courses" in the Department of Anthropology [p. 74] section of the Catalog.

The B.S. is appropriate for students with interests in any of anthropology's subfields; it offers enhanced opportunities to gain experience and develop skills in research methods and scientific reasoning.

Students may choose to complete one of four specialized tracks: gender and culture, cultural resource and heritage management, environmental anthropology, or medical anthropology. See "Optional Undergraduate Tracks" below.

Undergraduates majoring in anthropology, including transfer students, must earn a minimum of 15 s.h. for the major at the University of Iowa. Students may apply credit earned at approved field schools offered by other institutions toward the major, with Department of Anthropology approval.

Students who declare anthropology as their major when they are admitted to the College of Liberal Arts and Sciences are advised at the Academic Advising Center until they have earned 30 s.h. Students who have earned more than 30 s.h. are advised by the departmental undergraduate advisor.

The B.S. with a major in anthropology requires the following coursework.

Code	Title	Hours
	Common Requirements	24
	Electives	9
	Quantitative, Mathematical, or Formal Reasoning Tool	3-4
	Directed Laboratory or Field Research	3
	Allied Topical Field	
	Optional Track	
	<b>Total Hours</b>	<b>39-40</b>

## Common Requirements

Students must complete 11 courses from the lists below: five introductory courses, one course in archaeology or biological anthropology, one course in sociocultural or linguistic anthropology, one course in area studies, and a minimum of 9 s.h. of elective anthropology courses (prefix ANTH) numbered 2000 or above. Several courses are listed in more than one of these categories; students may not select the same course to fulfill requirements in more than one category.

### Introductory Courses

Code	Title	Hours
	All of these:	
ANTH:1001	Issues in Anthropology	3
ANTH:1101	Cultural Anthropology	3
ANTH:1201	World Archaeology	3
ANTH:1301	Human Origins	3
ANTH:1401	Language, Culture, and Communication	3

### Archaeology or Biological Anthropology (Area or Topical)

Code	Title	Hours
	One of these:	
ANTH:2166	Arts of Native North America	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:2265	Tools, Treasures, and Trash: Archaeology of the Material World	3
ANTH:2290	Practicum in Archaeology	arr.
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:2390	Laboratory Methods in Biological Anthropology	arr.
ANTH:3204	Food in Ancient Mediterranean Society	3
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3

ANTH:3261	Our Life With Dogs: The Anthropological Study of Animals in Human Societies	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3276	Greek Archaeology and Ethnohistory	3
ANTH:3277	Roman Archaeology	3
ANTH:3278	Archaeology of Ancient Cities	3
ANTH:3295	Field Research in Archaeology	arr.
ANTH:3305	Human Osteology	3
ANTH:3306	The Neanderthal Enigma	3
ANTH:3307	Modern Human Origins	3
ANTH:3308	Human Variation	3
ANTH:3325	Human Evolutionary Genetics	3
ANTH:3327	Genes, Culture, and Human Diversity	3
ANTH:3328	Molecular Genetics of Human Disease	3
ANTH:4080	Anthropology Internship	arr.
ANTH:4315	Human Evolutionary Anatomy	3

## Sociocultural or Linguistic Anthropology

Code	Title	Hours
One of these:		
ANTH:2102	Anthropology of Marriage and Family	3
ANTH:2103	Introduction to Global Health Studies	3
ANTH:2105	Cultural Worlds of Science and Scientists	3
ANTH:2108	Gendering India	3
ANTH:2120	Gender and Technology	3
ANTH:2136	Race, Place, and Power: Urban Anthropology	3
ANTH:2140	Food, Drink, and Culture	3
ANTH:2151	Global Migration in the Contemporary World	3
ANTH:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2164	Culture and Healing: An Introduction to Medical Anthropology	3
ANTH:2165	Native Peoples of North America	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:2190	Love Rules: Law and the Family Across Cultures	3

ANTH:2191	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3
ANTH:3017	Decolonizing Anthropology in Native North America	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3103	Environment and Culture	3
ANTH:3107	Literature and Anthropology	3
ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3110	Colonialism and Indigenous Health Equity	3
ANTH:3113	Religion and Healing	3
ANTH:3114	Anthropology of Religion	3
ANTH:3117	Using Ethnographic Methods	3
ANTH:3118	Politics of Reproduction	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3125	Transnational Feminism	3
ANTH:3127	Anthropology of Death	3
ANTH:3131	Anthropology and Human Rights	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ANTH:3172	Chinese Marriage and Family in Comparative Perspective	3
ANTH:3180	Applied Anthropology	3
ANTH:3190	Global Debt	3
ANTH:3300	Mothers and Motherhood	3
ANTH:4130	Religion and Environmental Ethics	3
ANTH:4140	Feminist Activism and Global Health	3

## Area Studies

Code	Title	Hours
One of these:		
ANTH:2108	Gendering India	3
ANTH:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2165	Native Peoples of North America	3
ANTH:2166	Arts of Native North America	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2182	Africa: Health and Society	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:3017	Decolonizing Anthropology in Native North America	3

ANTH:3121	Love, Marriage, and Family in India	3	CS:1210	Computer Science I: Fundamentals	4
ANTH:3171	Voices of Islam in Southeast Asia	3	LING:1050	Language and Formal Reasoning	3
ANTH:3239	The Archaeology of the First Europeans	3	MATH:1440	Mathematics for the Biological Sciences	4
ANTH:3243	Archaeology of the American Midcontinent	3	MATH:1460	Calculus for the Biological Sciences	4
ANTH:3257	North American Archaeology	3	MATH:1850	Calculus I	4
ANTH:3258	Southwestern Archaeology	3	PHIL:1636	Principles of Reasoning: Argument and Debate	3
ANTH:3260	Pleistocene Peopling of the Americas	3	STAT:1010	Statistics and Society	3
ANTH:3265	Archaeology of the Great Plains	3	STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
ANTH:3275	The Archaeology of Ancient Egypt	3	STAT:2010	Statistical Methods and Computing	3
ANTH:3276	Greek Archaeology and Ethnohistory	3	STAT:3510	Biostatistics	3
ANTH:3277	Roman Archaeology	3			
ANTH:3306	The Neanderthal Enigma	3			
ANTH:4700	Latin American Studies Seminar	3-4			

## Electives

Anthropology electives offer many options, including courses dealing with environment and culture, expressive culture (art, verbal arts, literature, music, and dance), gender and sexuality, human evolution, human osteology, human prehistory, identity, language and culture, medical anthropology, molecular genetics, primatology, psychological anthropology, religion and ritual, and urban anthropology. Department faculty members offer area studies courses that focus on Latin America, Europe, Japan, South Asia, and Native North America.

Code	Title	Hours
A minimum of 9 s.h. in elective anthropology courses (prefix ANTH) numbered 2000 or above		

## Additional Requirements

Students must fulfill additional requirements in the following three areas:

- quantitative, mathematical, or formal reasoning tool;
- directed laboratory or field research; and
- allied topical coursework.

## Quantitative, Mathematical, or Formal Reasoning Tool

Students must complete one course (a minimum of 3 s.h.) in statistics, computing, logic, and/or mathematics in addition to the course they take to fulfill the GE CLAS Core [p. 20] Quantitative and Formal Reasoning requirement. The department accepts the following courses to fulfill the tool requirement. Students who would like to use other courses should consult their advisors.

Code	Title	Hours
One of these:		
COMM:1117	Advocacy and Argument	3
CS:1110	Introduction to Computer Science	3

## Directed Laboratory or Field Research

Students complete an approved directed research requirement (minimum of 3 s.h.) consisting of one of the following.

- Laboratory research: a laboratory practicum in anthropology research labs or independent, faculty-guided, laboratory research, including use of the collections of the Office of the State Archaeologist.
- Field research project: faculty-advised projects involving the collection of primary archaeological, biological, ethnographic, and/or linguistic data in a fieldwork setting.
- A University of Iowa field archaeological school program or approved equivalent.
- An approved internship: internships typically involve work in cultural resource management firms, museums, and public health research or education projects. To receive research credit for an internship, students must make a final report to their faculty advisor, summarizing the work accomplished or presenting materials that document the nature of the work.

## Allied Topical Field

Students complete a topical concentration in one of the following allied fields: biology, chemistry, computer science, earth and environmental sciences, economics, geographical and sustainability sciences, global health studies, health and human physiology, linguistics, mathematics, psychology, science studies, sport studies, or statistics and actuarial science. Minors (or at least five courses) in other fields, chosen in consultation with a student's advisor, also may be applied toward this requirement.

## Optional Undergraduate Tracks

Students have the option of adding a particular focus to their study plan by completing a specialized track. They may choose one of four options: gender and culture [p. 92], cultural resource and heritage management [p. 92], environmental anthropology [p. 92], or medical anthropology [p. 93].

The optional tracks reflect broad issues bridging subfields in and outside of anthropology. Completion of a track indicates the acquisition of considerable expertise and is noted on a student's transcript.

The optional tracks each require 15 s.h. (five courses). By selecting courses carefully, students majoring in anthropology

can complete a specialization track without adding to the semester hours required for graduation.

## Gender and Culture Track

Anthropological research regarding gender and sexuality has grown dramatically in recent years, enhancing and drawing from other theoretical and methodological approaches in anthropology. This research contributes a cross-cultural perspective to discussion surrounding these fundamental aspects of human experience, both in academia and in public life.

The gender and culture track requires 15 s.h. (five courses) chosen from the following list. Each course provides an integrated overview of essential theoretical and topical issues in the field.

Code	Title	Hours
Five of these:		
ANTH:2102	Anthropology of Marriage and Family	3
ANTH:2108	Gendering India	3
ANTH:2120	Gender and Technology	3
ANTH:2151	Global Migration in the Contemporary World	3
ANTH:2190	Love Rules: Law and the Family Across Cultures	3
ANTH:2191	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3118	Politics of Reproduction	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3125	Transnational Feminism	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3172	Chinese Marriage and Family in Comparative Perspective	3
ANTH:3300	Mothers and Motherhood	3
ANTH:4140	Feminist Activism and Global Health	3

## Cultural Resource and Heritage Management Track

In North America and throughout much of the rest of the world, modern land use continually threatens evidence of past land use. Most archaeological excavations are conducted as cultural resource management (CRM), so it is essential that all researchers who work with archaeological data and individuals committed to site preservation have a basic understanding of CRM. Students who choose this emphasis learn about the field and about how to address related ethical issues as well as technical and theoretical challenges.

The cultural resource and heritage management emphasis requires 15 s.h. (five courses): a fundamental overview course, two area electives, a technical/practical elective, and a field school course. Students may use some of these courses

to satisfy requirements for the major, such as the course in archaeology and the electives.

## Overview

Code	Title	Hours
This course:		
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3

## Area Electives

Code	Title	Hours
Two of these (or one of these and one other Department of Anthropology area course):		
ANTH:2165	Native Peoples of North America	3
ANTH:2166	Arts of Native North America	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3

## Technical/Practical Elective

Code	Title	Hours
One of these:		
ANTH:2265	Tools, Treasures, and Trash: Archaeology of the Material World	3
ANTH:2290	Practicum in Archaeology	arr.
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3305	Human Osteology	3

## Field School

Code	Title	Hours
One of these:		
ANTH:3295	Field Research in Archaeology	arr.
An equivalent course from another university		

## Environmental Anthropology Track

The interaction between humans and the environments they inhabit has long been a central issue in anthropology, and environmental degradation is a worldwide concern today. Pollution, loss of biodiversity, and global warming recognize no political boundaries, but attitudes and behaviors involving the natural environment vary widely from culture to culture. The understanding and incorporation of these varied perspectives are vital to the development and successful use of workable solutions.

The environmental anthropology track requires 15 s.h. (five courses): two theory courses, which deal primarily with human-environmental interactions; and three area or topical electives, which deal in part with environment, ecology, and subsistence technologies. The following are sample courses in each area (courses must be numbered 2000 or above).

### Theory Courses

Code	Title	Hours
Two of these:		
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:4130	Religion and Environmental Ethics	3

### Area or Topical Electives

Code	Title	Hours
Three of these:		
ANTH:2140	Food, Drink, and Culture	3
ANTH:2175	Japanese Society and Culture	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:2261	Human Impacts on the Environment (if not taken as a Theory course)	3
ANTH:3103	Environment and Culture (if not taken as a Theory course)	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3261	Our Life With Dogs: The Anthropological Study of Animals in Human Societies	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3275	The Archaeology of Ancient Egypt	3
ANTH:3277	Roman Archaeology	3
ANTH:3278	Archaeology of Ancient Cities	3
ANTH:4130	Religion and Environmental Ethics (if not taken as a Theory course)	3

### Medical Anthropology Track

Human experiences of sickness and suffering are universal yet profoundly shaped by cultural and historical contexts. Medical anthropology explores cultural and biological diversity in sickness, health, and healing through approaches that include examining individual experiences of disrupted well-being, considering how biological and cultural factors interact to promote health or produce sickness, analyzing political-economic causes of health inequalities, and applying research

to improve health research and services in an increasingly global world. Coursework in medical anthropology helps students prepare for a range of health professions and social services careers and for work in diverse settings that increasingly include nongovernmental organizations devoted to improving health. Future health professionals are increasingly called upon to understand how sociocultural and biological factors intersect to produce experiences of health, sickness, and healing.

The medical anthropology track requires 15 s.h. (five courses): an introductory course plus four electives that focus on health-related topics. Electives includes 2000- and 3000-level intermediate courses that apply medical anthropology to specific topics, as well as more advanced 4000-level courses that help students to engage with more complex topics in this field. Students can choose to mix intermediate and advanced electives in ways that best meet their interests and goals.

### Overview

Code	Title	Hours
This introductory course:		
ANTH:2164	Culture and Healing: An Introduction to Medical Anthropology	3

### Electives

Code	Title	Hours
Four of these intermediate and advanced courses:		
ANTH:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2181	The Anthropology of Aging	3
ANTH:2182	Africa: Health and Society	3
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:3101	Anthropology of Sexuality	3
ANTH:3109	Culture, Mind, and Mental Health	3
ANTH:3110	Colonialism and Indigenous Health Equity	3
ANTH:3113	Religion and Healing	3
ANTH:3118	Politics of Reproduction	3
ANTH:3133	Anthropology of Race	3
ANTH:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152	Anthropology of Caregiving and Health	3
ANTH:3199	Anthropology and Global Health Policy	3
ANTH:3325	Human Evolutionary Genetics	3
ANTH:3327	Genes, Culture, and Human Diversity	3
ANTH:3328	Molecular Genetics of Human Disease	3
ANTH:4140	Feminist Activism and Global Health	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

### Honors

## Honors in the Major

Students majoring in anthropology have the opportunity to graduate with honors in the major. Departmental honors students must have a g.p.a. of at least 3.50 in anthropology coursework and a cumulative University of Iowa g.p.a. of at least 3.33. To graduate with honors in the major, they must conduct an independent research project that culminates in a 30-50 page thesis. The project includes completion of 6 s.h. divided between ANTH:4995 Honors Research Seminar (offered only in fall semesters) and ANTH:4996 Honors Research, typically taken the next semester. Honors students also must take one of their anthropology courses at the graduate level.

Students may count their directed research project or laboratory practicum toward the requirements for graduation with honors, but fulfilling the research requirement for the B.S. degree does not by itself fulfill the honors research requirement. Students must work with their honors thesis advisor to structure their research so that it meets the added requirements of honors work.

Contact the department's director of undergraduate studies to learn more about honors in anthropology.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the anthropology major.

### Career Advancement

The major in anthropology prepares individuals for advanced training or careers in anthropology, allied fields, and professional programs. Students who complete an anthropology major gain special understanding of human relations and expertise for jobs involving international or cross-cultural work, cultural resource management, and in responding to social and ethnic diversity, whether in the United States or globally.

Upon graduation, anthropology majors embark on careers in government, international affairs, conservation, economic development, public health, cultural resource management, planning and public affairs, social work, museum work, and education. Many go on to help resolve contemporary world problems by working with international or domestic organizations such as AmeriCorps, the Peace Corps,

and Teach for America. Some pursue graduate study in anthropology or related social and natural sciences, while others earn degrees in business, law, or the health professions.

Students may enroll in ANTH:3016 Career Paths in Anthropology to learn about working in a variety of anthropology-related fields.

The Pomerantz Career Center also offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** at least one anthropology course or other course in the major.

**Before the fifth semester begins:** at least four anthropology courses or other courses in the major, one course in the topical field, and one course for the quantitative or formal reasoning tool requirement.

**Before the seventh semester begins:** at least seven courses in the major, three courses in the topical field, the second quantitative or formal reasoning tool course, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least nine courses in the major, including the directed research requirement, and four courses in the topical field.

**During the eighth semester:** enrollment in all remaining coursework in the major (including the topical field), all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Anthropology, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ANTH:1101	Cultural Anthropology <sup>b, c</sup>	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
ANTH:1201	World Archaeology <sup>b, c</sup>	3

ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Quantitative or Formal Reasoning <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5

**Hours 13-15**

### Second Year

#### Fall

ANTH:1301	Human Origins <sup>b, c</sup>	3
ANTH:1401	Language, Culture, and Communication <sup>b, c</sup>	3
Major: upper-level quantitative or formal reasoning course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3

**Hours 16-17**

#### Spring

ANTH:1001	Issues in Anthropology	3
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		2

**Hours 16-17**

### Third Year

#### Fall

GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
Major: topical concentration course <sup>g</sup>		3
Major: Area Studies Anthropology course/track course <sup>h</sup>		3
GE CLAS Core: International and Global Issues <sup>f</sup>		3
Elective course <sup>e</sup>		3

**Hours 15**

#### Spring

Major: topical concentration course <sup>g</sup>		3
Major: upper-level anthropology course/track course <sup>h</sup>		3
Major: Archaeology or Biological Anthropology course/track course <sup>h</sup>		3
GE CLAS Core: Values and Culture <sup>f</sup>		3
Elective course <sup>e</sup>		3

**Hours 15**

#### Summer

Major: directed laboratory/research or field school		3
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**Hours 3**

### Fourth Year

#### Fall

Major: topical concentration course <sup>g</sup>		3
Major: upper-level anthropology course/track course <sup>h</sup>		3
Major: Sociocultural or Linguistic Anthropology course/track course <sup>h</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3

**Hours 15**

#### Spring

Major: topical concentration course <sup>g</sup>		3
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Major: topical concentration course <sup>g</sup>	3
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Major: upper-level anthropology course/track course <sup>h</sup>	3
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GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>	3
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Elective course <sup>e</sup>	3
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Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

**Hours 15**

**Total Hours 123-129**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students may only use three ANTH courses to satisfy GE CLAS Core requirements.

c Fulfills a major requirement and may fulfill a GE requirement.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Students must complete 15 s.h. in one area of study.

h Students have the option to choose one of four tracks in the major: gender and culture, cultural resource and heritage management, environmental anthropology, or medical anthropology. Courses must be numbered 2000 or above.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Anthropology, Minor

## Requirements

The undergraduate minor in anthropology requires a minimum of 15 s.h. in anthropology courses, including 12 s.h. in University of Iowa Department of Anthropology courses numbered 2000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Courses for the minor may not be taken pass/nonpass.

Students may create a focus for the minor by completing a specialization area; see "Optional Undergraduate Tracks" under the B.A. or B.S. anthropology requirements.



# Anthropology, M.A.

Graduate study in anthropology is open to individuals with varied undergraduate majors and training backgrounds.

Graduate students normally are admitted under the assumption that they intend to pursue the Ph.D. degree. The department also offers a terminal M.A. degree, with a focus on cultural resource management—archaeology (CRM), which provides academic preparation for a professional career in that field.

Ph.D. students who enter the program with a bachelor's degree are typically awarded a master's degree upon fulfilling program requirements at the end of their second year. The M.A. portion of the Ph.D. program features coursework across all four subfields of anthropology. Students also are strongly encouraged to conduct independent summer research, which is often supported by departmental and other university-based funding sources.

For additional information, view the Graduate Programs website and the current Graduate Student Guidebook on the Department of Anthropology website.

## Learning Outcomes

### Disciplinary Expertise

Graduate students will gain an in-depth understanding of anthropology and the discipline's contributions to our understanding of people and culture, in the past and present.

### Skills for Independent Research

Graduate students will acquire professional and ethical research, reasoning, methodological, and management skills to identify important research problems. They also will learn how to design and execute a project, productively engage with feedback, and successfully report (via writing and presentations) the results of their independent research to diverse sets of audiences.

### Teaching Contributions

Graduate students will learn how to communicate anthropological concepts and theories effectively and ethically to different audiences.

### Disciplinary, Academic, and Community Contributions

Graduate students will develop service, mentoring, and leadership skills that enable them to advance and support professional, management, academic, and community needs.

## Requirements

The Master of Arts program in anthropology requires 30-36 s.h. of graduate credit, depending on a student's previous anthropological training. Students may count a maximum of 9 s.h. earned in courses outside anthropology toward the M.A. in anthropology. It is expected that a full-time student will complete all M.A. requirements by the end of the second year in the program. Students must maintain a cumulative g.p.a. of at least 3.00.

Master's degree students who choose to focus on cultural resource management—archaeology normally do not go on to earn a Ph.D. in anthropology.

By the end of their first semester, each student must select an M.A. committee, consisting of an advisor and two additional professors. Each year, students compile, in consultation with their advisor, the three strongest papers written for anthropology courses, conferences, or journals; an annotated bibliography; their current curriculum vitae; and a three-page narrative to describe their intellectual trajectory in the M.A. program to date.

Master's degree students who intend to earn a doctorate should consider taking ANTH:5110 Anthropological Data Analysis or another statistics course during their M.A. study.

## General Coursework

M.A. students not pursuing the cultural resource management—archaeology focus must complete core seminars in all four subfields (total of 12 s.h.).

Code	Title	Hours
All of these:		
ANTH:5101	Seminar Sociocultural Anthropology	3
ANTH:5201	Seminar: Archaeological Theory and Method	3
ANTH:5301	Seminar: Biological Anthropology	3
ANTH:5401	Seminar: Linguistic Anthropology	3

## Electives

In consultation with the advisor and committee members, a student selects a minimum of 18 s.h. of additional coursework to complete the remaining semester hours required for the M.A. Elective work may include courses in other disciplines, directed study, and up to 6 s.h. of M.A. thesis credit for students who choose the thesis option.

## Cultural Resource Management—Archaeology Focus

Most archaeological excavations and surveys are conducted as cultural resource management (CRM), so it is essential that all researchers who work with archaeological data and individuals committed to site preservation have a basic understanding of CRM. Students who select this focus area learn about the field and how to address related ethical issues as well as technical and theoretical challenges.

Students must complete the archaeological core graduate seminar. They also must complete a research paper, which is an archaeological study with a substantive data analysis directed toward an explicit archaeological research problem, suitable to meet the section three requirement for the Registry of Professional Archaeologist application form.

The cultural resource management—archaeology focus requires a total of 30 s.h., including 24 s.h. of coursework and 6 s.h. of independent research or thesis credit.

## Required Coursework

Code	Title	Hours
Both of these:		
ANTH:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
ANTH:5201	Seminar: Archaeological Theory and Method	3

## Area Electives

Code	Title	Hours
Two of these:		
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3260	Pleistocene Peopling of the Americas	3
ANTH:3265	Archaeology of the Great Plains	3

## Technical Electives

Code	Title	Hours
Four of these:		
ANTH:3207	Animal Bones in Archaeology	3
ANTH:3208	Archaeological Methods	3
ANTH:3237	Politics of the Archaeological Past	3
ANTH:3241	Lithic Analysis in Archaeology	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3295	Field Research in Archaeology	3
ANTH:3305	Human Osteology	3

## Independent Research or Thesis

Code	Title	Hours
6 s.h. from these:		
ANTH:6005	Independent Study: Anthropology	arr.
ANTH:6010	Research: Anthropology	arr.
ANTH:6015	Thesis	arr.

## Admission

Applicants for admission to the graduate program in anthropology are considered regardless of their previous field of training. Students without previous training in anthropology are expected to perform additional work as necessary to achieve competence expected for their degree objective.

Students normally are admitted under the assumption that they intend to pursue the Ph.D. degree. Students without an M.A. in anthropology devote the first two years fulfilling the M.A. requirements. After those requirements are completed, the student's committee may award the M.A. with admittance to the Ph.D. program.

Students with an M.A. in anthropology from another institution may proceed directly into a Ph.D. program organized around their special research interests. If they lack any of the requirements of the graduate program at the University of Iowa, they are informed of those requirements when admitted. Acceptance of credit hours from other institutions will follow UI regulations.

Applicants for admission to the graduate program must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Anthropology graduate program applicants are required to upload the following documentation to the University of Iowa Graduate Admissions online application:

- official academic records/transcripts from previous institutions attended;
- a brief statement of interest or intent regarding why graduate study in the Department of Anthropology is desired;
- three letters of recommendation;
- a writing sample (preferably a research paper); and
- an application for graduate funding.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET). Once recommended for admission, international students also must complete several additional requirements.

For more information concerning the required application elements, see Graduate Admissions Process on the Department of Anthropology website.

When completing the online Graduate College Application for Admission for Degree, applicants currently without a M.A. or M.S. in anthropology should enter "M.A." regardless of whether they intend to continue on to the doctoral program. Students at the M.A. level do not write a thesis, so "M.A. (thesis)" is not an option. This designation refers to the initial program students enter upon admission and in no way limits prospects for continuing on to the Ph.D. program. For questions about which degree option to choose, contact the Department of Anthropology.

## Financial Support

Financial assistance, usually in the form of teaching and research assistantships, may be offered to doctoral and potential doctoral students in good standing for up to four years. Students making satisfactory and timely progress through the graduate program are in good standing. Eligibility for financial aid is reduced after two years in the M.A. program. The amount and types of aid depend on departmental needs.

Students are notified in writing of a provisional financial award before the semester or summer session for which the award has been granted. Although awards are made before the end of the previous semester, each award is contingent upon satisfactory completion of that semester's work by the awardee.

## Career Advancement

Graduates establish careers at universities, colleges, museums, health care institutions, and a diverse range of governmental and nongovernmental agencies. For more information, see Careers and Opportunities on the Department of Anthropology website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Anthropology, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b, c, d</sup>		
Students who are first-time teaching assistants must also complete ANTH:5001 Graduate Teaching Pro-Seminar.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Establish Master's Committee <sup>e</sup>		
Seek Internal Review Board (IRB) Approval <sup>f</sup>		
ANTH:5101	Seminar Sociocultural Anthropology	3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Master's Portfolio <sup>h</sup>		
ANTH:5201	Seminar: Archaeological Theory and Method	3
ANTH:5301	Seminar: Biological Anthropology	3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
ANTH:5401	Seminar: Linguistic Anthropology	3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
Master's Portfolio <sup>i</sup>		
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Final Exam <sup>j</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>30</b>

a Some students may complete up to 36 s.h. of graduate coursework for the degree, depending on their previous anthropological training. Students should consult with their faculty advisor to determine if this is necessary and, if so, which coursework is appropriate.

b Students normally are admitted (whether with a master's or a bachelor's degree) under the assumption that they intend to pursue the PhD degree. The department also offers a terminal MA degree, with a focus on cultural resource management-archaeology (CRM).

c A maximum of 9 s.h. of coursework outside anthropology may count towards the degree requirements.

d Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

e Composed of three members of the anthropology graduate faculty, one of whom serves as the committee chair, and the student's faculty advisor.

f Students who conduct research involving human subjects (e.g., ethnographic research in the summer months) are required to submit a detailed application about the scope of their study and data collection methods through the HawkIRB system for Institutional Review Board (IRB) approval.

g In consultation with faculty advisor and committee members, students select a minimum of 18 s.h. of additional coursework to complete the remaining semester hours required for the MA; may include courses in other disciplines and up to 9 s.h. of directed study. Students who intend to earn a doctorate should consider taking ANTH:5110 or another statistics course.

h Compile, in consultation with faculty advisor, the three strongest papers written for anthropology courses, conferences, or journals; an annotated bibliography of 3 topical areas with 5 key annotated references in each; current curriculum vitae; and a three-page narrative to describe intellectual trajectory in the MA program to date.

i Compile, in consultation with faculty advisor, the three strongest papers written for anthropology courses, conferences, or journals; an annotated bibliography of 3-4 topical areas with 6-10 key references in each; current curriculum vitae; and a three-page narrative to describe intellectual trajectory in the MA program to date.

j Successful completion of all degree requirements.

# Anthropology, Ph.D.

## Learning Outcomes

### Disciplinary Expertise

Graduate students will gain an in-depth understanding of anthropology and the discipline's contributions to our understanding of people and culture, in the past and present.

### Skills for Independent Research

Graduate students will acquire professional and ethical research, reasoning, methodological, and management skills to identify important research problems. They also will learn how to design and execute a project, productively engage with feedback, and successfully report (via writing and presentations) the results of their independent research to diverse sets of audiences.

### Teaching Contributions

Graduate students will learn how to communicate anthropological concepts and theories effectively and ethically to different audiences.

### Disciplinary, Academic, and Community Contributions

Graduate students will develop service, mentoring, and leadership skills that enable them to advance and support professional, management, academic, and community needs.

## Requirements

The Ph.D. degree leads to the accomplishment of professional-level skills in conducting independent research, and normally features specialized training in one or two of the discipline's subfields. Doctoral education is guided by a Ph.D. committee composed of members of the faculty competent in the particular areas and topics chosen by a student. Students must maintain a cumulative g.p.a. of at least 3.00.

The doctoral program includes an integrated process of progressively developing and completing reading lists, developing and submitting research proposals to funding agencies, developing and defending a dissertation prospectus, and writing two comprehensive exam essays. Upon successful completion of the comprehensive examination and the dissertation prospectus, a student advances to candidacy for the Ph.D. To complete the Ph.D. degree, all doctoral candidates are required to conduct independent anthropological research, write a dissertation, and defend it.

For students who enter the doctoral program with an existing M.A. (in anthropology or a related field), the faculty develop an individualized program of study based on a student's existing coursework and goals.

Ph.D. students also may elect to pursue an optional concentration in either feminist anthropology or paleoanthropology.

For program requirements, refer to the current Graduate Student Guidebook on the Department of Anthropology website.

## Admission

Applicants for admission to the graduate program in anthropology are considered regardless of their previous field of training. Students without previous training in anthropology are expected to perform additional work as necessary to achieve competence expected for their degree objective.

Students normally are admitted under the assumption that they intend to pursue the Ph.D. degree. Students without an M.A. in anthropology devote the first two years fulfilling the M.A. requirements. After those requirements are completed, the student's committee may award the M.A. with admittance to the Ph.D. program.

Students with an M.A. in anthropology from another institution may proceed directly into a Ph.D. program organized around their special research interests. If they lack any of the requirements of the graduate program at the University of Iowa, they are informed of those requirements when admitted. Acceptance of credit hours from other institutions will follow UI regulations.

Applicants for admission to the graduate program must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Anthropology graduate program applicants are required to upload the following documentation to the University of Iowa Graduate Admissions online application:

- official academic records/transcripts from previous institutions attended;
- a brief statement of interest or intent regarding why graduate study in the Department of Anthropology is desired;
- three letters of recommendation;
- a writing sample (preferably a research paper or M.A. thesis); and
- an application for graduate funding.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET). Once recommended for admission, international students also must complete several additional requirements.

For more information concerning the required application elements, see Graduate Admissions Process on the Department of Anthropology website.

## Financial Support

Financial assistance, usually in the form of teaching and research assistantships, may be offered to doctoral and potential doctoral students in good standing for up to four years. Students making satisfactory and timely progress through the graduate program are in good standing. The amount and types of aid depend on departmental needs.

Students are notified in writing of a provisional financial award before the semester or summer session for which the award has been granted. Although awards are made before the end of the previous semester, each award is contingent upon satisfactory completion of that semester's work by the awardee.

## Career Advancement

Graduates establish careers at universities, colleges, museums, health care institutions, and a diverse range of governmental and nongovernmental agencies. For more information, see Careers and Opportunities on the Department of Anthropology website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Anthropology, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students may elect to pursue an optional concentration in either feminist anthropology or paleoanthropology; work with faculty advisor to determine appropriate coursework and sequence.		
Students who are first-time teaching assistants must also complete ANTH:5001 Graduate Teaching Pro-Seminar Graduate Teaching Pro-Seminar.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Seek Internal Review Board (IRB) Approval <sup>c</sup>		
Required Theory course <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Language Competency Requirement <sup>f</sup>		
ANTH:5110	Anthropological Data Analysis	3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Fall</b>		
Comprehensive Exam <sup>g</sup>		

ANTH:7110	Research Design and Proposal Writing <sup>h</sup>	3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Dissertation Prospectus <sup>i</sup>		
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ANTH:6015	Thesis	9
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
ANTH:7501	Dissertation Writing Seminar	1
ANTH:6015	Thesis	8
Final Exam <sup>j</sup>		
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>72</b>

a A maximum of 18 s.h. of coursework outside anthropology (this includes and is not in addition to the 9 s.h. allowed at the MA level) may count towards the degree requirements; beyond the MA degree, no more than 9 additional semester hours of ANTH:6005 may count towards the PhD degree.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Students who conduct research involving human subjects (e.g., ethnographic research in the summer months) are required to submit a detailed application about the scope of their study and data collection methods through the HawkIRB system for Institutional Review Board (IRB) approval.

d Sociocultural Anthropology options: ANTH:5101, ANTH:5135, ANTH:6410; Linguistic Anthropology options: ANTH:5401, ANTH:6410, ANTH:6415; Archaeology options: ANTH:3237, ANTH:5201; Biological Anthropology options: ANTH:3308, ANTH:3310, ANTH:3325, ANTH:4315, ANTH:5301.

e Electives may include courses in other relevant study, a maximum of 18 s.h. of directed study, and dissertation credit. Work with faculty advisor to determine appropriate graduate level elective coursework and sequence.

f Students should consult with their advisor and committee and determine both existing and needed language competency. A record of the status of, expected training in, and decisions (including waivers) related to language competency must be included in the student's file by the time of candidacy. The Language Competency Report can be found on the department website.

g The student will prepare two comprehensive essays: one in the geographical area of specialization and the other in the primary topical area of specialization. In some subfields and for some projects, a geographical area may not be relevant, and the student will focus on two topical areas. Each paper will address a question posed by the committee in consultation with the student.

h Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

- i The dissertation prospectus should present a research question that contributes to ongoing discussions in anthropological scholarship, explain the background and significance of the question, and describe the methods that the student plans to use to answer it. The student publicly defends their prospectus before their PhD committee by the end of the final exam period of that semester
- j Dissertation defense.

# Art and Art History

## Director

- Steve McGuire

**Undergraduate majors:** art (B.A., B.F.A.); art history (B.A.)

**Undergraduate minors:** art; art history

**Graduate degrees:** M.A. in art; M.A. in art history; M.F.A. in art; Ph.D. in art history

**Faculty:** <https://art.uiowa.edu/people/faculty>

**Website:** <https://art.uiowa.edu/>

The School of Art and Art History provides a creative, multidisciplinary environment for students of the studio arts and the history of art. Established in 1936, the school is firmly grounded in the College of Liberal Arts and Sciences. It encourages interaction among its diverse faculty as well as collaboration with related disciplines across campus.

Iowa's art and art history graduates enjoy success as practicing professional artists, professors of art history, teachers, museum directors and curators, theater designers, commercial designers, and art administrators.

The School of Art and Art History's Visual Arts Building opened in fall 2016 and is identified by architectural publications as one of the best designed new buildings in the world. The Visual Arts Building is adjacent to the second School of Art and Art History building, Art Building West. Visit the School of Art and Art History website and MyUI for information about studio, office, and classroom sites.

## Studio Art

The School of Art and Art History is committed to students' professional futures. The studio laboratories, some of the finest facilities nationally, are updated annually with leading edge production equipment. Students have the opportunity to develop the visual vocabulary and cross-media literacies required by the rapidly changing contemporary world. The visiting artist series introduces students to national and international leaders in the field, while a varied, diverse, and professionally active faculty ensures that the area is contemporary in its approach and pluralistic in its scope.

Undergraduate and graduate students select their major and minor studio art disciplines from ceramics, drawing, graphic design, intermedia, jewelry and metal arts, painting, photography, printmaking, sculpture, and three-dimensional (3D) design.

## Art History

Art history, a broad intellectual discipline, is central to the humanities. Diverse approaches characterize the school's art history faculty, who have interdisciplinary ties within and beyond the University. Their primary mission is to help students develop skills for exploring issues and problems central to the history of art as a whole as well as to its specialized areas. Because the major in art history stresses the development of critical visual thinking and writing, it prepares students for graduate work in art history and for other professional fields as well.

## Student Organizations

The undergraduate Art History Society and the graduate Art History Society sponsor activities for students. The Faculty/Graduate Student Art History Colloquium meets five times each semester to focus on professional development and

issues of broad interest in art. Other student organizations include Students in Design, Children of the Clay (formerly the Ceramics Society), and the Iowa Smith Guild.

## Interdisciplinary Resources

Colloquia, visiting artists and lecturer programs, and graduate workshops bring visitors to the School of Art and Art History and provide open forums for discussion of issues in art and scholarship.

Among the school's major assets is the Project for the Advanced Study of Art and Life in Africa (PASALA), an interdisciplinary program that brings together faculty with international reputations in art history, anthropology, film, history, and literature to offer courses and independent study of art in West, Central, East, and South Africa. The result is a program of unusual breadth and depth of expertise. PASALA offers scholarships and support for research in Africa and dissertation preparation to outstanding students. A major resource for PASALA is the Stanley Collection of African Art. Visit African Art on the Stanley Museum of Art website to learn more.

The School of Art and Art History affiliates with the Department of American Studies [p. 54], giving students opportunities to study not only the history of American art but a variety of interdisciplinary programs in American history, literature, and politics. The school also is linked to the Medieval Studies Program [p. 850], which offers an undergraduate certificate and courses in the history, literature, and culture of the Middle Ages.

## Related Certificate

### Certificate in Book Studies/Book Arts and Technologies

The Center for the Book and the School of Art and Art History enable students to earn the Certificate in Book Studies/Book Arts and Technologies [p. 1727] and the M.F.A. in art. Students may wish to earn the M.F.A. in a studio art area (printmaking, drawing, painting, design, etc.) in combination with the Certificate in Book Studies/Book Arts and Technologies. If accepted to both programs, students are advised and matriculate through both programs independently. Most, if not all, of the 18 s.h. of elective coursework required for the M.F.A. may be applied toward the Center for the Book certificate. It is possible for students to earn both credentials in the same amount of time required to earn the M.F.A. degree.

Advisors in both areas of study assist interested students in discerning whether the M.F.A. in book arts (Center for the Book), or the M.F.A. in art and the certificate option is most appropriate to a student's background and career goals. In large part, this is determined by the degree to which books and book arts are central to the applicant's chosen path.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Art (Bachelor of Arts) [p. 118]
- Major in Art History (Bachelor of Arts) [p. 122]
- Major in Art (Bachelor of Fine Arts) [p. 129]

## Minors

- Minor in Art [p. 144]
- Minor in Art History [p. 145]

## Graduate Programs of Study

### Majors

- Master of Arts in Art [p. 146]
- Master of Arts in Art History [p. 149]
- Master of Fine Arts in Art [p. 152]
- Doctor of Philosophy in Art History [p. 155]

## Facilities

### Reference Collections

Focusing on the creation and study of the visual arts, the Art Library has over 150,000 books, journals, and DVDs. It also provides access to digital resources and the major online research databases.

The Office of Visual Materials is the school's collection management service and it manages digital and physical collections. These collections include 650,000 digital images for teaching, the Thesis Rental Gallery, the Iowa Print Archive, and the DeCaso Visual Archive.

### Museum of Art

The University of Iowa Museum of Art has a significant permanent collection that includes major holdings of 20th-century and contemporary art, African and pre-Columbian art, English and American silver, European and American prints, drawings and photographs, and Etruscan, Iranian, and contemporary American ceramics. As well as serving as a resource for research in a wide variety of art history areas, the museum offers a program of exhibitions, lectures, and recitals.

Due to the Iowa River flooding during summer 2008, the museum's collections are being displayed and its events are being held in a variety of other facilities. Learn about current exhibitions and events, and their locations, by visiting the University of Iowa Stanley Museum of Art website.

### Art Buildings

The school's administrative center, Art Building West, is home to the school's main office as well as the Office of Visual Materials, the Art Library, an auditorium, art history classrooms, a gallery, a café, and studios for graphic design, painting, animation, and digital photography. Designed by architect Steven Holl, Art Building West has won numerous awards for its innovative design.

The Visual Arts Building has been identified by a number of publications as one of the top new buildings in the world. It also was designed by architect Steven Holl and sits adjacent to Art Building West.

## Courses

- Art History Courses [p. 104]
- Studio Art Courses [p. 109]
- Animation Courses [p. 110]
- General Art Courses [p. 110]
- Ceramics Courses [p. 112]

- Design Courses [p. 112]
- Three-Dimensional Design Courses [p. 112]
- Drawing Courses [p. 113]
- Intermedia Courses [p. 113]
- Jewelry and Metal Arts Courses [p. 114]
- Painting Courses [p. 115]
- Papermaking Courses [p. 115]
- Photography Courses [p. 116]
- Printmaking Courses [p. 116]
- Sculpture Courses [p. 117]
- Art Education Courses [p. 117]

## Art History Courses

An introductory course in the appropriate art history area or consent of instructor is prerequisite for some courses numbered above 3000. Courses titled "Themes in ..." consider topics of current interest in the field, organized thematically rather than chronologically.

### ARTH:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

### ARTH:1010 Art and Visual Culture 3 s.h.

Visual analysis, media and techniques, artistic subject matter and aesthetic issues; historical periods and movements from ancient times to present; provides strong orientation to visual aspects of humanities, background for other art history courses, and introduction to visual arts for personal enrichment; for students new to art history. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

### ARTH:1020 Masterpieces: Art in Historical and Cultural Perspectives 3 s.h.

Masterpieces of Western art—how to look at, think about, and understand some of the worlds' most exciting works of architecture, painting, and sculpture; their construction, hidden meanings, historical content, and their meanings today. GE: Literary, Visual, and Performing Arts.

### ARTH:1025 Buyer Beware! Fakes, Thefts, and the Global Art Market 3 s.h.

Examination of how manipulated artworks and outright forgeries have been accepted as genuine and sold on the art market to museums and private collectors alike; how the global art market is connected to the theft of art and the looting of archaeological sites; case studies (i.e., Parthenon marbles, Benin bronzes, widespread looting under ISIS in Syria and Iraq) allow for discussions about the relationship between colonialism, geopolitical power, and artwork displayed in museums.

### ARTH:1030 Themes in Global Art 3 s.h.

Exploration of how different cultures throughout history and across the globe have expressed their social, political, and religious values in visual form; key themes include social functions of art, the ideal body, art of the divine, funerary art, propaganda and power. GE: Literary, Visual, and Performing Arts; Values and Culture.

### ARTH:1040 Arts of Africa 3 s.h.

Arts, artists, and cultures of Africa; sculpture, paintings, pottery, textiles, architecture, human adornment. GE: International and Global Issues; Literary, Visual, and Performing Arts.



- ARTH:1045 Race and Art in America** 3 s.h.  
Chronological development and critical themes of African American visual culture; material culture of slave artists, history of racist imagery in the U.S., most important African American fine artists; slave dwellings, quilts, paintings, sculpture, photography; W.E.B. Du Bois' claim to Egyptian artistic patrimony, controversial work of Kara Walker, hip hop aesthetic of Kehinde Wiley; previous art history experience not required. GE: Values and Culture.
- ARTH:1050 From Cave Paintings to Cathedrals: Survey of Western Art I** 3 s.h.  
Survey to foster development of critical skills in thinking and writing about visual culture, and to familiarize students with broad outlines of artistic development in the Western tradition, from prehistory through later Middle Ages; aesthetic qualities of artworks, relationship between style, function, and meaning. GE: Historical Perspectives; Literary, Visual, and Performing Arts.
- ARTH:1060 From Mona Lisa to Modernism: Survey of Western Art II** 3 s.h.  
Survey of the Western world's visual arts from Renaissance (ca. 1400) to present; major movements and principal masters of Western Europe and the United States in their social and historical contexts; focus on stimulation of visual literacy and familiarity with outstanding cultural monuments. GE: Historical Perspectives; Literary, Visual, and Performing Arts.
- ARTH:1070 Asian Art and Culture** 3 s.h.  
Art from India, China, and Japan in many media and forms, in their cultural and historical contexts; cultural distinctions of these Asian civilizations as seen through the visual arts; chronology used to highlight historical processes and provide perspectives on continuity and change. Taught in English. GE: Historical Perspectives; Literary, Visual, and Performing Arts.
- ARTH:1075 Contemporary Art: A Global Perspective** 3 s.h.  
Introduction to contemporary art across globe; exploration of how artists work today and their approaches to pressing issues and questions of current times.
- ARTH:1080 How to Write About Art** 3 s.h.  
Opportunity to develop understanding of and skill in using visual-arts writing conventions and linguistic competencies that are necessary for academic and professional success; formats such as exhibition reviews, art criticism, research writing, artist's statements; experience through exercises, formal essays, revision, workshops. Requirements: fulfillment of GE CLAS Core Rhetoric.
- ARTH:1090 Earthly Paradises: A Global History of Gardens** 3 s.h.  
Fundamental and universal question—what is the relationship between humanity and nature; how ornamental garden has functioned as a metaphor for paradise across time and among diverse cultures; basic tools to analyze any landscape design; how artful manipulation of nature has served to express various political, religious, and social ideals across the globe; comprehensive and chronological survey of garden design development. GE: Historical Perspectives.
- ARTH:1095 Native American Art** 3 s.h.  
Survey of the visual arts of Indigenous peoples in North America with emphasis on regions that have become the United States; exploration of painting, sculpture, ceramics, fiber arts, performance, and architecture as expressions of identity, creativity, resistance, and resilience from ancestral traditions through transformations prompted by non-Native contact to today's vibrant art scene. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as NAIS:1095.
- ARTH:2020 Western Architecture from Prehistory to the Present** 3 s.h.  
Overview of monuments, Neolithic period to present; aesthetic and structural principles, major styles, architects.
- ARTH:2030 American Architecture: From Log Cabins to Skyscrapers** 3 s.h.  
Characteristics of American public, domestic, and industrial architecture as evolved from Native American contact period to present; visual features of American-built environment and social, political, and economic factors that shaped development; design contributions of individual architects, impact of new technology, and growth of architectural profession.
- ARTH:2120 Art and Architecture of the Islamic World** 3 s.h.  
Introduction to the artistic production of the Islamic world from the 7th century to present day; broad geographical coverage; examination of contributions of Arabia and the Middle East as well as those of Spain, North Africa, India, and Asia; students consider a wide variety of media including ceramics, metalwork, textiles, and calligraphy; emphasis on great buildings (e.g., Dome of the Rock, Alhambra, Taj Mahal); students are challenged to understand these works in their original cultural contexts and in relation to currently ongoing debates about intercultural exchange and religious identity in a globalizing world.
- ARTH:2220 Introduction to the Art of China** 3 s.h.  
Visual arts of China and their history; emphasis on understanding in context of Chinese civilization, history. Same as ASIA:2231.
- ARTH:2250 Introduction to the Art of Japan** 3 s.h.  
Chronological survey of Japan's visual arts in their historical and cultural contexts from Neolithic age to present; extensive use of slides, films, other visual materials. Taught in English. Same as JPNS:2250.
- ARTH:2320 Ancient Art from the Great Pyramids of Egypt to the Colosseum in Rome** 3 s.h.  
Art and architecture of the Mediterranean world (ca. 3500 B.C.E.) to death of Constantine (337 C.E.); Egyptian, Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, religion. GE: Historical Perspectives. Same as CLSA:2226.
- ARTH:2330 Egyptian and Ancient Near Eastern Art** 3 s.h.  
Art and architecture of Egypt and the Near East (ca. 3500 B.C.E.) to advent of Islam; Egyptian, Sumerian, Assyrian, Babylonian, and Persian cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, and religion. Same as CLSA:2330.
- ARTH:2340 The Power of Art in Greece and Rome** 3 s.h.  
Art and architecture of Greece and Rome (ca. 3000 B.C.E.) to death of Constantine (337 C.E.); Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, and religion. Same as CLSA:2340.

**ARTH:2420 Medieval Art from Constantine to Columbus** 3 s.h.

Comprehensive survey of artistic traditions of Western Europe and Mediterranean Basin from roughly 300 to 1500; reign of Roman Emperor Constantine to lifetime of Christopher Columbus; complexity and diversity of cultural and artistic traditions that flourished in these so-called Middle Ages, where blending of Roman and northern legacies created European cultures.

**ARTH:2520 Italian Renaissance Art** 3 s.h.

Consequential works of art by Italian artists of the 14th and 15th centuries; diverse roles played by images in early Renaissance society; analysis of primary sources and seminal research in the field; (re)birth of art theory and advancing social status of the artist in cultural centers of Florence, papal Rome, republican Venice, and the courts of Northern Italy.

**ARTH:2530 High Renaissance Art and Mannerism: Michelangelo to Caravaggio** 3 s.h.

Most consequential works of High Renaissance and Mannerist art by late 15th-century and 16th-century Italian artists; developments in painting, architecture, sculpture, printmaking, and portable arts; Michelangelo, Leonardo da Vinci, Raphael, Giorgione, Titian, Correggio, Lotto, Bronzino, Sonfonisba Anguissola, Palladio, Cellini, Veronese, Carracci, and Caravaggio receive close consideration; particular attention given to materials and techniques employed, creative approach of the artist, and multiple functions of the image in government and statecraft, churches, public spaces, and private homes; constructing social and civic identity.

**ARTH:2620 Introduction to Baroque Visual Culture** 3 s.h.

Art, architecture in Europe from 1600 to 1700.

**ARTH:2730 Transformations in Nineteenth-Century European Art** 3 s.h.

Major European artists, works, movements, aesthetic theories from late 18th century to 1900; works in their aesthetic, cultural, intellectual, political contexts; boundaries, definitions of movements (i.e., Neo-Classicism, Romanticism, Realism, Impressionism, Post-Impressionism, Symbolism).

**ARTH:2740 Art of the Northern Renaissance: Jan van Eyck, Hieronymus Bosch, Albrecht Durer, and Beyond** 3 s.h.

Northern European art between 1350 and 1600; the transition between the late Middle Ages and the Renaissance; artistic output of this period; development of critical thinking skills by exploring ways in which the Northern Renaissance has been defined with respect to Italian Renaissance and northern medieval traditions.

**ARTH:2820 Introduction to Twentieth-Century Art** 3 s.h.

Modern European and American painting, sculpture, and architecture from 1880 to present; major art movements of modern art history.

**ARTH:2920 Introduction to American Art** 3 s.h.

Survey of painting, sculpture, architecture, and photography in the United States from colonial era to mid-20th century; how the new country grappled with creating a visual culture unique to its own character and development; portraits, landscape paintings, sculpture, and architecture in an array of styles and media; circumstances of their creation, aspirations and preconceptions of their makers, perspectives of their audiences. Recommendations: ARTH:1060. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

**ARTH:3000 Digital Approaches to the Study of Art** 3 s.h.

Digital approaches to study of art history; emphasis on cultural identity.

**ARTH:3010 Fakes, Frauds, and Forgeries: The Dark Side of Art History** 3 s.h.

How fraudulent artworks have been accepted as genuine and incorporated into the art historical canon, from the famous gold and ivory Minoan snake goddess to paintings purportedly by Rembrandt; the danger frauds pose to our understanding of cultural heritage and historical past, how fakes have impacted the art market, and value of forgeries as indices of contemporary taste and preconceptions about art.

**ARTH:3020 Paris and the Art of Urban Life** 3 s.h.

City of Paris examined in varied historical, artistic, and cultural contexts; interdisciplinary.

**ARTH:3040 History of Modern Design** 3 s.h.

History of modern design, beginning in early modern period and forward as near as possible to present day; discussions focus on architecture, urban design, the decorative arts, industrial design, and graphic design; major currents of modern and contemporary design practice.

**ARTH:3056 Italian Baroque Visual Culture** 3 s.h.

Visual culture of 17th-century Italy contextualized; major media (painting, sculpture, architecture) by leading artists (Bernini, Borromini, Caravaggio, Cortona); full range of material culture, including minor and decorative arts; use of imagery by individual and institutional patrons for the persuasive purpose of political and social advancement; ideological utility of art as a recurring theme, underscoring the Baroque antecedents of media manipulation of our own time.

**ARTH:3090 Contemporary Architecture** 3 s.h.

Quality of contemporary-built environments in America, Western Europe, Asia, and Middle East from 1970 to present; stylistic evolution of postmodern design, new urbanism, sustainable architecture; impact of literary and cultural theory on contemporary practitioners such as Daniel Libeskind, Steven Holl.

**ARTH:3100 Themes in 18th- and 19th-Century European Art** 3 s.h.

Themes and topics in 18th- and 19th-century European art.

**ARTH:3160 Themes in African Art** 3 s.h.

Survey of African architecture; structures throughout continent ranging from rock-cut churches of Ethiopia to elaborately painted Ndebele homes of South Africa; four areas of African architecture (ancient, traditional, Islamic, contemporary); function, materials, aesthetic choices of architecture and how they reflect social, religious, political, and economic situations of people who constructed it.

**ARTH:3161 Themes in Ancient Art** 3 s.h.

Themes and topics in ancient art.

**ARTH:3197 Themes in Modern and Contemporary Art** 3 s.h.

Topics and themes in modern and contemporary art.

**ARTH:3225 Contemporary Art and Culture in China** 3 s.h.

Introduction to art and culture of contemporary China, covering the period from 1960s up to the present day; focus on art objects, performances, propagandas, and exhibitions produced by the government, business sector, curators, and avant-garde artists and groups in mainland China; China's Olympic stadiums, the Three Gorges Dam, skyscrapers; discussion of readings and investigation of artworks, films, and events that speak to China's political ideologies, society, and economy, as well as its place in globalization and international conflicts.

- ARTH:3230 Chinese Painting I: Pagodas and Palaces** 3 s.h.  
Early Chinese painting from fourth century B.C.E. through 14th century C.E.; figural style, religious art, emergence of landscape, other nonreligious subjects, interconnectedness of painting and calligraphy as fine arts. Same as ASIA:3220.
- ARTH:3250 Brushwork in Chinese Art** 3 s.h.  
In-depth study of history, aesthetics, and techniques of brushwork on multiple forms of material culture; hands-on practical experience in Chinese brushwork; analysis of visual elements of brushwork in Chinese paintings, calligraphy, ceramics, and other artistic forms; synthesis of studio art experience and art historical analysis to provide a deeper practical and aesthetic understanding of Chinese fine art techniques.
- ARTH:3255 Copy and Paste: Methods of Reproduction in Asian Art** 3 s.h.  
Introduction to methods of reproduction in Asian art that predates photography, encompassing technologies of graphic reproduction (manual, mechanical, and somewhere in between); exploration of themes including piece-mold bronze casting, stamping and seals, rubbing, molding and mass production, woodblock printing, trace-copying calligraphy, and free-hand copying of paintings; overarching concepts across different subjects (e.g., authorship and authenticity, value of copies and impact on canon formation, relationship between technology and style, question of aura in—and before—the age of mechanical reproduction). Same as ASIA:3255.
- ARTH:3270 Themes in Asian Art History** 3 s.h.  
Same as ASIA:3270.
- ARTH:3275 Garden Culture in East Asia** 3 s.h.  
Exploration of the rich tradition of gardens in East Asia with a focus on China and Japan; combination of visual material, translated primary texts, and English-language research to learn about various types of gardens, their major elements, and their artistic representation; examination of garden themes, rocks, flower arrangement, and bonsai, as well as Asian gardens in the West and Western gardens in Asia; students discuss each type of garden in the broader artistic, political, and religious context. Same as ASIA:3275.
- ARTH:3310 Celtic and Viking Art** 3 s.h.  
Art and architecture of Celts and Vikings from prehistory to Middle Ages.
- ARTH:3320 Egyptian Art** 3 s.h.  
Survey of ancient Egypt over 3,500 years with emphasis on art and architecture in context; workshops, patrons, and audiences of Egyptian art; major principles, themes, and meanings of Egyptian art; relationship between writing and artistic representation; connections between art, kingship, and Egyptian view of the world; art and architecture of central elite and other social groups. Same as RELS:3704.
- ARTH:3325 Kings, Gods, and Heroes: Art of the Ancient Near East** 3 s.h.  
Arts, kings, and cultures of Mesopotamia, Syria, and Iran; sculpture, seals, pottery, metalworking, architecture.
- ARTH:3330 Classical Greek Art** 3 s.h.  
Art and architecture of classical Greece (ca. 480-323 B.C.); monuments of this period—from Parthenon in Athens to Aphrodite of Knidos—often viewed as embodiments of the highest achievements in Western art and culture; classical Greek art within social, political, religious, and historical contexts; role in ancient Greek society and its impact in the 21st century. Same as CLSA:3227.
- ARTH:3340 Greek Vase Painting** 3 s.h.  
Greek ceramics as documents of religious beliefs, mythology, and daily life 1000-300 B.C.E. Same as CLSA:3250.
- ARTH:3350 Art of Early Rome: Patrons and Politics** 3 s.h.  
Examination of architecture, sculpture, and painting in central Italy from c. 800 B.C. to the end of the Roman Republic in 27 B.C.; art in the service of social ideology and political propaganda; funerary art and its relationship to the living; artistic interactions between Etruria, Greece, and Rome. Same as CLSA:3232.
- ARTH:3360 Art of the Ancient Roman Empire** 3 s.h.  
Major developments in architecture, sculpture, and painting from the ascension of Augustus to sole ruler in 31 B.C. to the death of Constantine in A.D. 337; influence of individual emperors on the development of artistic forms; relationship between public and private art; interdependency of Rome and the provinces. Same as CLSA:3233.
- ARTH:3370 Life and Death in Ancient Pompeii** 3 s.h.  
Art and architecture as documents of ancient life in Pompeii, a town that was destroyed during the eruption of Mount Vesuvius in 79 C.E.; topics include artistic choices and achievements of the city's inhabitants, roles played by men and women inside and outside the family, slavery, political organization and expression, and attitudes towards death. Same as CLSA:3234.
- ARTH:3375 The Great Collision** 3 s.h.  
Major developments in architecture, sculpture, ceramics, and mosaics in Israel, Palestine, Syria, and Arabia from death of Alexander the Great to rise of Islam (4 B.C.E. to 8 C.E.); Greek and Roman influences versus local traditions; Roman Empire; growth of churches, synagogues, and mosques; identity and religion. Same as RELS:3375.
- ARTH:3390 Early Medieval Art** 3 s.h.  
Complex artistic traditions that developed roughly between 300 and 1000 in territories once governed by the Roman Empire and in areas of northern Europe directly influenced by Western Christian tradition; period as not simply a "Dark Age," but a pivotal chapter in history of Western art and culture; group discussion, individual research topics.
- ARTH:3400 Romanesque and Gothic Art** 3 s.h.  
Art and architecture produced in Western Europe from the year 1000 to the Renaissance, a period when works of boldly original character that continue to define the landscape of Europe were created; histories of Romanesque and Gothic styles; shift from monastic to episcopal, civic, and courtly patronage; intersection between art and devotional practice; flowering of medieval urbanism and building technology; intersection between artistic traditions of later Gothic and emerging Renaissance.
- ARTH:3410 Who Killed Gothic Architecture?** 3 s.h.  
Demise of Gothic architecture around 1500, a dramatic stylistic pivot that has too often been misleadingly presented or taken for granted in art-historical literature; topics include development of late Gothic architecture, emergence of Renaissance mode, appropriation of that mode by powerful patrons for propagandistic purposes, impact of Protestant Reformation, and the way that the history of this period has subsequently been written by the winners, which has obscured the complexity and contingency of the historical forces causing this stylistic transition.

- ARTH:3420 Gothic Architecture** 3 s.h.  
Gothic architecture and its history, from varied perspectives (e.g., formal structural, symbolic, geometric, socioeconomic).
- ARTH:3550 Leonardo, Raphael, Michelangelo: Rivalry and the Rise of the Artist in the Italian Renaissance** 3 s.h.  
The arts in Italy 1485-1550.
- ARTH:3560 Art in Renaissance Venice** 3 s.h.  
As a center of trade between East and West, Renaissance Venice became the wealthiest city in Europe and home to many of the greatest artists in the Western tradition; students focus on Venice's revolution in art, as it transformed from depictions of medieval religious imagery to Renaissance subjects and concepts associated with modernity such as image of the reclining nude, psychological portrait, poetic allegory, and the very idea that a visual medium might express an artist's internal feelings or state of mind; exploration and evaluation of workshops including the Bellini, Carpaccio, Giorgione, Titian, Veronese, and Tintoretto from multiple perspectives.
- ARTH:3570 The Marginalized in Renaissance Art** 3 s.h.  
Renaissance depictions of women, immigrants, Muslims, Jews, courtesans, the enslaved, the disabled, people of color, people of short stature, and people accused of non-heteronormative sexual acts explored in their social and cultural contexts, from different points of view and using multiple approaches; emphasis on discussion of primary sources and recent scholarship.
- ARTH:3580 A Renaissance of Beauty** 3 s.h.  
Examination of aesthetics in early modern Western art; focus on 15th- and 16th-century Italy, augmented by case studies from different cultures and time periods; students survey ideals of beauty from ancient Egypt through antiquity and the middle ages, explore how the rebirth of these ideals transformed early Renaissance art and culture, consider how artists applied aesthetic theories in the creation of their work, and contemplate whether the Renaissance gave rise to a uniquely modern conception of beauty.
- ARTH:3700 David to Delacroix: Art in the Age of Revolutions** 3 s.h.  
Developments in French art and culture in a period of artistic, cultural, and political upheavals from French Revolution through Napoleonic Empire to founding of Second Empire in mid-19th century; intersections of art with aesthetics, culture, and politics; role of psychology, biology, natural sciences in art; use of myth; rise of modernism; changes in patronage; new role of museums and galleries; innovations in printmaking, book illustration, caricature; artists include David, Girodet, Gros, Ingres, Gericault, and Delacroix, among others.
- ARTH:3710 Fantasy and Seduction in Venice: The Renaissance Art of Bellini, Giorgione, and Titian** 3 s.h.  
Exploration of the birth of modern art through three Italian Renaissance painters essential to its emergence: Bellini, Giorgione, and Titian.
- ARTH:3720 The Romantic Revolution** 3 s.h.  
Transformations in European art and culture 1750-1850, an age of artistic, political, cultural, intellectual crisis and revolutions; major artists, including David, Ingres, Gericault, Delacroix, Goya, Freidrich, Constable, Turner.
- ARTH:3730 Impressionism and the Visual Revolution** 3 s.h.  
Naturalism, Realism, the Impressionist landscape, painting of modern life, new trends in subjectivity and exoticism mid- to late-19th-century European art and culture; Courbet, Manet, Degas, Monet, Renoir, Seurat, Cezanne, Van Gogh, Gauguin, Ensor, Munch.
- ARTH:3740 Manet to Matisse** 3 s.h.  
Development of modernism and the avant-garde in late 19th- and early 20th-century Paris; intersection of innovation and tradition, literature and art; role of theory and criticism in works of Manet, Degas, Seurat, Cezanne, Gauguin, Rodin, Matisse, and Picasso.
- ARTH:3750 Muses, Models, Artists, and Patrons: Women in the Visual Arts** 3 s.h.  
Women in the visual arts from various perspectives: women as subject and inspiration, as patrons and as artists; role of women in the arts from the late 18th through the early 20th centuries, primarily in Europe, a period that witnessed significant female patronage of the arts, the first modern feminist movements that gave impetus to newly independent women artists, and the transformation of ways in which women were represented in art across genres, including history, myth, portraiture, orientalism, and images of contemporary life; impact of the role of women in art and culture will be critically examined.
- ARTH:3820 Modern Art** 3 s.h.  
Development of modern art from early years of 20th century through 1940s; focus on painting, sculpture, architecture, and photography; progress of Modernism; exploration of major movements including Fauvism, Cubism, and Surrealism.
- ARTH:3840 Contemporary Art** 3 s.h.  
Painting, sculpture, architecture, and photography; developments during late 1960s to present; conceptual art, performance art, neo-abstraction, and picture/theory art with each approached from a global perspective.
- ARTH:3850 Pop Art** 3 s.h.  
Survey of pop art in America, Britain, Europe; focus on developments in painting and sculpture 1950s to early 1960s; continuing influence of Pop Art.
- ARTH:3860 Minimalism** 3 s.h.  
Survey of Minimalism; focus on developments in painting and sculpture during 1960s; continuing influence.
- ARTH:3870 History of Photography** 3 s.h.  
Survey of photography 1839 to present.
- ARTH:3930 American Renaissance and the Gilded Age** 3 s.h.  
Exploration of the great range of visual culture from 1865-1915, including Gilded Age mansions of the Vanderbilts and Rockefellers, to popular prints and photographs of "how the other half lived," and new vistas of the far West; consideration of painting, sculpture, architecture, photography, and popular culture to examine this period and the advent of modernism within a larger social and historical context.

**ARTH:3950 Modernism and Early Twentieth-Century American Art** 3 s.h.

Modern trends in visual culture of the United States from 1890-1945 through painting, sculpture, architecture and their interrelationship with larger social context; artists and architects grappled with how to portray the 20th century in visual form, photography took on new importance, and abstract art was changing old paradigms; American artists experimented with new forms, subjects, and ideas and found an array of solutions that paved the way for today's complex visual culture.

**ARTH:3955 Art and American National Parks** 3 s.h.

Artistic history of American national parks; beginning with painter George Catlin's idea of a nation's park in the 1840s; how art has played a major role in development of and attitudes toward these special places; magazine engravings, tourist guidebooks, government reports, monumental oil paintings, photographs, and recent photomontages; focus on Yellowstone, Niagara, Yosemite, and the Grand Canyon, as well as less well-known sites such as Acadia National Park and the Pictured Rocks National Lakeshore.

**ARTH:3980 American Print Culture** 3 s.h.

Exploration of a wide range of imagery printed and published in the United States during 19th century (1776-1900); fine art original prints, popular imagery in periodicals and illustrated books, scholarly literature, history of evolving technologies, variety of printed work; shifting reputation of printed art and its makers. Same as UICB:3980.

**ARTH:3985 Honors Research in Art History** arr.

Research and preparation of thesis. Requirements: honors standing.

**ARTH:3990 Topics in Art History** 3 s.h.

Varied topics.

**ARTH:3995 Independent Study in Art History** arr.

Advanced work in art history.

**ARTH:4010 Critical Theory** 3 s.h.

Influence of art theory on recent art practice; critics and philosophers whose ideas have been particularly important to the process of putting art and its histories into greater social and political context—Theodor Adorno, Walter Benjamin, Roland Barthes, Jacques Derrida, Michel Foucault, Jean-Francois Lyotard, Jurgen Habermas, Jean Baudrillard, Terry Eagleton, Michael Fried, T.J. Clark, Rosalind Krauss, and Homi Bhabha; general influence of feminism, poststructuralism, postcolonialism, and postmodernism.

**ARTH:4081 The American Art Museum: Theory and Practice** 3 s.h.

Introduction to different aspects of art museums; emphasis on roles of art historians, especially curatorial practice; current and historical theories and practices of art exhibitions; varying debates of the politics of display; art museum professions; the many facets of art exhibition preparation; the University of Iowa Stanley Museum of Art collections. Same as MUSM:4081.

**ARTH:4891 Big-Shouldered City: Chicago Architecture** 3 s.h.

Architectural and urban development of Chicago; how changing visions of this most-American of cities has been influenced by aesthetic, social, political, economic factors; early settlement patterns, impact of the Great Fire of 1871, skyscraper technology, Daniel Burnham's 1909 Plan, Bungalow Belt, park system; larger history of American city in terms of its architectural, urban, and landscape development.

**ARTH:4900 Advanced Writing About the Visual Arts** 3 s.h.

Skill in using visual arts writing conventions and linguistic competencies necessary for professional success; exhibition reviews, art criticism, and research writing; students compose an artist's statement or personal statement that can be used for future art exhibitions or applications for internships and scholarships; assignments designed to be of interest to students in any field.

**ARTH:4941 American Art and the Environment** 3 s.h.

Artists' responses to the American environment across a broad chronological period; analysis of works of art through visual characteristics, landscape theories, ecocriticism, and environmental and cultural history to reveal deeper meanings of this seemingly "natural" genre, and position it as a preeminent American artistic subject and a critically important art form in our own time as the environment becomes a global concern.

**ARTH:4999 Capstone Seminar in Art History** 3 s.h.

Critical thinking and research; readings in historical development of the discipline, from Renaissance to present; methodological issues. Offered fall semesters.

**ARTH:5000 History and Methods** 3 s.h.

Essential foundation of critical thinking and research in the history of art; students survey the historical development of the discipline of art history from Renaissance to present; various methodological paradigms that have been deployed in the field; for beginning graduate students.

**ARTH:6020 Art History Colloquium** 1 s.h.

Current topics and research in art history. Requirements: art history graduate standing.

**ARTH:6040 Directed Studies** arr.**ARTH:6085 Seminar: Problems in Architectural History** 3 s.h.

Key themes, architects, and literature that informs the history of the built environment in varied cultural contexts.

**ARTH:6210 Graduate Seminar in Asian Art** 3 s.h.

Key themes and issues in Asian art.

**ARTH:6300 Graduate Seminar in Ancient Art** 3 s.h.

Key themes and issues in ancient art. Same as CLSA:6200.

**ARTH:6440 Seminar: Problems in Medieval Art** 3 s.h.

Major issues, methodologies.

**ARTH:6545 Graduate Seminar in Renaissance Art** 3 s.h.

Key themes and issues in Renaissance art.

**ARTH:6740 Graduate Seminar: Nineteenth-Century Art** 3 s.h.**ARTH:6840 Seminar: Modern/Contemporary Art** 3 s.h.

Major issues, methodologies.

**ARTH:6940 Seminar: Problems in American Art** 3 s.h.**ARTH:7010 Ph.D. Readings** arr.**ARTH:7020 Ph.D. Thesis** arr.

## Studio Art Courses

Courses numbered below 3000 are primarily for undergraduates and may not be repeated unless noted on MyUI. Some courses numbered 2000-3000 are repeatable. Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all studio courses for art majors.

## Animation Courses

### **ANIM:2125 Introduction to Animation 3 s.h.**

Introduction to animation and its role in contemporary creative practice; focus on historical and technical principles of traditional 2D animation, 2D digital animation, and 3D computer animation; creative, conceptual, and technical facets of animation practice; conceptualize and execute animations using processes and methods currently integrated into contemporary time-based art practice. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

### **ANIM:3125 Animation I 4 s.h.**

Continuation of ANIM:2125; focus on technology of 3D animation; 3D modeling, texturing, animation, rendering and lighting; projects cover creative, conceptual, and technical facets of 3D animation pipeline; conceptualize and execute projects using processes and methods currently integrated into 3D animation industry through lectures, critiques, computer software, screenings, and labs. Prerequisites: ANIM:2125.

## General Art Courses

### **ARTS:1000 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

### **ARTS:1010 Elements of Art 3 s.h.**

Drawing, composition; selected reading. Requirements: non-art major. GE: Literary, Visual, and Performing Arts.

### **ARTS:1020 Elements of 3D Design 3 s.h.**

Introduction to 3D design using drafting, modeling, and virtual reality software; basic concepts of drafting, planning, and color theory; basic Auto CAD, 3ds Max Studio, Vizard, InDesign software; students design an object to be printed 2D and 3D, and a conceptual space to be printed 2D and experienced virtually; student journal and portfolio. Requirements: non-art major.

### **ARTS:1030 Elements of Jewelry and Metal Arts 3 s.h.**

Fundamental 3D design principles and appreciation of contemporary jewelry and metal artworks; techniques and materials in jewelry and metal arts; experimentation with diverse media. Requirements: non-art major. GE: Literary, Visual, and Performing Arts.

### **ARTS:1050 Elements of Printmaking 3 s.h.**

Requirements: non-art major. GE: Literary, Visual, and Performing Arts.

### **ARTS:1060 Elements of Digital Photography 3 s.h.**

Introduction to history, aesthetics, and practice of photography as a fine art; includes demonstrations, workshops, critiques, final portfolio; photography time outside of class; digital camera required. Requirements: non-art major. GE: Engineering Be Creative.

### **ARTS:1070 Elements of Graphic Design 3 s.h.**

Introduction to concepts and principles of graphic design and contemporary approaches to effective visual communication; demonstrations, workshops, critiques, final portfolio.

### **ARTS:1080 Elements of Sculpture 3 s.h.**

Possibilities and definition of 3D form including time-based, performance, structural, installation, and kinetic sculpture. Requirements: non-art major. GE: Literary, Visual, and Performing Arts.

### **ARTS:1140 Introduction to African American Art 3 s.h.**

Introduction to African American art in the United States; exploration of major art events (i.e., Harlem Renaissance, Black Arts Movement); study of specific African American artists and their work; influence of race on artistic expression. Same as AFAM:1140.

### **ARTS:1500 Media, Social Practice, and Design Studio Foundations 3 s.h.**

Introduction to key principles and skills in graphic design, photography, and video.

### **ARTS:1510 Basic Drawing 3 s.h.**

Two-dimensional visual language, media; space, form; color. Requirements: art major or art minor. GE: Engineering Be Creative.

### **ARTS:1520 Design Fundamentals 3 s.h.**

Two- and three-dimensional concepts and their relations; working with basic drawing instruments; problems in visual arts; artists' philosophies and techniques. Requirements: art major. GE: Engineering Be Creative.

### **ARTS:1560 Art Student Ambassador Seminar 0-1 s.h.**

Ambassadors provide information about the School of Art and Art History to incoming and visiting students, University community, and broader community; conduct tours; meet with students and parents; review curriculum; provide information on opportunities; coordinate events; and develop materials for incoming students. Requirements: art major.

### **ARTS:2000 Big Ideas: Creativity for a Lifetime 3 s.h.**

Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; identification of ways for students to be more creative in their own lives and work. GE: Values and Culture. Same as ASP:2000, EDTL:2000, RHET:2000.

### **ARTS:2100 Printmaking and Politics of Protest 3 s.h.**

Examination of historical populace roots of the print. GE: Diversity and Inclusion.

### **ARTS:2350 Bicycle Design: Hand Drawing Bicycles 4 s.h.**

Students hand draw bicycles, using a variety of drawing materials and techniques; drafting by hand (e.g., pencil, pen, compass, protractor, triangle); how to draw a bicycle frame design; history of the bicycle from velocipede to mountain bikes. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

### **ARTS:2800 Digital Arts: An Introduction 3 s.h.**

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as CINE:2800, CS:2800, DANC:2800, DIGA:2800, MUS:2800, THTR:2800.

### **ARTS:2900 Book Design for Publishing 3 s.h.**

Introduction to the major aspects of book design, including typography, layout, standard industry software, discussion of trends in the field. Same as ENGL:2900, UICB:2900, WRIT:2900.

- ARTS:3050 Art, Artists, and Institutions** 3 s.h.  
Expectations of artworks, artists, and institutions that enable artistic production and exhibition from historical and contemporary perspectives; introduction to key institutions that have transformed a shared sense of art, life, and politics; students are invited to contribute to the evolving sense of responsibility of artists, critics, curators, patrons, and institutions.
- ARTS:3230 Scene Design I** 3 s.h.  
Development of theatre scenery; how to research, conceptualize, and express ideas in 3D models, simple sketches, and drafting. GE: Engineering Be Creative. Same as THTR:3230.
- ARTS:3250 Art at the End of the World** 3 s.h.  
The world is ending, again, and doomsdayers and apocalyptic prophets have warned of coming calamity for millennia and still humanity persists; today's challenges—staggering economic and social inequality, threat of nuclear annihilation, and climate change—while overwhelming and seemingly insurmountable, are not unprecedented; what the apocalyptic artist's role is; students explore the history of the end of times from ancient prophecy through maleficent technological takeovers of the near future and create new works in response to world endings past and future, curate and execute a public exhibition, and lead a series of public programs.
- ARTS:3320 Introduction to Sequential Art: Comics/Graphic Novels** 3 s.h.  
Overview of contemporary American comic artists, history of comics and graphic novels in the United States; genres and structures in sequential art; students create works that combine design, images, texts, story. Requirements: satisfaction of GE CLAS Core Rhetoric.
- ARTS:3400 Grant Writing in the Arts** 3 s.h.
- ARTS:4190 Honors in Studio Art** 0-3 s.h.  
Research, preparation, and exhibition of an honors project in studio art. Requirements: studio art major, UI g.p.a. of at least 3.33, and art g.p.a. of at least 3.50.
- ARTS:4195 B.F.A. Exhibition** 0 s.h.  
B.F.A. students present a show of their work in final semester; use of flyers and other media to advertise show; meetings with faculty and academic advisors to complete required documentation; students planning to graduate with honors in the art major may combine honors project and B.F.A. show; variations require approval by B.F.A. faculty advisor and academic advisors. Requirements: B.F.A. standing in final semester.
- ARTS:4200 Topics in Studio Arts** 1-3 s.h.  
Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or TDSN:2210 or MTLs:2910).
- ARTS:4270 Scenic Art** 3 s.h.  
Basic techniques in scenic art for the theatre; classical scene painting, color theory, drawing, using nontraditional tools and materials, foam carving, and finishes. Offered every other year. GE: Engineering Be Creative. Same as THTR:4270.
- ARTS:4300 Letterpress I** 3 s.h.  
Mechanics of letterpress printing, typography, and design as applied to hand set metal type and edition printing; printing on a Vandercook proof press; introduction to photopolymer plates and methods of illustration related to edition printing, historical aspects of printing technology, typesetting, type classification; role of letterpress in modern private press and contemporary artist books. Same as UICB:4300.
- ARTS:4340 Digital Design for Artists' Books** 3 s.h.  
Introduction to concepts, techniques, and technologies used to design and produce artists' books with personal computers and graphic design software. GE: Engineering Be Creative. Same as UICB:4340.
- ARTS:4380 Letterpress II** 3 s.h.  
Builds on skills acquired in UICB:4300; students produce an editioned letterpress printed chapbook or artist book, a poster for a public event, and an image built from metal type; exploration of hand-set metal, digital typesetting, printing from photopolymer plates, and pressure printing; press mechanics and operation; publication philosophies, manuscript acquisition, and topics specific to literary fine press and artist books; historical and contemporary context for literary fine press publications and artist book work. Prerequisites: UICB:4300. Same as UICB:4380.
- ARTS:4390 Book and Publication Design** 3 s.h.  
Students plan, design, and produce a book using Adobe Creative Suite; page layout software, typography, page layout and design, book formatting, handling of image files, preparation of materials for print and other contemporary book media; history of book design, book design in contemporary publishing; visit to University of Iowa Libraries Special Collections. Prerequisites: DSGN:2600 or UICB:4300. Same as UICB:4390.
- ARTS:4400 History of Western Letterforms** 3 s.h.  
History of Western letterforms, with focus on tools, materials, techniques; the major hands, their place in history, their influence on modern times; creation of letterforms using appropriate tools; hands-on approach with emphasis on understanding rather than mastery. Same as UICB:4400.
- ARTS:4415 Calligraphy I: Foundational Hands** 3 s.h.  
Intensive, basic broad pen calligraphy; Roman capitals, lowercase Roman and italic lettering. GE: Engineering Be Creative. Same as UICB:4415.
- ARTS:4490 Advanced Studies in Letter Arts** 3 s.h.  
Special topics and advanced projects in calligraphy and letter arts. Prerequisites: UICB:4400 or UICB:4415 or UICB:4420. Same as UICB:4490.
- ARTS:5330 Letterpress III: Imagemaking** arr.  
Advanced work in alternative and innovative letterpress technologies as they apply to imagemaking processes for fine press printing; topics include pressure printing, photopolymer from nondigital negatives, explorations of type-high surfaces, monoprints on the Vandercook, and applying hand work to editioned prints; students complete a series of print exercises for each process, a small printed book sketch, and a longer format editioned artist book. Prerequisites: UICB:4380. Same as UICB:5330.
- ARTS:5340 Letterpress III: The Handprinted Book** 3 s.h.  
Advanced work in fine press book design; exploration of problems in hand-printing books, choice of manuscript, editing, design, typesetting, proofreading, printing and binding; histories of printing and of the book, emphasis on 20th- and 21st-century book design and literature; issues of book design and production related to letterpress printing. Prerequisites: UICB:4380. Same as UICB:5340.
- ARTS:6000 M.A. Written Thesis** 1 s.h.
- ARTS:6190 Graduate Independent Study** arr.  
Individual instruction by a faculty member.
- ARTS:7000 M.F.A. Written Thesis** 1 s.h.

## Ceramics Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all ceramics courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

### **CERM:2010 Ceramics I: Handbuilding** 3 s.h.

Basic handbuilding methods of forming, firing, glazing clay. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

### **CERM:2020 Ceramics II: Wheel Throwing** 3 s.h.

Basic wheel-throwing techniques; clay, glaze formulation and preparation in kiln firing. Prerequisites: CERM:2010.

### **CERM:3010 Ceramics III: Slip Casting** 4 s.h.

Slipcasting and plaster techniques for mass production of ceramic objects. Offered fall semesters. Prerequisites: CERM:2010 and CERM:2020.

### **CERM:4010 Ceramics IV: Advanced Studio** 4 s.h.

Advanced individual projects. Offered spring semesters. Prerequisites: CERM:2020.

### **CERM:4020 Ceramic Materials and Effects** 4 s.h.

Empirical methods of glaze and clay body formulation; effects of various kilns and firing atmospheres on glaze materials and clay bodies. Prerequisites: CERM:2020.

### **CERM:4030 Advanced Concepts in Ceramics** 3-4 s.h.

Advanced studio; lectures and demonstrations cover advanced techniques; content varies. Offered fall semesters. Prerequisites: CERM:2020.

### **CERM:4041 Kiln Building** 4 s.h.

Kiln theory, design, and construction methods; may include participation in kiln construction. Prerequisites: CERM:2020.

### **CERM:4050 Installation Concepts in Ceramics** 4 s.h.

Contemporary installation methods related to production and exhibition of ceramic sculpture. Prerequisites: CERM:2020.

### **CERM:4099 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in ceramics for advanced students.

### **CERM:6075 Ceramics Workshop** 3-4 s.h.

Advanced graduate studio; critique of student work; visiting artists, field trips. Prerequisites: CERM:4010. Requirements: CERM:4010 or graduate standing.

### **CERM:6099 Graduate Individual Instruction in Ceramics** arr.

Requirements: knowledge of clay and glaze computation, and ability to fire kilns.

## Design Courses

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all design courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

### **DSGN:2500 Graphic Design I** 3 s.h.

Basic concepts and principles that can be applied to all modes of contemporary visual communication. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: DSGN:2600. GE: Engineering Be Creative.

### **DSGN:2600 Graphic Design II** 3 s.h.

Fundamentals of typography as a core element in visual communication; introduction to historical typographic practices as well as modern modes of designing with type. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: DSGN:2500. Same as UICB:2600.

### **DSGN:3500 Graphic Design III** 4 s.h.

Focus on browser-based user interfaces and user experiences; builds basic HTML and CSS knowledge base; skills. Prerequisites: ARTS:1510 and ARTS:1520 and DSGN:2500 and DSGN:2600.

### **DSGN:3600 Graphic Design IV** 4 s.h.

Implementing the fundamental knowledge and skills gained in previous design courses to explore the interaction of typography and visual image. Prerequisites: DSGN:2500 and DSGN:2600. Corequisites: DSGN:3500.

### **DSGN:4000 Graphic Design V** 4 s.h.

Critical theory and professional practice of branding and identity design; topics range from icon development to packaging design and prototyping. Prerequisites: DSGN:3500 and DSGN:3600. Corequisites: DSGN:4700.

### **DSGN:4199 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in design for advanced students.

### **DSGN:4700 Graphic Design VI** 4 s.h.

Advanced exploration of contemporary and experimental user interface and user experience design methodology; topics include design for mobile devices and wearables, as well as immersive environments. Prerequisites: DSGN:3500 and DSGN:3600. Corequisites: DSGN:4000.

### **DSGN:4800 Graphic Design VII** 4 s.h.

Concentrated semester-long opportunity for students to investigate a design project driven by their own personal research interests; projects closely guided by faculty and are critiqued throughout the semester; critical theory readings and discussion. Prerequisites: DSGN:4000 or DSGN:4700.

### **DSGN:6175 Graphic Design VIII** 4 s.h.

Introduction to complex problems in graphic design; planning, development, and organization of integrated design programs; activities include research and studio assignments, individual presentations, discussions, demonstrations, and critiques.

## Three-Dimensional Design Courses

### **TDSN:2210 Introduction to 3D Design** 3 s.h.

Materials, their formal and structural possibilities. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

### **TDSN:2240 Digital Drafting with AutoCAD** 3 s.h.

Basic principles of 2D and 3D computer-aided drafting; use of AutoCAD software to draw plans, elevations, and sections for objects and interior spaces. Prerequisites: CERM:2010 or SCLP:2810 or TDSN:2210 or MTLs:2910. Same as CEE:2240.

### **TDSN:2250 Digital Prototyping** 3 s.h.

Basic knowledge and practical technical skills using 3ds Max studio software; experience creating and manipulating basic forms and working with texture, background, light, and camera viewpoints; basic animation. Corequisites: ANIM:2125 or CERM:2010 or DSGN:2500 or DRAW:2310 or INTM:2710 or MTLs:2910 or PHTO:2600 or PNTG:2410 or PRNT:2610 or SCLP:2810 or TDSN:2240.

### **TDSN:3200 Product Design** 4 s.h.

How objects are designed and structured; modeling, graphic skills necessary for basic project development. Corequisites: TDSN:2250.



- TDSN:3205 Advanced Robotics** 3 s.h.  
Advanced peripheral integration and control, including stepper motors, solar power, audio playback, and live data manipulation through physical sensors; advanced fabrication (e.g., printed circuit boards and wiring harness design); for students with previous experience in robotics and electronics. Prerequisites: SCLP:3840.
- TDSN:3220 Interior Design** 4 s.h.  
Relationship of interior space to its architecture, environment, human element; color, materials, furnishings, lighting; projects. Prerequisites: TDSN:2250.
- TDSN:3230 Color for Interior Design** 4 s.h.  
Use of color for interior spaces; principles of color theory reviewed and applied to 3D environments; color as a compositional element and psychological tool. Prerequisites: TDSN:2250.
- TDSN:3240 3D Computer-Aided Design** arr.  
Three-dimensional computer-aided drafting; use of AutoCAD software. Prerequisites: MTLs:2910 or SCLP:2810 or CERM:2010 or TDSN:2210.
- TDSN:3260 Design for Production** 4 s.h.  
Special issues and topics in design. Prerequisites: TDSN:2240. Corequisites: TDSN:2250.
- TDSN:3280 Forms and Textiles** 4 s.h.  
Products and seating design with soft materials; students experiment with diverse soft materials and textile construction techniques to design and make unique functional forms. Prerequisites: TDSN:2210. Corequisites: TDSN:2240 and TDSN:2250.
- TDSN:3285 Fabrication and Design: Hand-Built Bicycle** 4 s.h.  
Building a bicycle frame by hand; use of CAD modeling and development of fabrication skills to create a modern-day work of art. Prerequisites: TDSN:2240.
- TDSN:4010 Furniture Design I** 4 s.h.  
Introduction to advanced problems of furniture design and manufacturing; students design and fabricate a chair with sustainable methods using computer numerical control (CNC) technologies. Corequisites: TDSN:3200.
- TDSN:4020 Furniture Design II** 4 s.h.  
Continuation of TDSN:4010; design of virtual environments. Prerequisites: TDSN:4010.
- TDSN:4050 Site Specific Design** 1 s.h.  
Art of planning, building, and presenting at real professional design venues; students plan, design, and build an environment to display selected 3D design work at one or two professional design venues. Prerequisites: TDSN:2250. Corequisites: TDSN:3200 or TDSN:3220 or TDSN:3230 or TDSN:3260 or TDSN:3280.
- TDSN:4210 Digital Animation and Visual Art** 3 s.h.  
Assimilation of digital animation into realm of traditional fine art mediums; exploration of fundamental skills (storyboarding, rotoscoping, stop motion, motion graphics, 3D animation); Adobe Photoshop, After Effects, and 3ds Max techniques and software that are industry standards in the careers of animators, storyboard artists, roto artists, digital compositors, and motion graphic artists; production of a show reel of student work for group showing and final critique. Prerequisites: ARTS:1510 and ARTS:1520.
- TDSN:4255 Hand-Built Bicycles in the Rockies** 1 s.h.  
Building a titanium hand-built bike; use of hand-built fabrication techniques and tools; translation of CAD design into first full-suspension titanium fat bike; aspects of metal technology, concept development, fabrication geometry and design, metal properties and selection, tool selection, brazing and TIG welding, jig setup and use, and mitering; travel to Fort Collins, Colorado to work for one week at Black Sheep Bikes (two-time winner of the North American Hand Built Bike Show). Prerequisites: ARTS:1510 and ARTS:1520.
- TDSN:4260 3D Computer Graphic Art** 3 s.h.  
Three-dimensional modeling; emphasis on movement in form and function; advanced modeling techniques in polygonal and NURBS modeling to generate fundamentally sound models used for rapid prototyping, visualization, and animation; Box modeling, NURBS modeling, rigging, materials, bump maps, normal maps, and rendering; fundamental skills of computer graphic artists working in the fields of animation, architectural visualization, video game modeling, industrial design, and engineering design. Prerequisites: TDSN:2250.
- TDSN:4270 Problems in 3D Design: Locative Art Practice** 4 s.h.  
How our relationship to Earth has changed with new forms of locating place in it; new forms of representation used to express exploration of that relationship; designing a locative research project; exploration of four major course concepts (geo-annotation, locative inscription, GPS drawing, alternative cartography) using portable, networked, and location-aware computing for mapping relationships. Prerequisites: ARTS:1520 and ARTS:1510.
- TDSN:4299 Undergraduate Individual Instruction** arr.  
Individual instruction in 3D design for advanced students.
- TDSN:6299 Individual Instruction in 3D Design** arr.  
Individual instruction in 3D design for advanced students.
- ## Drawing Courses
- Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all drawing courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.
- DRAW:2310 Life Drawing I** 3 s.h.  
Observational drawing of form in its spatial contexts; drawing in varied media; figural as well as nonfigural content. Prerequisites: ARTS:1510 and ARTS:1520.
- DRAW:3310 Concepts in Drawing** 3-4 s.h.  
Intermediate-level topics; observation, theory, media, form, content; emphasis on personal direction. Prerequisites: DRAW:2310. Same as THTR:3205.
- DRAW:4310 Advanced Concepts in Drawing** 3-4 s.h.  
Advanced-level topics. Prerequisites: DRAW:3310.
- DRAW:4399 Undergraduate Individual Instruction** 1-3 s.h.  
Individual instruction in drawing for advanced students.
- DRAW:6399 Individual Instruction in Drawing** arr.
- ## Intermedia Courses
- Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all intermedia courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

**INTM:2710 Introduction to Intermedia 3 s.h.**

Interdisciplinary focus; emphasis on conceptual, installation, video, time-based media, performance art. Prerequisites: (ARTS:1510 and ARTS:1520) or CINE:1834. Requirements: for CINE:2869—grade of C or higher in CINE:1834. Same as CINE:2869.

**INTM:2720 Concepts in Contemporary Art Practice 3 s.h.**

Interdisciplinary investigation of materials and concepts in relation to time-based media, performance, video, installation; individual and collaborative projects. Prerequisites: INTM:2710. Same as THTR:2720.

**INTM:2890 Producing and Directing Digital Video 3 s.h.**

Introduction to basic concepts, theories, and practical applications of digital video production for multiple distribution streams, with focus on aesthetic and technical principles; development of proficiency in contemporary approaches to digital media production by understanding the production pipeline from ideation to preproduction, production, postproduction, and through to distribution. GE: Engineering Be Creative. Same as DANC:2890, DIGA:2890, THTR:2890.

**INTM:3700 Topics in Intermedia 4 s.h.**

Performance, writing, reading, observation, physical practice, improvisation, and devising methods; development or expansion of physical practices that articulate with current artistic production. Prerequisites: ARTS:1510 and ARTS:1520 and (CERM:2010 or INTM:2710 or MTLs:2910 or PNTG:2410 or PRNT:2610 or SCLP:2810 or TDSN:2210). Same as DANC:3710.

**INTM:3799 Undergraduate Individual Instruction 1-3 s.h.**

Individual instruction in intermedia for advanced students.

**INTM:3876 Video for Performance 3 s.h.**

Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:2890 or THTR:5890 or CINE:1834. GE: Engineering Be Creative. Same as CINE:3876, DANC:3876, DIGA:3876, THTR:3876.

**INTM:4775 Intermedia Workshop 3-4 s.h.**

Visual practice/visual theory; projects, critiques, visiting artists and scholars. Requirements: INTM:2710 or graduate standing.

**INTM:6799 Individual Instruction in Intermedia and Video Art 1-2 s.h.****Jewelry and Metal Arts Courses**

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all jewelry and metal arts courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

**MTLS:2910 Introduction to Jewelry and Metal Arts 3 s.h.**

Fabrication, hammer forming, hydraulic die forming, soldering, riveting, etching, texturing, anodization of aluminum and titanium, stone setting, and patination techniques; creation of jewelry, flatware, and other functional and nonfunctional sculptural objects using varied metals and other materials; emphasis on creativity, learning, and basic metalworking techniques. Prerequisites: ARTS:1520 and ARTS:1510. GE: Engineering Be Creative.

**MTLS:3910 Intermediate Jewelry and Metal Arts 4 s.h.**

Exploration of different applications with casting (mostly gold, silver, and bronze), enameling, and stone setting; combining all three processes to create artwork; may include introduction to other processes (e.g., photo-etching, 3D computer modeling); historical and current trends in craft. Prerequisites: MTLs:2910.

**MTLS:3915 Fabrication and Finishing in Jewelry and Metal Arts 4 s.h.**

Students further their conceptual development with intermediate-level skills in fabrication and surface finishing; builds on introductory skills with techniques in complex and larger-scale soldering and forming, as well as new techniques (e.g., chasing, repousse); exploration of finishing and surface treatments (e.g., aluminum anodization, etching, powder coating). Prerequisites: MTLs:2910.

**MTLS:3920 Advanced Jewelry and Metal Arts 4 s.h.**

Electroforming; production of hollow copper structures through prolonged electroplating on a nonmetallic form (typically wax) with a conductive coating; metal-forming techniques (e.g., raising and fold forming); emphasis on development of personal aesthetics, learning, and refining technical skills in metalworking and jewelry techniques. Prerequisites: MTLs:2910.

**MTLS:4910 Mixed Media and Professional Practices 3-4 s.h.**

Free exploration of all media and materials, including found objects; creation of conceptual and/or functional mixed media objects, jewelry, sculptures, installation pieces; pioneering use of new materials, development of new techniques, creation of diverse innovative artworks. Prerequisites: MTLs:2910. Recommendations: MTLs:2910 and MTLs:3920.

**MTLS:4920 Mold Making 4 s.h.**

All aspects of mold making, including plaster, rubber, and silicone. Prerequisites: CERM:2010 or TDSN:2210 or MTLs:2910 or SCLP:2810.

**MTLS:4930 Experimental Casting with New Technology 4 s.h.**

Students combine traditional casting techniques with new technology (e.g., ceramic shell, 3D printed models, 3D printed resin sand molds, casting simulation software) in pursuit of their creativity; emphasis is on vessels and hollow objects; examples of historical and current application of casting, especially in mixed media and cross-disciplinary approaches. Prerequisites: SCLP:2810 or MTLs:2910.

**MTLS:4960 Form and Fabrication: The Hand-Built Bicycle Frame II 4 s.h.**

Builds on TDSN:3285; advanced concepts of bicycle frame design and fabrication; concept development, fabrication geometry and design, metal properties and selection, tool selection, brazing and welding including titanium milling and how to build a frame jig; emphasis on applying fabrication skills while situating frame-building project within context of a design problem. Prerequisites: TDSN:3285.

**MTLS:4970 Hand-Built Bicycle III** 4 s.h.

Builds on MTLS:4960; advanced concepts of bicycle frame design and fabrication; concept development, fabrication geometry and design, metal properties and selection, tool selection; brazing and welding including titanium-milling and how to build a frame jig; emphasis on application of fabrication skills while situating frame building project within context of a design problem. Prerequisites: MTLS:4960.

**MTLS:4999 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in metalsmithing and jewelry for advanced students.

**MTLS:6999 Individual Instruction in Metalsmithing and Jewelry** arr.**Painting Courses**

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all painting courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

**PNTG:2410 Painting I** 3 s.h.

Emphasis on observational painting, theory and development of pictorial ideas and skills. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

**PNTG:2420 Painting II** 4 s.h.

Materials, techniques, beginning of a personal painting language through observation and imagination. Prerequisites: PNTG:2410.

**PNTG:4100 Advanced Painting** 4 s.h.

Individual projects as they aid the realization of a personal vision. Prerequisites: PNTG:2420.

**PNTG:4499 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in painting for advanced students.

**PNTG:6475 Graduate Drawing and Painting Workshop** 3-4 s.h.

Group and individual criticism.

**PNTG:6495 Graduate Painting: Topics** 3-4 s.h.

Individual painting projects in desired medium; topics vary.

**PNTG:6499 Individual Instruction in Painting** arr.**Papermaking Courses****BKAT:2110 Introduction to Book Arts** 3 s.h.

Topics related to artist books, hand bookbinding, letterpress printing, papermaking, and lettering arts. GE: Engineering Be Creative. Same as UICB:2110.

**BKAT:3280 Elements of Book Art** 3 s.h.

Overview of book art process and techniques for nonmajors; introduction to traditional bookbinding skills, nontraditional book structures, and content development for artist books. GE: Engineering Be Creative. Same as UICB:3280.

**BKAT:3380 Letterpress** 3 s.h.

Introduction to letterpress printing; metal type, relief printing, page layout, and basic typography; basic use of Vandercook Proof Press; experimentation with diverse letterpress techniques. GE: Engineering Be Creative. Same as UICB:3380.

**BKAT:4100 Paperworks** 3 s.h.

Conceptual and methodological approaches to 2D and 3D paper works; creation of works that couple unique properties of paper-pulp medium with personal visual ideas and clarity of intent; contemporary issues in paper pulp, medium's relationship to larger art and craft contexts. GE: Engineering Be Creative. Same as UICB:4100.

**BKAT:4205 Bookbinding I: Materials and Techniques** 3 s.h.

Hands-on introduction to materials and techniques commonly used in bookbinding. Same as UICB:4205.

**BKAT:4210 Boxes and Enclosures** 3 s.h.

Hands-on techniques for a variety of book enclosures; appropriateness, aesthetic issues concerning box design; Japanese wraparound case, drop-spine box, hinged and lidded boxes, slipcase; technical skill development. Prerequisites: UICB:4205. Same as UICB:4210.

**BKAT:4270 Bookbinding II** 3 s.h.

Builds on skills acquired in UICB:4205; projects to complete six bindings based on historical and contemporary models; sewing styles, board attachments, endband types; nonadhesive and case-bound structures, varied materials and binding styles, their effects on structure, aesthetic considerations, further development of solid binding skills; historical development of particular binding practices. Prerequisites: UICB:4205. Same as UICB:4270.

**BKAT:4280 Artists' Books** 3 s.h.

Exploration of the book as a form for artistic expression; emphasis on conceptual development; relationship between content, form, and structure; how a book's structure and design can enhance and integrate part of the work's meaning. Prerequisites: UICB:4205 or BKAT:4205. Same as UICB:4280.

**BKAT:5110 Islamic and Asian Papermaking** 3 s.h.

History, technique, and aesthetics of traditional Islamic and Asian hand papermaking. Same as UICB:5110.

**BKAT:5120 European Papermaking History and Technique** 3 s.h.

History and technique of traditional European hand papermaking and related aesthetics; students gain confidence in pursuing independent production of handmade papers or undertaking related research in their own particular areas of interest; fiber preparation, sheet forming, and drying/finishing methods; concurrent readings and discussions of related history and aesthetics; special projects selected by student with instructor approval. Same as UICB:5130.

**BKAT:5140 Contemporary Papermaking** 3 s.h.

Contemporary papermaking studio practice and conceptual considerations; focus on nontraditional techniques and cross-disciplinary use of paper fibers and handmade paper; handmade paper as a form of artistic expression. Prerequisites: UICB:4100 or BKAT:4100 or UICB:5110 or BKAT:5110 or UICB:5130 or BKAT:5120. Same as UICB:5140.

**BKAT:5170 Advanced Papermaking Production** 3 s.h.

Independent Western- or Japanese-style projects undertaken at UICB Research and Production Paper Facility at Oakdale Campus under faculty guidance; plan, implement, and evaluate professional scale production runs using full-scale equipment. Prerequisites: UICB:5110 or UICB:5130 or BKAT:5110 or BKAT:5120. Same as UICB:5170.

**BKAT:5180 Advanced Projects in Paper** 1-3 s.h.

Advanced independent projects undertaken in a classroom setting; collaborative group discussions to plan, implement, troubleshoot, and evaluate student projects. Prerequisites: UICB:5110 or UICB:5130 or BKAT:5110 or BKAT:5120. Same as UICB:5180.

**BKAT:5210 Bookbinding III** 3 s.h.

Bookbinding structures based on historical and contemporary models; differences in various binding practices, how these differences affect function, why the styles developed; experience choosing appropriate structures for particular uses; emphasis on fine tuning skills and techniques required for advanced binding practices; sewn endbands, rounding and backing, sewing on varied supports, board attachments, and covering methods. Prerequisites: (UICB:4205 or BKAT:4205) and (UICB:4270 or BKAT:4270). Requirements: for UICB:5210—UICB:4205 and UICB:4270; for BKAT:5210—BKAT:4205 or BKAT:4270 or UICB:4205 or UICB:4270. Same as UICB:5210.

**BKAT:5260 Studies in Bookbinding** 3 s.h.

Topics related to hand bookbinding. Same as UICB:5260.

**Photography Courses**

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all photography courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

**PHTO:2510 Beginning Digital Photography** 3 s.h.

How to use digital technology to make high-quality color and black-and-white photographs from scanned film and digital files; basic photography skills, including exposure, bracketing, composition; how to use raw files to make large digital prints; color profiles for fine digital printing. Prerequisites: ARTS:1520 and ARTS:1510.

**PHTO:2600 Photography I** 3 s.h.

Introduction to color theory, lighting, and utilizing color for conceptual concerns; experience operating digital SLR cameras in full manual mode, utilizing Adobe editing software, and producing fine art printed portfolios; requires a digital SLR camera. Prerequisites: ARTS:1510 and ARTS:1520. GE: Engineering Be Creative.

**PHTO:3100 Photography II: Introduction to Darkroom Photography** 4 s.h.

Darkroom techniques including operation of 35mm film cameras, exposing and developing black-and-white film, and producing fine art darkroom prints. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: PHTO:2600.

**PHTO:3110 Photography III: The Constructed Image** 4 s.h.

Introduction to industry practices of studio lighting and large format printing; focus on constructed scenes in and out of the studio with emphasis on conceptual development and use of advanced Adobe Photoshop techniques. Prerequisites: PHTO:2600 and PHTO:3100.

**PHTO:3200 Photography IV: Special Topics** 4 s.h.

Investigation of contemporary themes including alternative processes, social documentary, portraiture, book making, and hybrid forms, among others. Prerequisites: PHTO:2600 and PHTO:3100.

**PHTO:3510 Black-and-White Darkroom** 3-4 s.h.

Darkroom techniques, including film developing and printing; theory and practice of photography as fine art and cultural phenomenon; development of visual literacy, students' critical awareness of their work. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: PHTO:2510, if not taken as a prerequisite.

**PHTO:3520 Intermediate Photography Digital** 3-4 s.h.

Digital photography including landscape, portrait, collage, still life, manipulated images; black-and-white and color printing; computer technology; history of photography in political and social issues. Prerequisites: PHTO:2510.

**PHTO:4000 Photography V: Advanced** 4 s.h.

Individual portfolio projects with emphasis on conceptual development and craft; regular critiques from faculty, peers, and visiting artists; professional practice advising and mentorship through B.F.A. exhibition. Prerequisites: PHTO:3110.

**PHTO:4510 Advanced Photography** 3-4 s.h.

Individual projects; development of personal vision. Prerequisites: PHTO:3520 or PHTO:3510.

**PHTO:4599 Undergraduate Individual Instruction** 1-3 s.h.

Individual instruction in photography for advanced students.

**PHTO:6575 Graduate Photography Workshop** 4 s.h.

Projects; group critiques; readings.

**Printmaking Courses**

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all printmaking courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

**PRNT:2610 Introduction to Printmaking** 3 s.h.

Introduction to methods, materials, and concepts of printmaking. Prerequisites: ARTS:1510 and ARTS:1520. Requirements: art major. GE: Engineering Be Creative.

**PRNT:3600 Textile Printing and Surface Design** 4 s.h.

Introduction to screen printing and block printing on textiles, including image generation and digital techniques from start to finish; effective use of design principles; application of a conceptual approach to work; possibilities of working with textiles. Prerequisites: ARTS:1510 and ARTS:1520 and PRNT:2610.

**PRNT:3610 New Media for Printmaking** 4 s.h.

New concepts and techniques for contemporary print media, including digital and less toxic applications in relief, intaglio, lithography, and screenprinting. Prerequisites: PRNT:2610.

**PRNT:3620 Intaglio** 4 s.h.

Concepts, techniques; traditional through contemporary ideas, methods; emphasis on metal plate printing, including etching, drypoint, engraving, softground, aquatint. Prerequisites: PRNT:2610. Requirements: PRNT:2610 or B.F.A. candidacy in any area or graduate standing.

**PRNT:3630 Woodcut and Relief** 4 s.h.

Concepts and techniques of relief printmaking, including woodcut, linocut, relief etching, black-and-white and color printing methods; traditional and contemporary approaches. Prerequisites: PRNT:2610. Requirements: ARTS:1510, ARTS:1520, and PRNT:2610 for art majors; ARTS:1510 for nonmajors; or B.F.A. candidacy in any area; or graduate standing.

**PRNT:3640 Lithography 4 s.h.**

Technical, aesthetic characteristics; basic direct drawing, processing, printing of stone and plate images in black and white. Prerequisites: PRNT:2610. Requirements: ARTS:1510, ARTS:1520, and PRNT:2610; or graduate standing.

**PRNT:3660 Monoprint 3-4 s.h.**

Concepts, techniques in use of traditional and alternative printmaking media to produce unique, matrix-generated prints. Prerequisites: PRNT:2610.

**PRNT:3675 Foil Workshop in Printmaking 2 s.h.**

Hands-on experience creating foil prints; workshop format. One or two weeks. Offered summer session.

**PRNT:3680 Silkscreen 4 s.h.**

Photographic, nonphotographic stencil techniques for silkscreen printing. Prerequisites: PRNT:2610. Requirements: ARTS:1510, ARTS:1520, and PRNT:2610 for art majors; ARTS:1010 and ARTS:1050 for nonmajors; or B.F.A. candidacy in any area; or graduate standing.

**PRNT:4610 Advanced Printmaking 4 s.h.**

Print media (i.e., intaglio, lithography, relief, screenprint); emphasis on individual technical and conceptual growth and development of independent studio practices. Prerequisites: PRNT:2610 and (PRNT:3620 or PRNT:3630 or PRNT:3640 or PRNT:3680).

**PRNT:4799 Undergraduate Individual Instruction 1-3 s.h.**

Individual instruction in printmaking; for advanced students.

**PRNT:6675 Graduate Print Workshop 3-4 s.h.**

Contemporary issues in printmaking; emphasis on development of personal work and independent studio practice through group critiques, special research projects, work in all print media.

**PRNT:6699 Individual Instruction in Printmaking arr.****Sculpture Courses**

Courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals are prerequisites for all sculpture courses for art majors; ARTS:1510 Basic Drawing is prerequisite for nonmajors.

**SCLP:2810 Undergraduate Sculpture I 3 s.h.**

Basic sculptural concepts, processes, investigation of materials such as plaster, clay, wood; emphasis on developing formal language, acquiring basic skills; spatial, conceptual, technical issues. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

**SCLP:3840 Robotic Art Studio 4 s.h.**

Exploration, design, and creation of interactive artworks, kinetic sculpture, robotic art, sound works, light art, and performance environments; application of basic electronics and mechanical techniques; use of programmable micro-controller Arduino. Prerequisites: SCLP:2810 or CERM:2010 or INTM:2710 or MTLs:2910 or TDSN:2210. GE: Engineering Be Creative. Same as DIGA:3840.

**SCLP:3895 Topics in Sculpture 4 s.h.**

Projects, reading; specialized conceptual forms and issues in contemporary sculpture, such as public art, installation. Prerequisites: SCLP:2810 or CERM:2010 or INTM:2710 or TDSN:2210 or MTLs:2910.

**SCLP:4825 Casting in Hot Metal 4 s.h.**

Foundry work, wax working, mold making, and processes. Prerequisites: SCLP:2810 or MTLs:2910.

**SCLP:4830 Motion and Mechanisms 4 s.h.**

Inherent properties of kinetic art and challenges of integrating motion into object and installation; artists who work with motion-based artwork; mechanical fabrication, basic electricity, switching, control, and various types of motors and mechanisms that can add motion to art-making process; projects engaging conceptual and technical aspects of kinetic sculpture, may include custom fabricated and recycled components. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or INTM:2710 or TDSN:2210 or MTLs:2910).

**SCLP:4835 Electronic Objects and Spaces 4 s.h.**

Aesthetic use of electronics to sequence and control motion, light, and sound; introduction to basic electronics through hands-on workshops and discussions; demonstrations on how to build an Arduino, integrated circuits, power supplies, soldering, prototyping, motors, sensors; projects integrating electronics with objects and spaces; artist screenings and critiques. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or INTM:2710 or MTLs:2910 or TDSN:2210). GE: Engineering Be Creative. Same as DIGA:4835.

**SCLP:4840 Air, Actuators, and Motors 4 s.h.**

Introduction to wide range of motors, actuators, and air devices available for integration in art projects; various forms of motor control and necessary means to power these devices; DC and AC motors, stepper motors, solenoids, electro magnets, relays, pneumatics, inflatables, and other air-driven devices; development of a project utilizing one or more systems; examples and media demonstrations to show how artists and scientists employ these systems. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or INTM:2710 or MTLs:2910 or TDSN:2210). GE: Engineering Be Creative. Same as DIGA:4840.

**SCLP:4899 Undergraduate Individual Instruction 1-3 s.h.**

Individual instruction in sculpture for advanced students.

**SCLP:6264 Graduate Sculpture and Intermedia Workshop 3-4 s.h.**

Critique seminar with readings; for sculpture and non-sculpture graduate students.

**SCLP:6899 Individual Instruction in Sculpture arr.****Art Education Courses****ARTE:3143 Methods of Elementary Art and Field Experiences 3 s.h.**

Application of studio methods to teaching children in Saturday Children's Art Class Program. Same as EDTL:3143.

**ARTE:6267 Seminar: Current Issues in Art Education 3-4 s.h.**

Analysis of literature in art education and related disciplines. Same as EDTL:6267.

# Art, B.A.

## Learning Outcomes

Students will:

- acquire breadth of knowledge about the field of art history through coursework in a diversity of areas;
- learn that art embodies historical, cultural, social, and political factors within a diverse range of national, international, and global cultures;
- acquire critical skills in visual analysis and research; and
- develop skills in oral and written communication.

## Requirements

The Bachelor of Arts with a major in art requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major provides a foundation in art history as well as an understanding of the formal traditions and contemporary practices in studio art. Students take courses in the school's studio art programs, including animation, ceramics, graphic design, three-dimensional (3D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture.

Students may count a maximum of 56 s.h. earned in art and art history courses toward the degree; they must earn at least 64 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

B.A. students with a double major in the school (e.g., a major in art and a major in art history) or a major and a minor in the school (e.g., a major in art and a minor in art history) must earn at least 56 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

Students majoring in art begin their study in the Bachelor of Arts program. Those interested in pursuing concentrated work in a specific studio art discipline may apply for admission to the Bachelor of Fine Arts program through a process called "clearance," in which the faculty evaluates a student's readiness for B.F.A. study. Clearance usually takes place during the third year, but it may be conducted earlier or later, depending on the student's readiness.

For more information about teaching art in elementary and/or secondary schools, see "Teacher Licensure" below.

The B.A. with a major in art requires the following coursework. Not all courses are offered every semester, including required courses. When planning coursework, students should consult their advisors and MyUI to determine when specific courses will be offered.

Code	Title	Hours
	Four Art History Courses	12
	Two Foundational Studio Art Courses	6
	Two Studio Art 3D Courses	6
	Two Studio Art 2D Courses	6
	Two Upper-Level Studio Art Courses	6
	Required Electives	3
<b>Total Hours</b>		<b>39</b>

## Art History

Code	Title	Hours
Two of these:		
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	Native American Art	3
And:		
	Two art history courses not in the list above, excluding ARTH:1000, ARTH:1080, ARTH:3985, ARTH:3995, and ARTH:4999	6

## Foundational Studio Art

Studio art majors are required to complete ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals by the end of their first academic year. Majors can enroll in one beginning or introductory studio arts course during the same semester they are enrolled in either ARTS:1510 or ARTS:1520.

Code	Title	Hours
Both of these:		
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3

## Studio Art 3D Courses

Code	Title	Hours
Two of these:		
CERM:2010	Ceramics I: Handbuilding	3
INTM:2710	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
SCLP:2810	Undergraduate Sculpture I	3
TDSN:2210	Introduction to 3D Design	3

## Studio Art 2D Courses

Code	Title	Hours
Two of these:		
ANIM:2125	Introduction to Animation	3
DRAW:2310	Life Drawing I	3
DSGN:2500	Graphic Design I	3
PHTO:2600	Photography I	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3

## Upper-Level Studio Art Courses

Students must take two upper-level studio art courses. They may take both upper-level courses in the same studio art discipline or one upper-level course in each of two disciplines. Any course beyond the introductory course in the discipline is considered upper level.

Introductory courses include the following and do not count toward the upper-level studio arts courses requirement.

Code	Title	Hours
ANIM:2125	Introduction to Animation	3
CERM:2010	Ceramics I: Handbuilding	3
DRAW:2310	Life Drawing I	3
DSGN:2500	Graphic Design I	3
INTM:2710	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
PHTO:2600	Photography I	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3
SCLP:2810	Undergraduate Sculpture I	3
TDSN:2210	Introduction to 3D Design	3

## Required Electives

School of Art and Art History elective courses must bring the total credit for the major in art to a minimum of 39 s.h.

## Transfer Students

Transfer students should contact the undergraduate academic advisors for information about transfer portfolio review and specific coursework that satisfies the requirements for the major in art. Students may count a maximum of 12 s.h. of approved transfer credit toward their major.

## Study Abroad

Students who wish to study abroad must meet with the undergraduate advisor before they depart in order to confirm approval of the courses they plan to take.

Students who take studio art courses abroad must bring their artwork back to campus and must present it in a portfolio review, which determines whether the work satisfies a requirement for their major. The portfolio review is not required if the study abroad course was taught by a School of Art and Art History faculty member who gave the student a grade for the course.

Students who plan to take art history courses abroad must present the course syllabus to their advisor well in advance of their departure. The head of the art history program determines whether the study abroad course is equivalent to a course required for the major; if it is, the student is credited with fulfilling the requirement once the course is completed with a passing grade.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

The B.A. in art education [p. 1482] is offered by the Department of Teaching and Learning, and the degree is awarded by the College of Education. In order to earn the B.A. in art education, students also must complete the B.A. in art. For more information, contact the College of Education Academic Advising Office.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in their major. They should meet with their academic advisor at the start of their final semester to complete the steps needed to graduate with honors in the major.

Students must complete a studio art research project during the semester in which they plan to graduate. They must select a studio art faculty member willing to supervise their honors project, display the completed project in a show, complete an abstract, and upload a JPEG image of their project. They earn credit for the project by enrolling in ARTS:4190 Honors in Studio Art.

### University of Iowa Honors Program

In addition to honors in the major, students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the art major.

## Career Advancement

Many graduates pursue careers that match their degree specializations, for example, commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, or community art center coordinator or instructor. Others go on to graduate study in areas such as art history, art therapy, architecture, design, medical illustration, studio art, or disciplines outside of art.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** at least four courses in the major.

**Before the seventh semester begins:** at least four more courses in the major (total of eight) and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least three more courses in the major (total of 11).

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Art, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>b</sup>	3
ARTS:1520	Design Fundamentals <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
Major: art history survey course <sup>d</sup>		3
Major: introductory-level studio 2D course <sup>e</sup>		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: art history survey course <sup>d</sup>		3
Major: introductory-level studio 3D course <sup>g</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: art history non-survey course <sup>i</sup>		3
Major: introductory-level studio 2D course <sup>e</sup>		3
Major: introductory-level studio 3D course <sup>g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: art history non-survey course <sup>i</sup>		3
Major: elective art course <sup>j</sup>		3 - 4
Major: upper-level studio art course <sup>k</sup>		3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
<b>Hours</b>		<b>16-19</b>

### Spring

Major: elective art course <sup>j</sup>	3
Major: upper-level studio art course <sup>k</sup>	3
GE CLAS Core: International and Global Issues or elective <sup>c</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>h</sup>	4 - 5
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>16-17</b>

### Fourth Year

#### Fall

Major: elective art course <sup>j</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts or elective course <sup>c, l</sup>	3
GE CLAS Core: Values and Culture <sup>c, l</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>15</b>

#### Spring

Major: elective art and art history course <sup>j</sup>	3
GE CLAS Core: Historical Perspectives <sup>c, l</sup>	3
GE CLAS Core: Social Sciences <sup>c</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>m</sup>	

#### Hours

15

#### Total Hours

123-131

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.
- e Select introductory-level studio 2D course from ANIM:2125, DRAW:2310, DSGN:2500, PHTO:2600, PNTG:2410, or PRNT:2610.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Select introductory-level studio 3D course from CERM:2010, INTM:2710, MTLs:2910, SCLP:2810, or TDSN:2210.
- h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- i Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.



- j Students may select an elective art course until they complete a maximum of 56 s.h. of art courses, or select a non-art elective course.
- k The following introductory courses do not count toward the upper-level studio arts courses requirement: ANIM:2125, CERM:2010, DRAW:2310, DSGN:2500, INTM:2710, MTLN:2910, PHTO:2600, PNTG:2410, PRNT:2610, SCLP:2810, TDSN:2210.
- l Students may fulfill this general education requirement while also fulfilling major requirements.
- m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Art History, B.A.

The program in art history engages in problems of historical analysis and in interpretation of culture. The major provides students with a strong liberal arts background and prepares them for competitive placement in graduate schools across the country. As students progress through the major, they become familiar with historical relationships between art objects and society, learn techniques of visual analysis, study patterns of patronage, and apply methods for interpreting the meanings of art, architecture, and other forms of visual culture. In the course of their studies, art history majors develop their research abilities and writing skills.

## Learning Outcomes

Students will:

- acquire breadth of knowledge about the field of art history through coursework in a diversity of areas;
- learn that art embodies historical, cultural, social, and political factors within a diverse range of national, international, and global cultures;
- acquire critical skills in visual analysis and research; and
- develop skills in oral and written communication.

## Requirements

The Bachelor of Arts with a major in art history requires a minimum of 120 s.h., including 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students may count a maximum of 56 s.h. earned in art and art history courses toward the degree; they must earn at least 64 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

B.A. students with a double major in the school (e.g., a major in art history and a major in art) or a major and a minor in the school (e.g., a major in art history and a minor in art) must earn at least 56 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

Students choose one of these tracks: the Iowa Idea [p. 122] track or the global and interdisciplinary connections [p. 123] track.

The B.A. with a major in art history requires the following coursework.

## Iowa Idea Track

Courses may count toward more than one requirement; however, students must earn at least 39 s.h. in the track.

Code	Title	Hours
	Art History Courses	33
	Studio Art Courses	6
<b>Total Hours</b>		<b>39</b>

## Art History Courses

Code	Title	Hours
All of these:		
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3

ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1080	How to Write About Art	3
ARTH:4999	Capstone Seminar in Art History	3
Seven additional art history courses from these (a course can count toward more than one requirement):		21
At least two art history courses numbered ARTH:2000-ARTH:2999		
At least four art history courses numbered ARTH:3000-ARTH:4998		
At least two art history courses in non-Western areas (e.g. African, Asian, Islamic, Native American) from these:		
ARTH:1040	Arts of Africa	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	Native American Art	3
ARTH:2120	Art and Architecture of the Islamic World	3
ARTH:2220	Introduction to the Art of China	3
ARTH:2250	Introduction to the Art of Japan	3
ARTH:2330	Egyptian and Ancient Near Eastern Art	3
ARTH:3160	Themes in African Art	3
ARTH:3225	Contemporary Art and Culture in China	3
ARTH:3230	Chinese Painting I: Pagodas and Palaces	3
ARTH:3250	Brushwork in Chinese Art	3
ARTH:3255	Copy and Paste: Methods of Reproduction in Asian Art	3
ARTH:3270	Themes in Asian Art History	3
ARTH:3275	Garden Culture in East Asia	3
ARTH:3325	Kings, Gods, and Heroes: Art of the Ancient Near East	3

## Studio Art Courses

Code	Title	Hours
This course (taken before enrollment in another studio art course):		
ARTS:1510	Basic Drawing	3
One of these:		
ARTS:1520	Design Fundamentals	3
CERM:2010	Ceramics I: Handbuilding	3
DRAW:2310	Life Drawing I	3
DSGN:2500	Graphic Design I	3
INTM:2710	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
PHTO:2600	Photography I	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3
SCLP:2810	Undergraduate Sculpture I	3
TDSN:2210	Introduction to 3D Design	3

## Global and Interdisciplinary Connections Track

Code	Title	Hours
Art History Courses		30
Related Disciplines Courses		9
<b>Total Hours</b>		<b>39</b>

### Art History Courses

Code	Title	Hours
All of these:		
ARTH:1030	Themes in Global Art	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:4999	Capstone Seminar in Art History	3

One of these:

ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1070	Asian Art and Culture	3
ARTH:1080	How to Write About Art	3
ARTH:1090	Earthly Paradises: A Global History of Gardens	3
ARTH:1095	Native American Art	3

Six additional art history courses that include:

At least two art history courses numbered ARTH:2000 through ARTH:2999

At least four art history courses numbered ARTH:3000 through ARTH:4998

### Related Disciplines Courses

Code	Title	Hours
Three courses taken from one of these disciplines:		

#### American Studies

AMST:2165	Native Peoples of North America	3
AMST:2700	The Black Image in Sequential Art: Comics, Graphic Novels, and Anime	3
AMST:3100	Critical Race Theory: Culture, Power, and Society	3
AMST:3249	History of Iowa and the Midwest	3
AMST:3265	American Monuments	3

#### Anthropology

ANTH:2165	Native Peoples of North America	3
ANTH:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3
ANTH:3001	Introduction to Museum Studies	3
ANTH:3121	Love, Marriage, and Family in India	3
ANTH:3237	Politics of the Archaeological Past	3

ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3243	Archaeology of the American Midcontinent	3
ANTH:3255	Introduction to Archaeological Ceramics	3
ANTH:3257	North American Archaeology	3
ANTH:3258	Southwestern Archaeology	3
ANTH:3265	Archaeology of the Great Plains	3
ANTH:3276	Greek Archaeology and Ethnohistory	3
ANTH:3278	Archaeology of Ancient Cities	3
ANTH:3295	Field Research in Archaeology	arr.

#### Asian Languages and Literatures

ASIA:3055	Death, Dying, and Beyond in Asian Religions	3
ASIA:3208	Classical Chinese Literature Through Translation	3
ASIA:3431	Gender and Sexuality in East Asia	3
ASIA:3550	Islam, Secularity, Modernity	3
ASIA:3650	Chinese History from 1600 to 1911	3
ASIA:3652	Twentieth-Century China	3
ASIA:3655	Zen Buddhism	3
ASIA:3685	Modern Korean History	3

#### Classics: Ancient Civilizations

CLSA:3148	Barbarians and the Fall of Rome	3
CLSA:3235	Greek Archaeology and Ethnohistory	3
CLSA:3404	The World of Ancient Greece	3
CLSA:3416	Greek Religion and Society	3
CLSA:3443	Pagans and Christians: The Church from Jesus to Muhammad	3
CLSA:3445	Mythology of Otherworldly Journeys	3
CLSA:3514	Roman Religion and Society	3
CLSA:3821	City of Athens: Bronze Age to Roman World	3
CLSA:3836	Food in Ancient Mediterranean Society	3
CLSA:4106	Warfare in Ancient Mediterranean Society	3
CLSA:4181	History of Western Medicine	3
CLSA:4400	The Roman Empire	3
CLSA:4403	Alexander the Great	3
CLSA:4452	The Dead Sea Scrolls	3
CLSA:4501	Archaeological Methodology and Field Research	3

#### English

ENGL:3216	Topics in Medieval and Renaissance Literature	3
ENGL:3226	Literature and Culture of the Middle Ages	3

ENGL:3236	Literature and the Culture of the Renaissance	3	GRMN:4512	Topics in Global and Transnational Culture	3-4
ENGL:3266	Medieval Celtic Literature	3	GRMN:4540	Literature in Film	3
ENGL:3276	Medieval Drama	3	GRMN:4730	Beautiful Souls and Scandalous Writing	3
ENGL:3287	Shakespeare	3			
ENGL:3329	Literature and Culture of Eighteenth-Century Britain	3	<b>History</b>		
ENGL:3338	Literature and Culture of the Romantic Period	3	HIST:3145	Europe and the United States in the Twentieth Century	3
ENGL:3339	Literature and Culture of Nineteenth-Century Britain	3	HIST:3205	American Cultural History	3
ENGL:3459	African American Literature Before 1900	3	HIST:3249	History of Iowa and the Midwest	3
ENGL:3510	Topics in Transnational Literature	3	HIST:3250	American Stuff: Discovering History in Things	3
ENGL:3515	Topics in Postcolonial Studies	3	HIST:3265	American Monuments	3
ENGL:3520	Literature and Culture of the 20th and 21st Century	3	HIST:3272	Native Americans in the Age of Empires, ca. 1500-1815	3
ENGL:3525	Literature and Culture of the Americas	3	HIST:3289	The Atlantic World c. 1450-1850	3
ENGL:3540	Literature of the Indian Subcontinent	3	HIST:3404	The World of Ancient Greece	3
ENGL:3550	African Literature	3	HIST:3423	Ireland in the Early Middle Ages	3
ENGL:3570	Transnational and Postcolonial Writing by Women	3	HIST:3427	Family, Gender, and Society in Early Modern Europe	3
	<b>French</b>		HIST:3448	Barbarians and the Fall of Rome	3
FREN:3120	French Civilization	3	HIST:3470	France from 1815 to Present	3
FREN:3130	French-Speaking Cultures	3	HIST:3473	German History 1648-1914	3
FREN:3225	Studies in Modern France	3	HIST:3650	Chinese History from 1600 to 1911	3
FREN:3250	Topics in French Studies I	3	HIST:3652	Twentieth-Century China	3
FREN:4026	French Women Writers	3-4	HIST:3685	Modern Korean History	3
FREN:4080	Post-Colonial Literature in France	3	HIST:3758	The Ancient African Past	3
FREN:4100	French Cinema	3-4	HIST:3808	Art, Power, and Resistance in the Modern Middle East and North Africa	3
FREN:4110	Francophone Literature of the African Diaspora	3	HIST:4260	The Sixties in America	3
FREN:4210	Slavery Museums, Memorials, and Statues in the United States, Europe, and the Global South	3-4	HIST:4400	The Roman Empire	3
FREN:4520	Versailles Under the Sun King	3-4	HIST:4403	Alexander the Great	3
FREN:4750	Topics in French Studies II (may be taken more than once for credit)	3	HIST:4406	Warfare in Ancient Mediterranean Society	3
	<b>German</b>		HIST:4407	The Hellenistic World and Rome	3
GRMN:3200	Literary Translation from German	3	HIST:4412	History of the Medieval Church	3
GRMN:3405	German Cultural History	3	HIST:4414	Christianity and Empire (35-450 AD)	2-3
GRMN:3501	German Writers Engaged	3	HIST:4415	European Intellectual History Medieval to Modern	3
GRMN:3850	Twentieth- and Twenty-first-Century German Children's Literature	3	HIST:4419	Ancient and Medieval Science	3
GRMN:3860	German Language and Society	3	HIST:4428	Nineteenth-Century Europe	3
GRMN:3865	History of the German Language	3	HIST:4438	Modern European Imperialism	3
GRMN:4315	German Society Today	3	HIST:4910	The Book in the Middle Ages	3
			HIST:4920	The Transition from Manuscript to Print	3
			<b>Italian</b>		
			ITAL:4550	Topics in Italian Studies (may be taken more than once for credit)	3

ITAL:4633	Dante's Inferno	3-4
ITAL:4634	The Italian Renaissance	3
ITAL:4667	Modern Italian Fiction	3
<b>Philosophy</b>		
PHIL:3112	Medieval Philosophy	3
PHIL:3143	Existentialism	3
PHIL:3431	Aesthetics	3
PHIL:3845	Buddhist Philosophy	3
PHIL:4050	Topics in Buddhist Philosophy	3
PHIL:4152	Plato	3
PHIL:4153	Aristotle	3
PHIL:4266	Kant	3
PHIL:4373	Heidegger	3
PHIL:4377	Wittgenstein	3
PHIL:4482	Early Modern Ethics	3
PHIL:4588	Philosophy of Mind	3
PHIL:4694	Philosophy of Science	3
<b>Religious Studies</b>		
RELS:2674	Food, Body, and Belief: A Global Perspective	3
RELS:3003	Classical and Hellenistic Periods I	3
RELS:3055	Death, Dying, and Beyond in Asian Religions	3
RELS:3190	Medieval to Modern: The Birth of Protestantism	3
RELS:3243	Pagans and Christians: The Church from Jesus to Muhammad	3
RELS:3245	Mythology of Otherworldly Journeys	3
RELS:3385	Early Modern Catholicism	3
RELS:3431	Gender and Sexuality in East Asia	3
RELS:3645	Buddhist Philosophy	3
RELS:3655	Zen Buddhism	3
RELS:3716	Greek Religion and Society	3
RELS:4155	Religious Conflict: Early Modern Period	3
RELS:4352	The Dead Sea Scrolls	3
RELS:4870	Islamic Cultural Presence in Spain	3
RELS:5200	Asian Religions in the Modern World for Graduate Students	3

## Transfer Students

Transfer students should meet with the undergraduate advisor to discuss the requirements they may fulfill with transfer courses. Art history transfer courses must be reviewed by the head of the art history area to determine a student's placement in or exemption from required art history courses. Students may count a maximum of 15 s.h. of approved transfer credit toward their major.

## Study Abroad

Students who wish to study abroad must meet with the undergraduate advisor before they depart in order to confirm approval of the courses they plan to take.

Students who take art history courses abroad must present the course syllabus to their advisor well in advance of their departure. The head of the art history program determines whether the study abroad course is equivalent to a course required for the major; if it is, the student is credited with fulfilling the requirement once the course is completed with a passing grade.

Students who take studio art courses abroad must bring their artwork back to campus and present it in a portfolio review, which determines whether the work satisfies a requirement for their major. The portfolio review is not required if the study abroad course was taught by a School of Art and Art History faculty member who gave the student a grade for the course.

## Teacher Licensure

Majors interested in earning licensure to teach in elementary and/or secondary schools must complete the College of Education's Teacher Education Program (TEP) in addition to the requirements for the art history major and all requirements for graduation with a B.A. degree. The TEP requires several College of Education courses and student teaching. Students must satisfy all degree requirements and complete Teacher Education Program licensure before degree conferral. Contact the Office of Student Services in the College of Education for details.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in their major. They also must complete a departmental application to graduate with honors in the major.

Students must complete an honors project that includes an honors thesis during the semester in which they plan to graduate. Students have two options for completing the honors project.

#### Option 1

Students take two upper-division courses with an honors contract and complete an extra project, such as an annotated bibliography, a supplemental paper or presentation, or a comparable project endorsed by the professor. Students then enroll in a third upper-division course, with or without honors contract, appropriate to their honors paper topic and ARTH:3985 Honors Research in Art History for 1 s.h. credit with the same instructor. Through enrollment in ARTH:3985, students write an honors paper of 3,000 to 5,000 words.

#### Option 2

Students research and write an honors paper of 5,000 to 7,500 words under the direction of an art history professor, who agrees to act as their honors advisor. Students earn up to 3 s.h. credit in ARTH:3985 Honors Research in Art History. They must have the approval of their honors advisor before they begin work on their honors paper.

The honors paper should conform to the Graduate College format for theses; see the Manual of Rules and Regulations on the Graduate College website.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the art history major.

### Career Advancement

Many graduates go on to careers in academics, in museums, or in private art galleries. Those who wish to work as professors, museum curators, or museum directors typically pursue graduate study in art history. Some graduates instead pursue advanced study in fields such as architecture, information science, museum studies, and law. Others may begin careers immediately, working in galleries and museums as arts administrators and catalogers, writing art criticism, or applying their skills in writing and visual analysis to disciplines beyond the arts.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** at least four courses in the major.

**Before the seventh semester begins:** at least four more courses in the major (total of eight) and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least three more courses in the major (total of 11).

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

#### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Art History, B.A.

- Global and Interdisciplinary Connections Track [p. 126]
- Iowa Idea Track [p. 127]

#### Global and Interdisciplinary Connections Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II <sup>b</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
ARTH:1030	Themes in Global Art <sup>b</sup>	3
Major: art history elective <sup>e</sup>		3
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: art history course (prefix ARTH) numbered 2000-2999		3
Major: art history course (prefix ARTH) numbered 2000-2999		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>13-14</b>
<b>Spring</b>		
Major: art history course (prefix ARTH) numbered 3000-4998		3
Major: related disciplines course <sup>g</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: art history course (prefix ARTH) numbered 3000-4998		3
Major: art history course (prefix ARTH) numbered 3000-4998		3
Major: related disciplines course <sup>g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: art history course (prefix ARTH) numbered 3000-4998		3

Major: related disciplines course <sup>g</sup>	3
GE CLAS Core: Social Sciences <sup>c</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>d</sup>	3

**Hours 16-17**

#### Fourth Year

##### Fall

ARTH:4999 Capstone Seminar in Art History	3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>	4
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	2 - 3

**Hours 15-16**

##### Spring

GE CLAS Core: International and Global Issues or other remaining GE CLAS Core requirement <sup>c</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts or other remaining GE CLAS Core requirement <sup>c</sup>	3
ARTH:3985 Honors Research in Art History <sup>d, h</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>

**Hours 15**

**Total Hours 120-127**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Select from ARTH:1040, ARTH:1050, ARTH:1070, ARTH:1080, ARTH:1090, or ARTH:1095.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Students select three courses from one of eleven disciplines outside of art history. These courses may apply to a second major. See General Catalog for a list of approved courses.

h Students must meet GPA requirements in order to pursue honors in art history. See the School of Art and Art History website and your academic advisor for more information.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Iowa Idea Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

GE CLAS Core: Sustainability <sup>a</sup>		0
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#### First Year

##### Fall

ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I <sup>b</sup>	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
CSI:1600	Success at Iowa	2

**Hours 14-15**

##### Spring

ARTH:1040	Arts of Africa <sup>b, d</sup>	3
ARTH:1080	How to Write About Art <sup>e</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
Elective course <sup>f</sup>		3

**Hours 15-16**

#### Second Year

##### Fall

ARTS:1510	Basic Drawing	3
Major: art history course (prefix ARTH) numbered 2000-2999 <sup>g</sup>		3
Major: art history course (prefix ARTH) numbered 2000-2999 <sup>g</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3

**Hours 16-17**

##### Spring

Major: art history course (prefix ARTH) numbered 3000-4998 <sup>g</sup>		3
Major: introductory-level studio art course <sup>i</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3

**Hours 16-17**

#### Third Year

##### Fall

Major: art history course (prefix ARTH) numbered 3000-4998 <sup>g</sup>		3
Major: art history course (prefix ARTH) numbered 3000-4998 <sup>g</sup>		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3

**Hours 16-17**

**Spring**

Major: art history course (prefix ARTH) numbered 3000-4998 <sup>g</sup>	3
GE CLAS Core: Social Sciences <sup>c</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>h</sup>	4 - 5
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>16-17</b>

**Fourth Year****Fall**

ARTH:4999 Capstone Seminar in Art History	3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>	4
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	2
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>15</b>

**Spring**

Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>123-129</b>

should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d This course is recommended to fulfill both a major requirement (art history course in non-Western area) and the GE CLAS Core International and Global Issues requirement.

e This course should be taken after completing Rhetoric and before enrollment in courses ARTH:3000 and above.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Students complete at least two art history courses (6 s.h.) in non-Western areas (e.g. African, Asian, Islamic, Native American). See General Catalog for list of approved courses.

h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

i Students complete this requirement by choosing one of these courses: ARTS:1520, CERM:2010, DRAW:2310, DSGN:2500, INTM:2710, MTLN:2910, PHTO:2600, PNTG:2410, PRNT:2610, SCLP:2810, TDSN:2210.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students



# Art, B.F.A.

## Learning Outcomes

Students will:

- acquire breadth of knowledge about the field of art history through coursework in a diversity of areas;
- learn that art embodies historical, cultural, social, and political factors within a diverse range of national, international, and global cultures;
- acquire critical skills in visual analysis and research; and
- develop skills in oral and written communication.

## Requirements

The Bachelor of Fine Arts with a major in art requires a minimum of 120 s.h., including 62 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Bachelor of Fine Arts students majoring in art may count a maximum of 62 s.h. earned in art and art history courses toward the degree; they must earn at least 58 s.h. of credit in courses outside the School of Art and Art History in order to graduate.

The major provides a foundation in art history as well as an understanding of the formal traditions and contemporary practices in studio art. It also includes a concentration in a specific discipline in studio art.

Students select one studio art discipline, choosing from ceramics, graphic design, three-dimensional (3D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture. They may not select bookbinding, calligraphy, or papermaking as their studio art discipline. Although students may choose only one B.F.A. discipline, they gain exposure to other studio areas through the B.F.A. program of study. A B.F.A. degree is currently not offered with a subprogram in animation.

Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice. Students are admitted to the B.F.A. program through a process called "clearance," which is conducted once each semester; they must be admitted to the B.F.A. program at least one semester before they graduate. Students who wish to enter the B.F.A. program should consult the faculty in their major studio art discipline for information about the required portfolio review.

In order to sit for B.F.A. clearance, students must have completed:

- the two studio art foundation courses ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals;
- one introductory course in the B.F.A. studio art discipline; and
- two upper-level courses in the B.F.A. studio art discipline (students may be enrolled in the two upper-level courses when they sit for clearance).

B.F.A. students complete all requirements for the B.A. major in art (required courses) plus additional studio work. They also

must present a show of their work through ARTS:4195 B.F.A. Exhibition before they graduate.

For more information about teaching art in elementary and/or secondary schools, see "Teacher Licensure" below.

The B.F.A. with a major in art requires the following work.

Code	Title	Hours
Required Courses		39
Additional Studio Art Courses		23
B.F.A. Exhibition		
<b>Total Hours</b>		<b>62</b>

## Required Courses

The following coursework is required (39 s.h.).

### Art History

Code	Title	Hours
Two of these:		
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	Native American Art	3
And:		
Two art history courses not in the list above, excluding ARTH:1000, ARTH:1080, ARTH:3985, ARTH:3995, and ARTH:4999		6

### Foundational Studio Art

Studio art majors are required to complete ARTS:1510 Basic Drawing and ARTS:1520 Design Fundamentals by the end of their first academic year. Majors can enroll in one beginning or introductory studio arts course during the same semester they are enrolled in either ARTS:1510 or ARTS:1520.

Code	Title	Hours
Both of these:		
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3

### Studio Art 3D Courses

Code	Title	Hours
Two of these:		
CERM:2010	Ceramics I: Handbuilding	3
INTM:2710	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
SCLP:2810	Undergraduate Sculpture I	3
TDSN:2210	Introduction to 3D Design	3

### Studio Art 2D Courses

Code	Title	Hours
Two of these:		
ANIM:2125	Introduction to Animation	3
DRAW:2310	Life Drawing I	3
DSGN:2500	Graphic Design I	3

PHTO:2600	Photography I	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3

## Required Electives

School of Art and Art History elective courses must bring the total credit for the major to a minimum of 62 s.h.

## Additional Studio Art Courses

Code	Title	Hours
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All of these:

One introductory course and three upper-level courses in the student's studio art discipline

One introductory course and one upper-level course in a second studio art discipline

One introductory course and one upper-level course in a third studio art discipline

## B.F.A. Exhibition

Students must present a show of their work in ARTS:4195 B.F.A. Exhibition during the semester in which they graduate. Variations must be approved by the B.F.A. faculty advisor and academic advisors. The show must be advertised using flyers and other media. Students planning to graduate with honors in the major also are required to participate in a separate Honors in the Major group show. Students must meet with faculty and academic advisors to complete the required documentation before they present their show.

## Transfer Students

Transfer students should contact the undergraduate academic advisors for information about transfer portfolio review and specific coursework that satisfies the requirements for the major in art. Students may count a maximum of 21 s.h. of approved transfer credit toward their major.

## Study Abroad

Students who wish to study abroad must meet with the undergraduate advisor before they depart in order to confirm approval of the courses they plan to take.

Students who take studio art courses abroad must bring their artwork back to campus and present it in a portfolio review, which determines whether the work satisfies a requirement for their major. The portfolio review is not required if the study abroad course was taught by a School of Art and Art History faculty member who gave the student a grade for the course.

Students who plan to take art history courses abroad must present the course syllabus to their advisor well in advance of their departure. The head of the art history program determines whether the study abroad course is equivalent to a course required for the major; if it is, the student is credited with fulfilling the requirement once the course is completed with a passing grade.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and

deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

The B.A. in art education [p. 1482] is offered by the Department of Teaching and Learning, and the degree is awarded by the College of Education. In order to earn the B.A. in art education, students also must complete the B.F.A. in art. For more information, contact the College of Education Academic Advising Office.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in their major. They should meet with their academic advisor at the start of their final semester to complete the steps needed to graduate with honors in the major.

Students must complete a studio art research project during the semester in which they plan to graduate. They must select a studio art faculty member willing to supervise their honors project, display the completed project in a show, complete an abstract, and upload a JPEG image of their project. They earn credit for the project by enrolling in ARTS:4190 Honors in Studio Art.

### University of Iowa Honors Program

In addition to honors in the major, undergraduate students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the art major.

## Career Advancement

Many graduates pursue careers that match their degree specializations, for example, commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, or community art center coordinator or instructor. Others go on to graduate study in areas such as art history, art therapy, architecture, design, medical illustration, studio art, or disciplines outside of art.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available for the B.F.A. major in art. Students should work with their advisors to develop individual graduation plans.

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Art, B.F.A.

- Ceramics [p. 131]
- Drawing [p. 132]
- Graphic Design [p. 133]
- Intermedia [p. 134]
- Jewelry and Metal Arts [p. 136]
- Painting [p. 137]
- Photography [p. 138]
- Printmaking [p. 139]
- Sculpture [p. 140]
- Three-Dimensional Design [p. 142]

## Ceramics

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
CERM:2010	Ceramics I: Handbuilding <sup>f</sup>	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 2D course <sup>h</sup>		3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>f</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: art history non-survey course <sup>k</sup>		3
Major: introductory-level studio 2D course <sup>h</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16-18</b>

## Third Year

<b>Fall</b>	
Major: art history non-survey course <sup>k</sup>	3
Major: elective art course <sup>l</sup>	3
Major: upper-level studio course in BFA discipline	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>	4 - 5
<b>Hours</b>	<b>17-19</b>

## Spring

Major: elective art course <sup>l</sup>	3
Major: upper-level studio course in BFA discipline	3 - 4
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d, e</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>i</sup>	4 - 5
<b>Hours</b>	<b>16-19</b>

## Fourth Year

<b>Fall</b>	
Major: elective art course <sup>l</sup>	3 - 4
Major: elective art course <sup>l</sup>	3 - 4
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Historical Perspectives <sup>d, e</sup>	3
GE CLAS Core: Values and Culture <sup>d, e</sup>	3
Gallery booking for BFA exhibition	
<b>Hours</b>	<b>15-18</b>

## Spring

ARTS:4195	B.F.A. Exhibition	0
Major: elective art course <sup>l</sup>		3 - 4
Major: elective art and art history course <sup>l</sup>		1 - 4
Major: elective art and art history course <sup>l</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>d, e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>j</sup>		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>m</sup>		

<b>Hours</b>	<b>15-20</b>
<b>Total Hours</b>	<b>124-142</b>

a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.

d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major

courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f For the two introductory-level studio 3D courses, students in the ceramics discipline complete CERM:2010. Select a second course from INTM:2710, MTL:2910, SCLP:2810, or TDSN:2210.

g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.

h Select introductory-level studio 2D course from ANIM:2125, DRAW:2310, DSGN:2500, PHTO:2600, PNTG:2410, or PRNT:2610.

i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

k Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.

l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.

m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Drawing

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
DRAW:2310	Life Drawing <sup>f</sup>	3

Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>

### Second Year

#### Fall

Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Spring

Major: art history non-survey course <sup>k</sup>		3
Major: introductory-level studio 2D course <sup>f</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16-18</b>

### Third Year

#### Fall

Major: art history non-survey course <sup>k</sup>		3
Major: elective art course <sup>l</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>		4 - 5
<b>Hours</b>		<b>17-19</b>

#### Spring

Major: elective art course <sup>l</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4
Major: upper-level studio course outside of BFA discipline		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d, e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>i</sup>		4 - 5
<b>Hours</b>		<b>16-19</b>

### Fourth Year

#### Fall

Major: elective art course <sup>l</sup>		3 - 4
Major: elective art course <sup>l</sup>		3 - 4
Major: upper-level studio course outside of BFA discipline		3 - 4
GE CLAS Core: Historical Perspectives <sup>d, e</sup>		3
GE CLAS Core: Values and Culture <sup>d, e</sup>		3
Gallery booking for BFA exhibition		
<b>Hours</b>		<b>15-18</b>

#### Spring

ARTS:4195	B.F.A. Exhibition	0
Major: elective art course <sup>l</sup>		3 - 4
Major: elective art and art history course <sup>l</sup>		1 - 4
Major: elective art and art history course <sup>l</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>d, e</sup>		3

GE CLAS Core: Social Sciences <sup>e</sup>	3
Elective course <sup>j</sup>	2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)	
<sup>m</sup>	

<b>Hours</b>	<b>15-20</b>
<b>Total Hours</b>	<b>124-142</b>

- a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.
- d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f For the two introductory-level studio 2D courses, students in the drawing discipline complete DRAW:2310. Select a second course from ANIM:2125, DSGN:2500, PHTO:2600, PNTG:2410, or PRNT:2610.
- g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.
- h Select introductory-level studio 3D course from CERM:2010, INTM:2710, MTLN:2910, SCLP:2810, or TDSN:2210.
- i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- k Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.
- l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.
- m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

timing, contact your academic advisor or Graduation Services.

## Graphic Design

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
DSGN:2500	Graphic Design I <sup>f</sup>	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
DSGN:2600	Graphic Design II	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
DSGN:3500	Graphic Design III	4
DSGN:3600	Graphic Design IV	4
Major: art history non-survey course <sup>j</sup>		3
Major: introductory-level studio 2D course <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>		4 - 5
<b>Hours</b>		<b>18-19</b>
<b>Third Year</b>		
<b>Fall</b>		
DSGN:4000	Graphic Design V	4
Major: art history non-survey course <sup>j</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>k</sup>		3
<b>Hours</b>		<b>18-19</b>

<b>Spring</b>		
DSGN:4700	Graphic Design VI	4
Major: elective art course <sup>l</sup>		3
Major: upper-level studio course outside of BFA discipline		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d, e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>l</sup>		4 - 5
<b>Hours</b>		<b>17-19</b>

<b>Fourth Year</b>		
<b>Fall</b>		
Major: elective art course <sup>l</sup>		3 - 4
Major: elective art course <sup>l</sup>		3 - 4
Major: upper-level studio course outside of BFA discipline		3 - 4
GE CLAS Core: Historical Perspectives <sup>d, e</sup>		3
GE CLAS Core: Values and Culture <sup>d, e</sup>		3
Gallery booking for BFA exhibition		
<b>Hours</b>		<b>15-18</b>

<b>Spring</b>		
ARTS:4195	B.F.A. Exhibition	0
Major: elective art course <sup>l</sup>		3 - 4
Major: elective art and art history course <sup>l</sup>		1 - 4
Major: elective art and art history course <sup>l</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>d, e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>k</sup>		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>m</sup>		
<b>Hours</b>		<b>15-20</b>

<b>Hours</b>	<b>15-20</b>
<b>Total Hours</b>	<b>128-143</b>

- a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.
- d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

- f For the two introductory-level studio 2D courses, students in the graphic design discipline complete DSGN:2500. Select a second course from ANIM:2125, DRAW:2310, PHTO:2600, PNTG:2410, or PRNT:2610.
- g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.
- h Select introductory-level studio 3D course from CERM:2010, INTM:2710, MTLN:2910, SCLP:2810, or TDSN:2210.
- i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- j Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.
- k Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.
- m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Intermedia

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>14-15</b>
<b>Spring</b>		
INTM:2710	Introduction to Intermedia <sup>f</sup>	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 2D course <sup>h</sup>		3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
	<b>Hours</b>	<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: art history survey course <sup>g</sup>		3

Major: introductory-level studio 3D course <sup>f</sup>	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>	4 - 5
Elective course <sup>j</sup>	3

**Hours 16-17**

### Spring

Major: art history non-survey course <sup>k</sup>	3
Major: introductory-level studio 2D course <sup>h</sup>	3
Major: upper-level studio course in BFA discipline	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective	4 - 5
Elective course <sup>j</sup>	3

**Hours 16-18**

### Third Year

#### Fall

Major: art history non-survey course <sup>k</sup>	3
Major: elective art course <sup>l</sup>	3
Major: upper-level studio course in BFA discipline	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>	4 - 5

**Hours 17-19**

### Spring

Major: elective art course <sup>l</sup>	3
Major: upper-level studio course in BFA discipline	3 - 4
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Social Sciences <sup>e</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>i</sup>	4 - 5

**Hours 16-19**

### Fourth Year

#### Fall

Major: elective art course <sup>l</sup>	3 - 4
Major: elective art course <sup>l</sup>	3 - 4
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Historical Perspectives or other remaining GE CLAS Core requirement <sup>d, e</sup>	3
GE CLAS Core: Values and Culture or other remaining GE CLAS Core requirement <sup>d, e</sup>	3
Gallery booking for BFA exhibition	

**Hours 15-18**

### Spring

ARTS:4195 B.F.A. Exhibition	0
Major: elective art and art history course <sup>l</sup>	1 - 4
Major: elective art and art history course <sup>l</sup>	3 - 4
GE CLAS Core: International and Global Issues or other remaining GE CLAS Core requirement <sup>d, e</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts or other remaining GE CLAS Core requirement <sup>d, e</sup>	3
Elective course <sup>j</sup>	2
Elective course <sup>j</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

<b>Hours</b>	<b>15-19</b>
<b>Total Hours</b>	<b>124-141</b>

- a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.
- d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f For the two introductory-level studio 3D courses, students in the intermedia discipline complete INTM:2710. Select a second course from CERM:2010, MTLs:2910, SCLP:2810, or TDSN:2210.
- g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.
- h Select introductory-level studio 2D course from ANIM:2125, DRAW:2310, DSGN:2500, PHTO:2600, PNTG:2410, or PRNT:2610.
- i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- k Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.
- l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.
- m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Jewelry and Metal Arts

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
MTLS:2910	Introduction to Jewelry and Metal Arts <sup>f</sup>	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 2D course <sup>h</sup>		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>f</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: art history non-survey course <sup>k</sup>		3
Major: introductory-level studio 2D course <sup>h</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: art history non-survey course <sup>k</sup>		3
Major: elective art course <sup>l</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>		4 - 5
<b>Hours</b>		<b>17-19</b>
<b>Spring</b>		
Major: elective art course <sup>l</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4

Major: upper-level studio course outside of BFA discipline 3 - 4

GE CLAS Core: Literary, Visual, and Performing Arts<sup>d, e</sup> 3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>i</sup> 4 - 5

**Hours 16-19**

### Fourth Year

#### Fall

Major: elective art course<sup>l</sup> 3 - 4

Major: elective art course<sup>l</sup> 3 - 4

Major: upper-level studio course outside of BFA discipline 3 - 4

GE CLAS Core: Historical Perspectives<sup>d, e</sup> 3

GE CLAS Core: Values and Culture<sup>d, e</sup> 3

Gallery booking for BFA exhibition

**Hours 15-18**

#### Spring

ARTS:4195 B.F.A. Exhibition 0

Major: elective art course<sup>l</sup> 3 - 4

Major: elective art and art history course<sup>l</sup> 1 - 4

Major: elective art and art history course<sup>l</sup> 3 - 4

GE CLAS Core: International and Global Issues<sup>d, e</sup> 3

GE CLAS Core: Social Sciences<sup>e</sup> 3

Elective course<sup>j</sup> 2

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours 15-20**

**Hours 15-20**

**Total Hours 124-142**

a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.

d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f For the two introductory-level studio 3D courses, students in the jewelry and metal arts discipline complete MTLS:2910. Select a second course from CERM:2010, INTM:2710, SCLP:2810, or TDSN:2210.



- g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.
- h Select introductory-level studio 2D course from ANIM:2125, DRAW:2310, DSGN:2500, PHTO:2600, PNTG:2410, or PRNT:2610.
- i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- k Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.
- l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.
- m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Painting

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
PNTG:2410	Painting I <sup>f</sup>	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3

GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>	4 - 5
Elective course <sup>j</sup>	3

**Hours 16-17**

<b>Spring</b>		
PNTG:2420	Painting II <sup>k</sup>	4
Major: art history non-survey course <sup>l</sup>		3
Major: introductory-level studio 2D course <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>	4 - 5	
Elective course <sup>j</sup>	3	

**Hours 17-18**

<b>Third Year</b>		
<b>Fall</b>		
PNTG:2420	Painting II <sup>k</sup>	4
Major: art history non-survey course <sup>l</sup>		3
Major: elective art course <sup>m</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>	4 - 5	

**Hours 18-19**

<b>Spring</b>		
PNTG:4100	Advanced Painting	4
Major: elective art course <sup>m</sup>		3
Major: upper-level studio course outside of BFA discipline		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d, e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective <sup>i</sup>		4 - 5

**Hours 17-19**

<b>Fourth Year</b>		
<b>Fall</b>		
Major: elective art course <sup>m</sup>		3 - 4
Major: elective art course <sup>m</sup>		3 - 4
Major: upper-level studio course outside of BFA discipline		3 - 4
GE CLAS Core: Historical Perspectives <sup>d, e</sup>		3
GE CLAS Core: Values and Culture <sup>d, e</sup>		3
Gallery booking for BFA exhibition		

**Hours 15-18**

<b>Spring</b>		
ARTS:4195	B.F.A. Exhibition	0
Major: elective art course <sup>m</sup>		3 - 4
Major: elective art and art history course <sup>m</sup>		1 - 4
Major: elective art and art history course <sup>m</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>d, e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>j</sup>		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)		

**Hours 15-20**

**Hours 127-142**

- a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio

discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.

d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f For the two introductory-level studio 2D courses, students in the painting discipline complete PNTG:2410. Select a second course from ANIM:2125, DRAW:2310, DSGN:2500, PHTO:2600, or PRNT:2610.

g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.

h Select introductory-level studio 3D course from CERM:2010, INTM:2710, MTLs:2910, SCLP:2810, or TDSN:2210.

i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

k Course must be completed twice.

l Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.

m Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.

n Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Photography

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>

## First Year

### Fall

ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>

### Spring

PHTO:2600	Photography I <sup>f</sup>	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>

## Second Year

### Fall

Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16-17</b>

### Spring

PHTO:3100	Photography II: Introduction to Darkroom Photography	4
Major: art history non-survey course <sup>k</sup>		3
Major: introductory-level studio 2D course <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>17-18</b>

## Third Year

### Fall

PHTO:3110	Photography III: The Constructed Image	4
Major: art history non-survey course <sup>k</sup>		3
Major: elective art course <sup>l</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>		4 - 5
<b>Hours</b>		<b>18-19</b>

### Spring

Major: elective art course <sup>l</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4
Major: upper-level studio course outside of BFA discipline		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d, e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>i</sup>		4 - 5
<b>Hours</b>		<b>16-19</b>

**Fourth Year****Fall**

Major: elective art course <sup>l</sup>	3 - 4
Major: elective art course <sup>l</sup>	3 - 4
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Historical Perspectives <sup>d, e</sup>	3
GE CLAS Core: Values and Culture <sup>d, e</sup>	3
Gallery booking for BFA exhibition	
<b>Hours</b>	<b>15-18</b>

**Spring**

ARTS:4195 B.F.A. Exhibition	0
Major: elective art course <sup>l</sup>	3 - 4
Major: elective art and art history course <sup>l</sup>	1 - 4
Major: elective art and art history course <sup>l</sup>	3 - 4
GE CLAS Core: International and Global Issues <sup>d, e</sup>	3
GE CLAS Core: Social Sciences <sup>e</sup>	3
Elective course <sup>j</sup>	2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>m</sup>	
<b>Hours</b>	<b>15-20</b>
<b>Total Hours</b>	<b>126-142</b>

a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.

d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f For the two introductory-level studio 2D courses, students in the photography discipline complete PHTO:2600. Select a second course from ANIM:2125, DRAW:2310, DSGN:2500, PNTG:2410, or PRNT:2610.

g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.

h Select introductory-level studio 3D course from CERM:2010, INTM:2710, MTLs:2910, SCLP:2810, or TDSN:2210.

i Students who have completed four years of a single language in high school have satisfied the GE CLAS

Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

k Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.

l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.

m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Printmaking**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
	<b>Hours</b>	<b>0</b>

**First Year****Fall**

ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2

**Hours****14-15****Spring**

PRNT:2610	Introduction to Printmaking <sup>f</sup>	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3

**Hours****15-16****Second Year****Fall**

Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>h</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3

**Hours****16-17****Spring**

Major: art history non-survey course <sup>k</sup>		3
Major: introductory-level studio 2D course <sup>f</sup>		3
Major: upper-level studio course in BFA discipline		3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>		4 - 5

Elective course <sup>j</sup>	3
<b>Hours</b>	<b>16-18</b>
<b>Third Year</b>	
<b>Fall</b>	
Major: art history non-survey course <sup>k</sup>	3
Major: elective art course <sup>l</sup>	3
Major: upper-level studio course in BFA discipline	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>l</sup>	4 - 5
<b>Hours</b>	<b>17-19</b>
<b>Spring</b>	
Major: elective art course <sup>l</sup>	3
Major: upper-level studio course in BFA discipline	3 - 4
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d, e</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>l</sup>	4 - 5
<b>Hours</b>	<b>16-19</b>
<b>Fourth Year</b>	
<b>Fall</b>	
Major: elective art course <sup>l</sup>	3 - 4
Major: elective art course <sup>l</sup>	3 - 4
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Historical Perspectives <sup>d, e</sup>	3
GE CLAS Core: Values and Culture <sup>d, e</sup>	3
Gallery booking for BFA exhibition	
<b>Hours</b>	<b>15-18</b>
<b>Spring</b>	
ARTS:4195 B.F.A. Exhibition	0
Major: elective art course <sup>l</sup>	3 - 4
Major: elective art and art history course <sup>l</sup>	1 - 4
Major: elective art and art history course <sup>l</sup>	3 - 4
GE CLAS Core: International and Global Issues <sup>d, e</sup>	3
GE CLAS Core: Social Sciences <sup>e</sup>	3
Elective course <sup>j</sup>	2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>m</sup>	
<b>Hours</b>	<b>15-20</b>
<b>Total Hours</b>	<b>124-142</b>

- a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

- c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.
- d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f For the two introductory-level studio 2D courses, students in the printmaking discipline complete PRNT:2610. Select a second course from ANIM:2125, DRAW:2310, DSGN:2500, PHTO:2600, or PNTG:2410.
- g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.
- h Select introductory-level studio 3D course from CERM:2010, INTM:2710, MTL:2910, SCLP:2810, or TDSN:2210.
- i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- k Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.
- l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.
- m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Sculpture

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>

**Spring**

SCLP:2810	Undergraduate Sculpture I <sup>f</sup>	3
Major:	art history survey course <sup>g</sup>	3
Major:	introductory-level studio 2D course <sup>h</sup>	3
ENGL:1200	The Interpretation of Literature or RHET:1030 or Rhetoric	3 - 4
GE CLAS Core:	Natural Sciences without Lab <sup>e</sup>	3

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**Hours** **15-16**

**Second Year****Fall**

Major:	art history survey course <sup>g</sup>	3
Major:	introductory-level studio 3D course <sup>f</sup>	3
GE CLAS Core:	Quantitative or Formal Reasoning <sup>e</sup>	3
GE CLAS Core:	World Languages First Level Proficiency or elective course <sup>i</sup>	4 - 5
Elective course <sup>j</sup>		3

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**Hours** **16-17**

**Spring**

Major:	art history non-survey course <sup>k</sup>	3
Major:	introductory-level studio 2D course <sup>h</sup>	3
Major:	upper-level studio course in BFA discipline	3 - 4
GE CLAS Core:	World Languages Second Level Proficiency or elective <sup>i</sup>	4 - 5
Elective course <sup>j</sup>		3

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**Hours** **16-18**

**Third Year****Fall**

Major:	art history non-survey course <sup>k</sup>	3
Major:	elective art course <sup>l</sup>	3
Major:	upper-level studio course in BFA discipline	3 - 4
GE CLAS Core:	Natural Sciences with Lab <sup>e</sup>	4
GE CLAS Core:	World Languages Second Level Proficiency or elective course <sup>i</sup>	4 - 5

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**Hours** **17-19**

**Spring**

Major:	elective art course <sup>l</sup>	3
Major:	upper-level studio course in BFA discipline	3 - 4
Major:	upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core:	Literary, Visual, and Performing Arts <sup>d, e</sup>	3
GE CLAS Core:	World Languages Fourth Level Proficiency or elective course <sup>i</sup>	4 - 5

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**Hours** **16-19**

**Fourth Year****Fall**

Major:	elective art course <sup>l</sup>	3 - 4
Major:	elective art course <sup>l</sup>	3 - 4
Major:	upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core:	Historical Perspectives <sup>d, e</sup>	3
GE CLAS Core:	Values and Culture <sup>d, e</sup>	3
Gallery booking for BFA exhibition		

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**Hours** **15-18**

**Spring**

ARTS:4195	B.F.A. Exhibition	0
Major:	elective art course <sup>l</sup>	3 - 4
Major:	elective art and art history course <sup>l</sup>	1 - 4

Major:	elective art and art history course <sup>l</sup>	3 - 4
GE CLAS Core:	International and Global Issues <sup>d, e</sup>	3
GE CLAS Core:	Social Sciences <sup>e</sup>	3
Elective course <sup>j</sup>		2

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)  
<sup>m</sup>

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**Hours** **15-20**

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**Total Hours** **124-142**

a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.

d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f For the two introductory-level studio 3D courses, students in the sculpture discipline complete SCLP:2810. Select a second course from CERM:2010, INTM:2710, MTLs:2910, or TDSN:2210.

g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.

h Select introductory-level studio 2D course from ANIM:2125, DRAW:2310, DSGN:2500, PHTO:2600, PNTG:2410, or PRNT:2610.

i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

k Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.

l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.

m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all

requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Three-Dimensional Design

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission Application: Students apply to the BFA program through a selective process called "clearance." <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing <sup>c</sup>	3
ARTS:1520	Design Fundamentals <sup>c</sup>	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>d, e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
TDSN:2210	Introduction to 3D Design <sup>f</sup>	3
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 2D course <sup>h</sup>		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: art history survey course <sup>g</sup>		3
Major: introductory-level studio 3D course <sup>f</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
TDSN:2240	Digital Drafting with AutoCAD	3
TDSN:2250	Digital Prototyping	3
Major: art history non-survey course <sup>k</sup>		3
Major: introductory-level studio 2D course <sup>h</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective <sup>i</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: art history non-survey course <sup>k</sup>		3
Major: elective art course <sup>l</sup>		3
Major: upper-level studio course in BFA discipline <sup>m</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>		4 - 5
<b>Hours</b>		<b>17-18</b>

## Spring

Major: elective art course <sup>l</sup>	3
Major: upper-level studio course in BFA discipline <sup>m</sup>	3
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d, e</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>i</sup>	4 - 5

## Hours

**16-18**

## Fourth Year

### Fall

Major: elective art course <sup>l</sup>	3 - 4
Major: elective art course <sup>l</sup>	3 - 4
Major: upper-level studio course outside of BFA discipline	3 - 4
GE CLAS Core: Historical Perspectives <sup>d, e</sup>	3
GE CLAS Core: Values and Culture <sup>d, e</sup>	3
Gallery booking for BFA exhibition	

## Hours

**15-18**

### Spring

ARTS:4195	B.F.A. Exhibition	0
Major: elective art course <sup>l</sup>		1 - 3
Major: elective art and art history course <sup>l</sup>		1 - 4
Major: elective art and art history course <sup>l</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>d, e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>j</sup>		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)		

## Hours

**13-19**

## Total Hours

**122-138**

a Students majoring in art begin their study in the Bachelor of Arts program. They may apply to the Bachelor of Fine Arts program after consulting with the faculty in the studio discipline of their choice about the required portfolio review. Students are admitted to the BFA program through a process called "clearance," which is conducted once each semester; they must be admitted to the BFA program at least one semester before they graduate.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

c Studio art majors are required to complete ARTS:1510 and ARTS:1520 by the end of their first academic year.

d Students may fulfill this general education requirement while also fulfilling major requirements. Up to three major courses can be used to fulfill one GE CLAS Core area each. These areas could include: diversity and inclusion; historical perspectives; international and global issues; literary, visual, and performing arts; or values and culture. Not all courses are available every semester. Students should consult with their advisor.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

- f For the two introductory-level studio 3D courses, students in the three-dimensional design discipline complete TDSN:2210. Select a second course from CERM:2010, INTM:2710, MTLs:2910, or SCLP:2810.
- g Select art history survey course from ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, and ARTH:1095. Some introductory-level art history courses will fulfill GE CLAS Core requirements; students should consult with their advisor.
- h Select introductory-level studio 2D course from ANIM:2125, DRAW:2310, DSGN:2500, PHTO:2600, PNTG:2410, or PRNT:2610.
- i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- k Does not include ARTH:1000, ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1080, ARTH:1095, ARTH:3985, ARTH:3995, and ARTH:4999.
- l Students may select an elective art course until they complete a maximum of 62 s.h. of art courses, or select a non-art elective course.
- m Choose course after consulting with faculty.
- n Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Art, Minor

## Requirements

The undergraduate minor in art requires a minimum of 18 s.h. in art courses, including at least 15 s.h. earned in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Students may not count coursework for the minor in art toward requirements for the major in art history, except ARTS:1510 Basic Drawing.

Art courses that may be taken include animation, ceramics, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, sculpture, and three-dimensional (3D) design. Graphic design courses do not count for the minor.

The minor in art requires the following coursework.

Code	Title	Hours
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
At least one introductory studio art 3D course		
At least one introductory studio art 2D course, except DSGN:2500		
Additional introductory studio art courses or upper-level courses in the same studio art discipline(s) as the introductory 3D and/or 2D courses required for the minor		

May select one art history course from these: ARTH:1040, ARTH:1050, ARTH:1060, ARTH:1070, ARTH:1095, or a course numbered ARTH:2000 or above

Before registering for a course, students must complete all of the course's prerequisites.

Contact an undergraduate advisor in the School of Art and Art History for more information about how to meet the requirements for the minor.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Art, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

The undergraduate minor in art requires a minimum of 18 s.h. in art courses, including at least 15 s.h. earned in courses taken at the University of Iowa.

Coursework in the minor may not be taken pass/nonpass.

Students may be able to complete the 18 s.h. for the minor more quickly than in the three years shown on this plan, but they should plan to allot three years in case they have problems fitting in the required coursework.

The introductory-level graphic design course (DSGN:2500 Graphic Design I) is not allowed to fulfill a requirement of the minor.

Only 3 s.h. of approved art or art history coursework taken outside of the University of Iowa can be used for the minor.

Hours		0
<b>First Year</b>		
<b>Fall</b>		
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
<b>Hours</b>		<b>6</b>
<b>Second Year</b>		
<b>Fall</b>		
Minor: introductory-level studio 2D course <sup>a</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: introductory-level studio 3D course <sup>b</sup>		3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: art minor elective <sup>c</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: art minor elective <sup>c</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>18</b>

a Choose from ANIM:2125, DRAW:2310, PHTO:2600, PNTG:2410, or PRNT:2610.

b Choose from CERM:2010, INTM:2710, MTLs:2910, SCLP:2810, or TDSN:2210.

c Students may choose an art minor elective from the introductory-level courses, or an upper-level course in the same studio art discipline as an introductory-level course that has already been completed. Students may select one art history course (prefix ARTH) for an art minor elective, instead of one of the elective art courses.



# Art History, Minor

## Requirements

The undergraduate minor in art history requires a minimum of 15 s.h. in art history courses, including 12 s.h. earned in advanced courses taken at the University of Iowa. Courses numbered ARTH:2000 or above are considered advanced for the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students earning a major in art and a minor in art history may not count coursework or semester hours for the minor in art history toward requirements for the major in art. But they may count one art history course required for the art major toward the requirements for the art history minor; students must consult with their advisors.

The minor in art history must include one survey course chosen from these:

Code	Title	Hours
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	Native American Art	3

Before registering for a course, students must complete all of the course's prerequisites.

Contact an undergraduate advisor in the School of Art and Art History for more information about how to meet the requirements for the minor.

# Art, M.A.

## Learning Outcomes

Students will:

- demonstrate proficiency in critical thinking and conceptual problem solving within the particular focus and practice of their field;
- demonstrate a personal vocabulary, approach, and vision in creative work;
- demonstrate knowledge of historical, social, and cultural perspectives in relation to visual art and design;
- demonstrate technical proficiency in relation to the tools, techniques and materials used in their field; and
- develop a professional package that includes a curriculum vitae/résumé, statement about their work, images of their work, and prepare materials (i.e., teaching and research statement, online portfolio, etc.) for specific careers as a professional emerging artist/designer or in teaching, art, or design-related positions.

## Requirements

The Master of Arts program in art requires a minimum of 38 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00. The degree is offered with emphases in the following studio art disciplines: ceramics, graphic design, three-dimensional (3D) design, drawing, intermedia and video art, jewelry and metal arts, painting, photography, printmaking, and sculpture.

M.A. students must hold a B.A. or B.F.A. in art equivalent to that offered by the University of Iowa. Undergraduate deficiencies, if any, may be made up concurrently with graduate study but do not count toward the graduate degree requirements.

## Required Courses

The 38 s.h. of credit required for the degree includes at least 16 s.h. in a primary studio art emphasis; 8 s.h. in a secondary studio art emphasis chosen from one of the studio art disciplines listed above; and 6 s.h. in the history and theory of art, excluding readings and directed studies. Students provide five images of their M.A. work for the Grad Archive.

## Committee Review

Students undergo a division-wide review for M.A. candidacy by the faculty during their third semester in residence. All those except painting and drawing students must submit a written artist's statement or thesis.

## Thesis

M.A. students in 3D design are required to write a thesis. They may earn 1 s.h. for writing a technical or substantial thesis by registering for ARTS:6000 M.A. Written Thesis, with approval of the thesis supervisor. Thesis credit earned in an M.A. program is not applicable toward M.F.A. requirements. M.A. students in other studio art disciplines choose the thesis or nonthesis option in consultation with their discipline advisor.

The College of Education offers an M.A. program in art education; see the M.A. in teaching and learning [p. 1518] in the Catalog.

## Admission

Application materials should be uploaded onto a student's admissions profile (see instructions below under "Application Procedures"). All applicants must meet the admission requirements of the Graduate College and the School of Art and Art History requirements.

Deadline date for submission of materials to the Office of Graduate Admissions is February 1 for studio art programs; admission is for fall.

## School of Art and Art History Requirements

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific degree program they plan to enter. They must submit application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). All applicants must have a minimum TOEFL iBT speaking score of 26 and a listening score of 25. An application is not reviewed if scores are lower than the requirements specify. As an alternative to the TOEFL, applicants may take the International English Language Testing System (IELTS). They must have a total score of 7.0, with no subscore less than 6.0. In addition, all IELTS test takers, regardless of score, are required to take an on-campus English Proficiency Evaluation. The Duolingo English Test (DET) with a score of at least 105 also is accepted.

All students for whom English is not a first language and who have first-time appointments as teaching assistants (TAs) are required to take a test to assess their effectiveness in speaking English before they are assigned assistantship responsibilities. No applicant is considered for an appointment without an iBT speaking score of 26 and a listening score of 25. The English Speaking Proficiency Assessment (ESPA) is the test the University of Iowa uses to assess students' oral language and listening skills. The English Language Performance Test (ELPT) is a supplement to the ESPA test and is designed to measure the ability to communicate in English in a classroom context in one's field of study. The ELPT is given to students who have scored 50 or 55 on the ESPA, and to TAs who teach a world language that have scored 45. To learn more about the ESPA and ELPT, visit the English as a Second Language Program website.

## Application Procedures

Prospective students may apply online through the Office of Admissions website. After submitting an application, applicants will receive email instructions on how to access their admissions profile on MyUI. Applicants then upload the required supplemental documents through a secure portal.

Required documents include transcripts from all colleges and universities an applicant has attended, contact information for three individuals (able to assess applicants' potential

for graduate study) designated to provide letters of recommendation, and a statement of purpose.

Applicants should consult the Studio Art Graduate Bulletin on the School of Art and Art History website. No separate application is necessary for scholarships or teaching/research assistantships for studio art applicants.

Studio art applicants' portfolio requirements are listed below. Images in the portfolio should be uploaded pdf files no larger than 72 dpi and 1240 by 1240 pixels. File size must not exceed 18 MB. Images must be numbered according to the order they are to be presented to the admissions committee, beginning with 01. Applicants must include an inventory list that includes each image's name, title, medium, size, and approximate date of work, as well as their name and emphasis. They may supply a link to their personal website.

Portfolio contents and submission requirements for each program are as follows:

- Ceramics: 10 to 20 images.
- Three-dimensional (3D) design and jewelry and metal arts: eight images in the primary studio art discipline and two in a second discipline.
- Graphic design: documentation of 15 to 20 projects. Applicants should include a brief description of each work, illustrated with embedded still images and supplemented by links to online media. The precise number of images varies according to the nature of the work. Contact the School of Art and Art History with questions.
- Painting and drawing: eight images in the primary studio art discipline and two in a second discipline.
- Photography: 20 images in photography and two or three images in a second discipline.
- Printmaking: 10 to 20 images.
- Sculpture and intermedia: applicants submit the following depending on their preferred area of emphasis.
- Sculpture: 20 images in sculpture, including details, and two or three images in a second medium. Video links may be included.
- Intermedia: documentation of five to ten projects, including a brief description of each work illustrated with embedded still images and supplemented by links to online media. The precise number of images varies according to the nature of the work; contact the School of Art and Art History with questions.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions.

## Financial Support

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

## Iowa Arts Fellowships

The Graduate College awards Iowa Arts Fellowships to two incoming or first-year studio art graduate students each year. For more information, see Iowa Arts Fellowship on the Graduate College website.

## Teaching and Research Assistantships

Assistantships are awarded to graduate students on the basis of academic record, promise as scholars or artists, and

demonstrated ability to do the job. Quality of performance in one's graduate program at Iowa is generally the major criterion for awarding teaching assistantships. The number of hours of work required depends on the amount of the award.

## Scholarships and Fellowships

The School of Art and Art History offers a variety of scholarships and fellowships made possible by contributions from alumni who wish to support promising artists and scholars. These awards are made on the same basis as teaching and research assistantships and a separate application is not necessary.

Information for graduate scholarships and fellowships is included in the admissions package and is available from the School of Art and Art History main office.

Renewal or reappointment for fellowships and assistantships depends on adequate progress toward the degree (students must accumulate at least 18 s.h. of graduate credit each calendar year and maintain a grade-point average above the required minimum) and satisfactory performance of assistantship duties.

Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for the following academic year.

## Career Advancement

Many graduates pursue careers that match their degree specializations, for example, commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, or community art center coordinator or instructor.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Art, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
38 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b, c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Primary emphasis course		4
Elective <sup>d</sup>		2
History and Theory of Art course		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Primary emphasis course		4
Secondary emphasis course		4
Elective <sup>d</sup>		2
<b>Hours</b>		<b>10</b>

**Second Year****Fall**

Primary emphasis course	4
Secondary emphasis course	4
History and Theory of Art course	3
Division-Wide Review <sup>e</sup>	
<b>Hours</b>	<b>11</b>

**Spring**

Primary emphasis course	4
Elective <sup>d</sup>	2
Elective <sup>d</sup>	2
Final Exam <sup>f</sup>	
<b>Hours</b>	<b>8</b>

<b>Total Hours</b>	<b>38</b>
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a The degree is offered with emphases in the following studio art disciplines: ceramics, graphic design, drawing, jewelry and metal arts, painting, photography, printmaking, and sculpture. Note: three-dimensional (3D) design students must complete the Art MA (Thesis) program.

b Students provide five images of their MA work for the Graduate Archive.

c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

d Work with faculty advisor to determine appropriate coursework and sequence; see General Catalog and department website for specifics.

e Occurs at the end of the third semester in residence; written abstract of Artist's Statement required unless primary emphasis is painting or drawing.

f Completion of required coursework; provide preliminary Artist's Statement followed by Artist's Statement in the semester of degree completion.

# Art History, M.A.

The master's degree program in art history is intended for students who wish to acquire a broad knowledge of art history, as well as of the field's theoretical and historical foundations. The M.A. is intended to prepare students who plan to continue on for a Ph.D. in art history as well as for students interested in careers in museums, galleries, and nonprofit organizations.

## Learning Outcomes

Students are expected to demonstrate:

- basic understanding of the development of the history and methodology of art history;
- basic understanding of primary source material in five of the following distribution fields: African, architecture, Asian, ancient, medieval, Renaissance and Baroque, 18th- and 19th-century European, American, and modern/contemporary;
- reading proficiency in either French or German;
- skill in visual analysis;
- skill in contextual analysis based on relevant research;
- sustained critical thinking, writing, and speaking abilities; and
- knowledge and skills necessary to be effective teaching assistants for 1000-level courses.

## Requirements

The Master of Arts program in art history requires a minimum of 30 s.h. of graduate-level coursework and is offered without thesis. Students are expected to acquire a broad knowledge of art history and to become familiar with major periods and monuments of world art. They also become proficient scholars, receiving training in research methods and theory necessary for subsequent scholarship at the Ph.D. level.

Students must maintain a cumulative g.p.a. of at least 3.50. Only one semester of academic probation is allowed. All M.A. candidates, including transfer students, must complete at least 24 s.h. in residence at the University of Iowa.

Students must earn a grade of B or higher in semester-long courses numbered 3000 or above in five of the following 10 distribution fields: African (including Oceanic), architecture, Asian, ancient (3000 B.C.E. to 300 C.E.), medieval, Renaissance, Baroque, 18th- and 19th-century European, American (including pre-Columbian, Native American, and African American), and modern/contemporary. These courses must be taken after the B.A. degree is granted.

Students must complete a qualifying paper that demonstrates their ability to conduct scholarly research and convey ideas in writing appropriately for the discipline and for the student's specialization field.

The College of Education offers an M.A. program in art education; see Teaching and Learning [p. 1466] in the Catalog.

## Required Courses

Students must satisfactorily complete ARTH:4999 Capstone Seminar in Art History during their first fall semester of enrollment and must register for an art history seminar in their first, second, third, and fourth semesters of enrollment.

They also must satisfactorily complete ARTH:6020 Art History Colloquium every semester that they are enrolled for 9 s.h. or more or are serving as teaching or research assistants. Students who are not employed as teaching or research assistants or are registered for less than 9 s.h. are strongly encouraged to attend the colloquium.

Courses outside the curriculum of the School of Art and Art History's art history division do not carry art history credit. Cross-listed courses not taught by art history faculty members also do not carry art history credit.

## Directed Studies

Directed Studies (ARTH:6040) is designed for graduate students who already have taken one or more advanced courses in a specific art history field. It provides students with an opportunity to work one-to-one with a professor to continue specific research interests developed in lecture courses or seminars, or on topics that eventually may be the subject of a thesis or dissertation. Directed Studies cannot be substituted for a lecture course already offered in the program. Students must discuss their decision to take Directed Studies with the professor involved and obtain the professor's approval. The Directed Studies topic must be within the professor's range of expertise.

Students meet with their Directed Studies professor once a week. The hours of work and written assignments required for the course must be equal to a comparable regularly scheduled course. Directed Studies is not available through Distance and Online Education.

## Language Requirement

Students must demonstrate proficiency in French or German by the end of their third semester. They may demonstrate proficiency by:

- completing two years of university-level coursework in the same language; or
- earning a grade of B or higher in a 3000-level advanced language course; or
- achieving at least an 80 percent proficiency score on the level five milestone of the relevant Rosetta Stone language program; or
- in exceptional circumstances, making a direct petition to the faculty after receiving the recommendation of their advisor.

Credit earned in language courses does not count toward the degree.

## M.A. Committee

The M.A. committee consists of a student's advisor and two additional tenured or tenure-track faculty members in art history.

## M.A. Qualifying Paper

Prior to graduation, each candidate must complete a qualifying paper on a topic that stems from a term paper written for an art history graduate seminar or a 3000-level course. The paper should be between 5,000 and 7,500 words in length (20 to 30 pages exclusive of bibliography and illustrations). A student chooses an advisor who specializes in the student's field of concentration. In cases where a student wants to focus on a topic that involves more than one field, the art history faculty strongly recommends that the student work closely with faculty members in both fields.

## Final Examination

The final examination constitutes an oral defense of the qualifying paper. The final examination meeting with the M.A. committee normally takes place toward the end of a student's last semester of coursework.

### Admission

Application materials should be uploaded onto a student's admissions profile (see instructions below under "Application Procedures"). All applicants must meet the admission requirements of the Graduate College and the School of Art and Art History requirements.

Deadline date for submission of materials to the Office of Graduate Admissions is December 15 for the art history program; admission is for fall.

## School of Art and Art History Requirements

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific degree program they plan to enter. They must submit application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Although exceptions may be made when other components of the application are strong, applicants should have an undergraduate g.p.a. of at least 3.25 on a 4.00 scale.

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). All applicants must have a minimum TOEFL iBT speaking score of 26 and a listening score of 25. An application is not reviewed if scores are lower than the requirements specify. As an alternative to the TOEFL, applicants may take the International English Language Testing System (IELTS). They must have a total score of 7.0, with no subscore less than 6.0. In addition, all IELTS test takers, regardless of score, are required to take an on-campus English Proficiency Evaluation. The Duolingo English Test (DET) with a score of at least 105 also is accepted.

All students for whom English is not a first language and who have first-time appointments as teaching assistants (TAs) are required to take a test to assess their effectiveness in speaking English before they are assigned assistantship responsibilities. No applicant is considered for an appointment without an iBT speaking score of 26 and a listening score of 25. The English Speaking Proficiency Assessment (ESPA) is the test the University of Iowa uses to assess students' oral language and listening skills. The English Language Performance Test (ELPT) is a supplement to the ESPA test and is designed to measure the ability to communicate in English in a classroom context in one's field of study. The ELPT is given to students who have scored 50 or 55 on the ESPA, and to TAs who teach a world language that have scored 45. To learn more about the ESPA and ELPT, visit the English as a Second Language Program website.

## Application Procedures

Prospective students may apply online through the Office of Admissions website. After submitting their application, applicants will receive email instructions on how to access their admissions profile on MyUI. Applicants then upload the required supplemental documents through a secure portal.

Required documents include transcripts from all colleges and universities an applicant has attended, contact information for three individuals (able to assess applicants' potential for graduate study) designated to provide letters of recommendation, a statement of purpose, and the Supplemental Graduate Application Information form.

Art history applicants should also supply a research paper (preferably from an art history course) or thesis that demonstrates potential to undertake graduate-level research in art history, and a personal statement of 1,000 words describing their intellectual development, academic interests, and career goals. The statement must name the University of Iowa faculty member under whose guidance the applicant hopes to work and indicate how that faculty member's area of expertise, or how the art history program is especially suited to the applicant's interests and goals.

Applicants should consult the Art History Graduate Bulletin on the School of Art and Art History website. No separate application is necessary for scholarships or teaching/research assistantships for applicants.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions.

### Financial Support

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

## Teaching and Research Assistantships

Assistantships are awarded to graduate students on the basis of academic record, promise as scholars or artists, and demonstrated ability to do the job. Quality of performance in one's graduate program at Iowa is generally the major criterion for awarding teaching assistantships. The number of hours of work required depends on the amount of the award.

## Scholarships and Fellowships

The School of Art and Art History offers a variety of scholarships and fellowships made possible by contributions from alumni who wish to support promising artists and scholars. These awards are made on the same basis as teaching and research assistantships.

Information for graduate scholarships and fellowships is included in the admissions package and is available in the School of Art and Art History main office.

Renewal or reappointment for fellowships and assistantships depends on adequate progress toward the degree (students must accumulate at least 18 s.h. of graduate credit each calendar year and maintain a grade-point average above the required minimum) and satisfactory performance of assistantship duties.

Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for

the following academic year. Applications and all relevant materials should be on file by January 15.

## Career Advancement

Many art and art history graduates pursue careers that match their degree specializations, such as commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, gallery and museum administration, art appraisal, and restoration, or community art center coordinator or instructor.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Art History, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Maintain a cumulative GPA of at least 3.50.		
Students work with their faculty advisor in a field of concentration and to determine appropriate coursework and sequence; when a student wants to focus on a topic that involves more than one field, the art history faculty strongly recommends that they work closely with faculty members in both fields.		
Students must earn a grade of B or higher in semester-long courses numbered 3000 or above in five of ten art history distribution fields. <sup>b</sup>		
Students must attend at least six public lectures by visiting scholars in art history over the course of graduate study; proof of attendance is provided by short (150-250 word) written responses turned in to the DGS within two weeks of the lecture.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTH:4999	Capstone Seminar in Art History	3
ARTH:6XXX	Graduate Art Seminar <sup>c</sup>	3
	Elective <sup>d</sup>	3
ARTH:6020	Art History Colloquium <sup>e</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
ARTH:6XXX	Graduate Art Seminar <sup>c</sup>	3
	Elective <sup>d</sup>	3
ARTH:6020	Art History Colloquium <sup>e</sup>	1
<b>Hours</b>		<b>7</b>

### Second Year

#### Fall

ARTH:6XXX	Graduate Art Seminar <sup>c</sup>	3
	Elective <sup>d</sup>	3
ARTH:6020	Art History Colloquium <sup>e</sup>	1
	Language Proficiency Exam <sup>f</sup>	
<b>Hours</b>		<b>7</b>

#### Spring

	Qualifying Paper <sup>g</sup>	
ARTH:6XXX	Graduate Art Seminar <sup>c</sup>	3
	Elective <sup>d</sup>	2
ARTH:6020	Art History Colloquium <sup>e</sup>	1
	Final Exam <sup>h</sup>	
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>30</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Distribution fields: African (including Oceanic), architecture, Asian, ancient (3000 B.C.E. to 300 C.E.), medieval, Renaissance, Baroque, 18th- and 19th-century European, American (including pre-Columbian, Native American, and African American), and modern/contemporary.
- c Must register for an art history seminar in first, second, third, and fourth semesters of enrollment; credit for graduate seminars may be applied toward the five distribution fields requirement.
- d Work with faculty advisor to determine appropriate graduate elective coursework and sequence.
- e Take each semester when enrolled in 9 s.h. or more or have a research or teaching assistant appointment; all students are encouraged to attend the colloquium.
- f Must demonstrate proficiency in French or German by the end of the third semester. Proficiency may be determined in several different ways; see General Catalog and department website for specifics. Credit earned in language courses does not count toward the degree.
- g Must complete a qualifying paper on a topic that stems from a term paper written for an art history graduate seminar or a 3000-level course; preliminary qualifying paper due to faculty advisor early in the final semester of the program.
- h Oral defense of the qualifying paper.

# Art, M.F.A.

## Learning Outcomes

Students will:

- demonstrate proficiency in critical thinking and conceptual problem solving within the particular focus and practice of their field;
- demonstrate a personal vocabulary, approach, and vision in creative work;
- demonstrate knowledge of historical, social, and cultural perspectives in relation to visual art and design;
- demonstrate technical proficiency in relation to the tools, techniques, and materials used in their field; and
- develop a professional package that includes a curriculum vitae/résumé, statement about their work, images of their work, and prepare materials (i.e., teaching and research statement, online portfolio, etc.) for specific careers as a professional emerging artist/designer or in teaching, art, or design-related positions.

## Requirements

The Master of Fine Arts program in art requires a minimum of 60 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00. The degree is offered with thesis and with emphases in the following studio art disciplines: ceramics, graphic design, three-dimensional (3D) design, drawing, intermedia and video art, jewelry and metal arts, painting, photography, printmaking, and sculpture. Students must earn at least 24 s.h. of credit for the degree at the University of Iowa, including approved credit earned for the M.A. in art.

M.F.A. students must hold an M.A. in art equivalent to that offered by the University of Iowa. Transfer credit is decided by faculty review. Following completion of the M.A., students may be invited into the M.F.A. program.

## Required Courses

The 60 s.h. of credit required for the M.F.A. includes at least 24 s.h. in a primary studio art emphasis, at least 12 s.h. in a secondary studio art emphasis chosen from one of those listed above, and 6 s.h. in art history and theory of art (if not already taken). Students must earn 8 s.h. in their primary studio art emphasis and 4 s.h. in their secondary studio art emphasis after being granted an M.A. in art. Students provide five images of their M.F.A. work for the Graduate Archive.

## Committee Review

Students must undergo an M.F.A. committee review. They also must complete a written thesis and possibly a studio thesis. Students are reviewed by their committees at the end of the semester prior to the semester they intend to graduate.

Students are responsible for identifying a degree chair by the semester prior to the semester they intend to graduate. Committee members are selected in consultation with the degree chair by September 15 for spring or summer graduation and February 15 for fall graduation. The committee is comprised of the degree committee chair and three members of the graduate faculty at the assistant professor rank or above (two graduate faculty members from a student's primary studio discipline, one graduate faculty member from a student's secondary studio discipline, and an

additional member). Adjunct faculty, lecturers, and visiting professors may serve on degree committees with approval of the degree committee chair and a Graduate College petition request (renewable every three years).

M.F.A. students sign up for review through the graduate program coordinator. They obtain a form to be signed by both the degree committee members and a faculty member in the second emphasis studio discipline. These forms must be returned to the office no later than the University's official midterm day by 4:30 p.m.

## Thesis

A thesis abstract is given to all degree committee members and is due by September 15 for May or August graduation and by February 15 for December graduation. The thesis chair is responsible for meeting with the student immediately thereafter to direct thesis content and to coordinate meeting with the full committee.

The complete thesis in final form must be given to all committee members at least four weeks prior to the M.F.A. exhibition week. Graduate College regulations covering the specific requirements of the written thesis are found on the Graduate College Thesis and Dissertation website. The thesis must be as complete as possible, including images (may be black-and-white or color photocopies) of approved figures that are a part of the final thesis. The graduate program coordinator provides a student with complete thesis/artist statement procedures, including the Graduate College calendar.

A thesis defense of the M.F.A. work must be scheduled with the candidate's committee during the final semester in residence. The M.F.A. exhibition is considered the final examination and where the degree committee reviews the thesis and artwork.

The thesis must be submitted by the Graduate College deadline. Committee members receive an email that provides a link to the finalized (post-format review) thesis and prompts them to verify the manuscript electronically; committee verification happens after the Graduate College format review. Any corrections to the thesis required by the graduate examiner or the degree committee should be completed immediately.

Students may earn 1 s.h. for writing a technical or substantial thesis by registering for ARTS:7000 M.F.A. Written Thesis, with approval of the thesis supervisor. Thesis credit earned in an M.A. program is not applicable toward M.F.A. requirements.

## Admission

Application materials should be uploaded onto a student's admissions profile (see instructions below under "Application Procedures"). All applicants must meet the admission requirements of the Graduate College and the School of Art and Art History requirements.

Deadline date for submission of materials to the Office of Graduate Admissions is February 1 for studio art programs; admission is for fall.

## School of Art and Art History Requirements

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific degree program they plan to enter. They must submit



application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). All applicants must have a minimum TOEFL iBT speaking score of 26 and a listening score of 25. An application is not reviewed if scores are lower than the requirements specify. As an alternative to the TOEFL, applicants may take the International English Language Testing System (IELTS). They must have a total score of 7.0, with no subscore less than 6.0. In addition, all IELTS test takers, regardless of score, are required to take an on-campus English Proficiency Evaluation. The Duolingo English Test (DET) with a score of at least 105 also is accepted.

All students for whom English is not a first language and who have first-time appointments as teaching assistants (TAs) are required to take a test to assess their effectiveness in speaking English before they are assigned assistantship responsibilities. No applicant is considered for an appointment without an iBT speaking score of 26 and a listening score of 25. The English Speaking Proficiency Assessment (ESPA) is the test the University of Iowa uses to assess students' oral language and listening skills. The English Language Performance Test (ELPT) is a supplement to the ESPA test and is designed to measure the ability to communicate in English in a classroom context in one's field of study. The ELPT is given to students who have scored 50 or 55 on the ESPA, and to TAs who teach a world language that have scored 45. To learn more about the ESPA and ELPT, visit the English as a Second Language Program website.

## Application Procedures

Prospective students may apply online through the Office of Admissions website. After submitting an application, applicants will receive email instructions on how to access their admissions profile on MyUI. Applicants then upload the required supplemental documents through a secure portal.

Required documents include transcripts from all colleges and universities an applicant has attended, contact information for three individuals (able to assess applicants' potential for graduate study) designated to provide letters of recommendation, and a statement of purpose.

Applicants should consult the Studio Art Graduate Bulletin on the School of Art and Art History website. No separate application is necessary for scholarships or teaching/research assistantships for studio art applicants.

Studio art applicants' portfolio requirements are listed below. Images in the portfolio should be uploaded pdf files no larger than 72 dpi and 1240 by 1240 pixels. File size must not exceed 18 MB. Images must be numbered according to the order they are to be presented to the admissions committee, beginning with 01. Applicants must include an inventory list that includes each image's name, title, medium, size, and approximate date of work, as well as their name and emphasis. They may supply a link to their personal website.

Portfolio contents and submission requirements for each program are as follows.

- Ceramics: 10 to 20 images.
- Three-dimensional (3D) design, and jewelry and metal arts: eight images in the primary studio art discipline and two in a second discipline.
- Graphic design: documentation of 15 to 20 projects. Applicant should include a brief description of each work, illustrated with embedded still images and supplemented by links to online media. The precise number of images varies according to the nature of the work. Contact the School of Art and Art History with questions.
- Painting and drawing: eight images in the primary studio art discipline and two in a second discipline.
- Photography: 20 images in photography and two or three images in a second discipline.
- Printmaking: 10 to 20 images.
- Sculpture and intermedia: applicants submit the following depending on their preferred area of emphasis.
- Sculpture: 20 images in sculpture, including details, and two or three images in a second medium. Video links may be included.
- Intermedia: documentation of five to ten projects, including a brief description of each work illustrated with embedded still images and supplemented by links to online media. The precise number of images varies according to the nature of the work; contact the School of Art and Art History with questions.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions.

## Financial Support

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

## Iowa Arts Fellowships

The Graduate College awards Iowa Arts Fellowships to two incoming or first-year studio art graduate students each year. For more information, see Iowa Arts Fellowship on the Graduate College website.

## Teaching and Research Assistantships

Assistantships are awarded to graduate students on the basis of academic record, promise as scholars or artists, and demonstrated ability to do the job. Quality of performance in one's graduate program at Iowa is generally the major criterion for awarding teaching assistantships. The number of hours of work required depends on the amount of the award.

## Scholarships and Fellowships

The School of Art and Art History offers a variety of scholarships and fellowships made possible by contributions from alumni who wish to support promising artists and scholars. These awards are made on the same basis as teaching and research assistantships.

Information for graduate scholarships and fellowships is included in the admissions package and is available from the School of Art and Art History main office.

Renewal or reappointment for fellowships and assistantships depends on adequate progress toward the degree (students must accumulate at least 18 s.h. of graduate credit each calendar year and maintain a grade-point average above the required minimum) and satisfactory performance of assistantship duties.

Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for the following academic year.

## Career Advancement

Many graduates pursue careers that match their degree specializations, for example, commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, or community art center coordinator or instructor.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Art, M.F.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
60 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b, c</sup>		
Students must hold an MA in art equivalent to that offered by the University of Iowa; following completion of the MA, students may be invited into the MFA program.		
Students may pursue certificates (including the book studies/book arts and technologies certificate) in conjunction with completing the degree requirements for the MFA; for more information check with the Graduate Program Coordinator.		
<b>Hours</b>		<b>0</b>

#### First Year

<b>Fall</b>		
Primary emphasis course <sup>d</sup>		4
Elective <sup>e</sup>		3
History and Theory of Art course <sup>f</sup>		3
<b>Hours</b>		<b>10</b>

#### Spring

Primary emphasis course <sup>d</sup>		4
Secondary emphasis course <sup>g</sup>		4
Elective <sup>e</sup>		2
<b>Hours</b>		<b>10</b>

#### Second Year

<b>Fall</b>		
Primary emphasis course <sup>d</sup>		4
Secondary emphasis course <sup>g</sup>		4
History and Theory of Art course <sup>f</sup>		3
<b>Hours</b>		<b>11</b>

#### Spring

Primary emphasis course <sup>d</sup>		4
Elective <sup>e</sup>		3
Elective <sup>e</sup>		2
<b>Hours</b>		<b>9</b>

#### Third Year

<b>Fall</b>		
Primary emphasis course <sup>d</sup>		4
Secondary emphasis course <sup>g</sup>		4
Elective <sup>e</sup>		3
MFA Committee Review <sup>h</sup>		
<b>Hours</b>		<b>11</b>

#### Spring

Primary emphasis course <sup>d</sup>		4
Elective <sup>e</sup>		4
ARTS:7000	M.F.A. Written Thesis <sup>i</sup>	1
Final Exam <sup>j</sup>		
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>60</b>

- a Students provide five images of their MFA work for the Graduate Archive.
- b The degree is offered with thesis and with emphases in the following studio art disciplines: ceramics, graphic design, three-dimensional (3D) design, drawing, intermedia and video art, jewelry and metal arts, painting, photography, printmaking, and sculpture.
- c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- d Need only additional 8 s.h. after completion of MA.
- e Work with faculty advisor to determine appropriate coursework and sequence; see General Catalog and department website for specifics.
- f If completed for MA, may choose an elective course, excluding readings and directed studies.
- g Need only additional 4 s.h. after completion of MA.
- h Provide abstract of thesis; typically occurs at the end of the semester prior to degree completion.
- i Students may earn 1 s.h. for writing a technical or substantial thesis; counts as elective credit.
- j Written thesis.

# Art History, Ph.D.

The Ph.D. program is intended for students who wish to pursue original research in art history. Students should acquire a deep knowledge of art history, as well as the field's theoretical and historical foundations. Ph.D. students are prepared to pursue careers in academia as well as to become museum curators and directors.

## Learning Outcomes

Students are expected to demonstrate many, if not all of the following:

- understanding of the development of the history and methodology of art history;
- skill in the visual analysis of primary source material;
- skill in contextual analysis and secondary source interpretations;
- productive engagement in the broad and ever-shifting philosophical, scholarly, and institutional debates that determine the structure and content of art history;
- ability to engage in sustained critical thinking;
- ability to write clearly and compellingly;
- deep knowledge of three of the following distribution fields: African, architecture, Asian, ancient, medieval, Renaissance and Baroque, 18th- and 19th-century European, American, and modern/contemporary;
- reading proficiency in French or German as well as a second language of particular relevance to their field of study;
- ability to conduct independent research in museums, archives, and/or libraries;
- knowledge and skills necessary to be effective teaching assistants for 1000-level courses;
- develop grant-writing skills;
- public speaking skills necessary to present research in professional academic settings;
- capacity to teach as an instructor of record in their area of expertise; and
- develop the critical research and writing skills necessary to publish peer-reviewed articles.

## Requirements

The Doctor of Philosophy program in art history requires a minimum of 72 s.h. of graduate credit. Of the 72 s.h., at least 39 s.h. must be earned while registered in the UI Graduate College, after formal program admission. For details, see the Graduate College Manual of Rules and Regulations Section XII C. Students must maintain a cumulative g.p.a. of at least 3.50. They may count a maximum of 38 s.h. of work completed for the M.A. toward the Ph.D., excluding credit earned in language courses. Students are allowed only one semester of academic probation.

Students are expected to acquire great breadth and depth of knowledge in the discipline of art history, achieve a high level of expertise in a specialized field, and demonstrate professional speaking and writing skills. The program provides them with scholarly challenges, research skills, and mentoring necessary for professional development and successful careers.

Ph.D. students major in one of the following 10 distribution fields: African (including Oceanic), architecture, Asian, ancient

(3000 B.C.E. to 300 C.E.), medieval, Renaissance, Baroque, 18th- and 19th-century European, American (including pre-Columbian, Native American, and African American), and modern/contemporary. Students also minor in two fields. The first minor must be in an art history distribution field that is not contiguous with the major field; the second may be in any art history distribution field or in a relevant discipline outside of art history, subject to the faculty's approval.

For more detailed information, consult the Art History Graduate Bulletin on the School of Art and Art History website.

## Required Courses

Students must satisfactorily complete ARTH:4999 Capstone Seminar in Art History, even if they have completed a similar course at another institution (students who have completed the course for a master's degree or other previous work at Iowa are exempt). They must register for an art history seminar in their first three semesters of Ph.D. coursework (or in their fifth, sixth, and seventh semesters of graduate study), before the Ph.D. readings course and comprehensive exam.

They also must satisfactorily complete ARTH:6020 Art History Colloquium every semester that they are enrolled for 9 s.h. or more or are serving as teaching or research assistants. Students who are not employed as teaching or research assistants or are registered for less than 9 s.h. are strongly encouraged to attend the colloquium.

Students may count up to 6 s.h. of credit earned for dissertation research toward the 72 s.h. required for the degree. Courses outside the curriculum of the School of Art and Art History's art history division do not carry art history credit.

## Directed Studies

Normally, a maximum of 6 s.h. earned in ARTH:6040 Directed Studies may be applied toward the semester-hour requirement for the Ph.D., although doctoral students may petition the art history faculty for permission to apply up to 9 s.h.

## Language Requirement

Students must demonstrate proficiency in French or German for admission to the Ph.D. program. They also must demonstrate proficiency in a second non-English language relevant to their research area by the end of their third semester of Ph.D. work or before their dissertation topic is approved. They may demonstrate proficiency by:

- completing two years of university-level coursework in the same language; or
- earning a grade of B or higher in a 3000-level advanced language course; or
- achieving at least an 80 percent proficiency score on the level five milestone of the relevant Rosetta Stone language program; or
- in exceptional circumstances, making a direct petition to the faculty after receiving the recommendation of their advisor.

Credit earned in language courses does not count toward the degree.

## Ph.D. Committee

The Ph.D. committee consists of the student's dissertation advisor, who is responsible for the major field; two members responsible for the two minor fields; and at least two

additional members. Of these five, four must be tenured or tenure-track faculty members from the art history division. One must be from outside the division and must be a member of the Graduate College faculty. When appropriate, committees may include additional members.

## Comprehensive Examination

Upon completion of course requirements, the Ph.D. candidate takes three written comprehensive examinations. The major exam consists of six questions and lasts six hours; the two minor exams each consist of three questions and last three hours. The exams are taken on any three days within one week (Monday through Friday).

The scope of the comprehensive exams is determined in consultation with the candidate's degree committee supervisor and the committee members responsible for the two minor fields.

## Oral Comprehensive Examination

Within approximately two weeks of completing the three written exams, the candidate meets with the degree committee for the oral comprehensive examination, which concentrates on questions that arise from the written comprehensive exams.

## Dissertation Proposal

Each student must complete a publishable dissertation that makes an original contribution to the art history discipline and demonstrates evidence of superior understanding of critical issues in the candidate's chosen specialization field. As soon as possible after completing the comprehensive examinations, the candidate submits a dissertation proposal to the degree committee supervisor and subsequently to the degree committee.

The committee meets as a group with the candidate to discuss the dissertation proposal and to offer comments and suggestions. The proposal must be submitted to the committee at least two weeks before the approval meeting. The proposal includes a 1-2 page abstract, a 10-15 page précis that includes a review of the state of the field, and a bibliography.

After the proposal has been approved by the committee, the candidate circulates an abstract to the entire art history faculty. The candidate must give a public presentation on the dissertation topic no later than the end of the semester following the degree committee's approval. The presentation is scheduled with the head of art history.

## Final Examination

Upon completing a dissertation, the candidate meets with the Ph.D. committee for an oral defense of the dissertation. The oral defense constitutes the final examination for the Ph.D. degree. The successful completion of this examination normally marks the last stage in the candidate's fulfillment of requirements.

## Admission

Application materials should be uploaded onto a student's admissions profile (see instructions below under "Application Procedures"). All applicants must meet the admission requirements of the Graduate College and the School of Art and Art History requirements.

Deadline date for submission of materials to the Office of Graduate Admissions is December 15 for the art history program; admission is for fall.

## School of Art and Art History Requirements

Prospective graduate students must meet the School of Art and Art History's admission requirements for the specific degree program they plan to enter. They must submit application materials to the University's Office of Graduate Admissions and to the specific program they wish to enter. Program-specific application requirements and deadline dates are listed below.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must hold an M.A. in art history or a related graduate degree and be able to demonstrate proficiency in French or German. Proficiency in a second non-English language relevant to the student's research area is required by the end of the third semester of Ph.D. work.

Applicants whose first or official language is not English and whose previous academic degrees were not earned at an English-language institution must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). All applicants must have a minimum TOEFL iBT speaking score of 26 and a listening score of 25. An application is not reviewed if scores are lower than the requirements specify. As an alternative to the TOEFL, applicants may take the International English Language Testing System (IELTS). They must have a total score of 7.0, with no subscore less than 6.0. In addition, all IELTS test takers, regardless of score, are required to take an on-campus English Proficiency Evaluation. The Duolingo English Test (DET) with a score of at least 105 also is accepted.

All students for whom English is not a first language and who have first-time appointments as teaching assistants (TAs) are required to take a test to assess their effectiveness in speaking English before they are assigned assistantship responsibilities. No applicant is considered for an appointment without an iBT speaking score of 26 and a listening score of 25. The English Speaking Proficiency Assessment (ESPA) is the test the University of Iowa uses to assess students' oral language and listening skills. The English Language Performance Test (ELPT) is a supplement to the ESPA test and is designed to measure the ability to communicate in English in a classroom context in one's field of study. The ELPT is given to students who have scored 50 or 55 on the ESPA, and to TAs who teach a world language that have scored 45. To learn more about the ESPA and ELPT, visit the English as a Second Language Program website.

## Application Procedures

Prospective students may apply online through the Office of Admissions website. After submitting an application, applicants will receive email instructions on how to access their admissions profile on MyUI. Applicants then upload the required supplemental documents through a secure portal.

Required documents include transcripts from all colleges and universities an applicant has attended, contact information for three individuals (able to assess applicants' potential for graduate study) designated to provide letters

of recommendation, a statement of purpose, and the Supplemental Graduate Application Information form.

Art history applicants also should supply a research paper (preferably from an art history course) or thesis that demonstrates potential to undertake graduate-level research in art history, and a personal statement of 1,000 words describing their intellectual development, academic interests, and career goals. The statement must name the University of Iowa faculty member under whose guidance the applicant hopes to work and indicate how that faculty member's area of expertise, or how the art history program is especially suited to the applicant's interests and goals.

Students who completed an M.A. at the University of Iowa and who wish to apply to the Ph.D. program in art history must make a formal application for change of status through the graduate program coordinator. Applications are evaluated in the context of the entire applicant pool.

Applicants should consult the Art History Graduate Bulletin on the School of Art and Art History website. No separate application is necessary for scholarships or teaching/research assistantships for applicants.

The Office of Graduate Admissions notifies all applicants by mail of admission decisions.

## Financial Support

Fellowships, teaching assistantships, research assistantships, and tuition scholarships are awarded to graduate students on the basis of artistic and/or scholarly record.

## Teaching and Research Assistantships

Assistantships are awarded to graduate students on the basis of academic record, promise as scholars or artists, and demonstrated ability to do the job. Quality of performance in one's graduate program at Iowa is generally the major criterion for awarding teaching assistantships. The number of hours of work required depends on the amount of the award.

## Scholarships and Fellowships

The School of Art and Art History offers a variety of scholarships and fellowships made possible by contributions from alumni who wish to support promising artists and scholars. These awards are made on the same basis as teaching and research assistantships.

Information for graduate scholarships and fellowships is included in the admissions package and is available in the School of Art and Art History main office.

Renewal or reappointment for fellowships and assistantships depends on adequate progress toward the degree (graduate students must accumulate at least 18 s.h. of graduate credit each calendar year and maintain a grade-point average above the required minimum) and satisfactory performance of assistantship duties.

Decisions on assistantships and financial aid generally are made during the latter part of the spring semester for the following academic year. Applications and all relevant materials should be on file by January 15.

## Career Advancement

Many graduates pursue careers that match their degree specializations, such as commercial or graphic designer, conservation or museum curator or administrator, art educator, public artist, gallery and museum administration, art appraisal, and restoration, or community art center coordinator or instructor.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Art History, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; typically 30 s.h. (but up to a maximum of 38 s.h.) of graduate transfer credits taken for the master's from an accredited institution allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Maintain a cumulative program GPA of at least 3.50.		
Students must major in one of ten art history distribution fields and also minor in two fields. The first minor must be in a distribution field that is not contiguous with the major field; the second may be in any distribution field or in a relevant discipline outside of art history, subject to the faculty's approval. <sup>c</sup>		
Students must attend at least six public lectures by visiting scholars in art history over the course of graduate study; proof of attendance is provided by short (150-250 word) written responses turned in to the DGS within two weeks of the lecture.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ARTH:6XXX	Graduate Art Seminar <sup>d</sup>	3
ARTH:4999	Capstone Seminar in Art History <sup>e</sup>	3
	Elective <sup>f</sup>	3
ARTH:6020	Art History Colloquium <sup>g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
ARTH:6XXX	Graduate Art Seminar <sup>d</sup>	3
	Elective <sup>f</sup>	3
	Elective <sup>f</sup>	3
ARTH:6020	Art History Colloquium <sup>g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
	Language Proficiency Exam <sup>h</sup>	
ARTH:6XXX	Graduate Art Seminar <sup>d</sup>	3

Elective <sup>f</sup>		3
Elective <sup>f</sup>		3
ARTH:6020	Art History Colloquium <sup>g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
ARTH:7010	Ph.D. Readings <sup>i</sup>	3
Elective <sup>f</sup>		3
Elective <sup>f</sup>		3
ARTH:6020	Art History Colloquium <sup>g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Fall</b>		
Comprehensive Exam <sup>j</sup>		
Dissertation Prospectus <sup>k</sup>		
ARTH:7010	Ph.D. Readings <sup>i</sup>	1
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
ARTH:7020	Ph.D. Thesis <sup>l</sup>	1
<b>Hours</b>		<b>1</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ARTH:7020	Ph.D. Thesis <sup>l</sup>	0
<b>Hours</b>		<b>0</b>
<b>Spring</b>		
ARTH:7020	Ph.D. Thesis <sup>l</sup>	0
<b>Hours</b>		<b>0</b>
<b>Fifth Year</b>		
<b>Fall</b>		
ARTH:7020	Ph.D. Thesis <sup>l</sup>	0
<b>Hours</b>		<b>0</b>
<b>Spring</b>		
ARTH:7020	Ph.D. Thesis <sup>l</sup>	0
Final Exam <sup>m</sup>		
<b>Hours</b>		<b>0</b>
<b>Total Hours</b>		<b>42</b>

- a Students entering with fewer than 30 s.h. of coursework from the master's degree must work with their faculty advisor to complete the needed appropriate graduate coursework.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Distribution fields: African (including Oceanic), architecture, Asian, ancient (3000 B.C.E. to 300 C.E.), medieval, Renaissance, Baroque, 18th- and 19th-century European, American (including pre-Columbian, Native American, and African American), and modern/contemporary.
- d Must register for an art history seminar in first, second, and third semesters of enrollment; credit for graduate seminars may be applied toward the five distribution fields requirement.
- e Students must register for and satisfactorily complete ARTH:4999 even if they have enrolled in a similar course at another institution; students who have already taken this course at The University of Iowa are exempt from this requirement and should work with faculty advisor to select an alternate course.

f Work with faculty advisor to determine appropriate graduate elective coursework and sequence.

g Take each semester when enrolled in 9 s.h. or more or have a research or teaching assistant appointment; all students are encouraged to attend the colloquium.

h Students must demonstrate proficiency in French or German for admission to the Ph.D. program. They also must demonstrate proficiency in a second non-English language relevant to their research area by the end of their third semester of Ph.D. work or before their dissertation topic is approved. Credit earned in language courses does not count toward the degree. See General Catalog and department website for specifics.

i Students preparing for the Comprehensive Exam will work with faculty advisor to determine appropriate Ph.D. Readings coursework and sequence.

j Taken upon completion of course requirements; consists of three written exams and an oral exam. See the General Catalog and department website for specifics.

k Submitted after completing the Comprehensive Exam; see the General Catalog and department website for specifics.

l Up to 6 s.h. of dissertation credit may count towards degree requirements.

mDissertation defense.

# Asian and Slavic Languages and Literatures

## Director, Division of World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Interim Chair, Department of Asian and Slavic Languages and Literatures

- Yumiko Nishi

## General Education Language Coordinators

- Nana Onishi Goley (Japanese), Irina Kostina (Russian), Yuan Lu (Chinese), Sang-Seok Yoon (Korean)

**Undergraduate majors:** Asian languages and literature (B.A.); Russian (B.A.)

**Undergraduate minors:** Asian languages and literature; Korean studies; Russian; Russian and Eastern European studies

**Graduate degree:** M.A. in Asian civilizations

**Faculty:** <https://asian-slavic.uiowa.edu/people>

**Website:** <https://asian-slavic.uiowa.edu/>

The Department of Asian and Slavic Languages and Literatures offers instruction in languages of Asia and Eastern Europe as well as in the literatures, civilizations, and cultures of the regions. In addition to offering degree programs, the department welcomes undergraduate and graduate students from across the University to enroll in courses that complement their degree programs or satisfy their personal interests.

The department offers language study in Chinese, Japanese, Korean, and Russian.

Undergraduate students in all majors may satisfy the World Languages requirement of the GE CLAS Core [p. 20] with courses in Chinese, Japanese, Korean, or Russian; see "Language for GE CLAS Core" below. They also may get acquainted with Asia and Eastern Europe by taking any of the department's GE CLAS Core courses on Asian humanities and on Russian and Slavic literature and culture, all taught in English. Entering students may take the department's First-Year Seminars, one on Asian culture and civilization, the other on Slavic culture and civilization.

The Department of Asian and Slavic Languages and Literatures is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 395].

## Language for GE CLAS Core

Undergraduate students in all majors may satisfy the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 20] with course sequences in Chinese, Japanese, Korean, and Russian.

Students who have had experience with Chinese, Japanese, or Russian should take the appropriate University of Iowa World Languages Placement Test, which helps determine the level at which they should begin study of the language. Students with backgrounds in Korean should contact the general education coordinator to determine the level at which they should begin language study at the University of Iowa.

## Chinese

The following sequence fulfills the GE CLAS Core World Languages requirement and is appropriate for students without previous knowledge of Chinese.

Code	Title	Hours
CHIN:1111	First-Year Chinese: First Semester	5
CHIN:1112	First-Year Chinese: Second Semester	5
CHIN:2101	Second-Year Chinese: First Semester	5
CHIN:2102	Second-Year Chinese: Second Semester	5

Students who have participated in ABRD:3411 Iowa in Tianjin after completing CHIN:1111 First-Year Chinese: First Semester and CHIN:1112 First-Year Chinese: Second Semester, and students from Chinese-speaking families who perform exceptionally well in CHIN:1111 and CHIN:1112, may fulfill the World Languages requirement with the following sequence.

Code	Title	Hours
CHIN:1111	First-Year Chinese: First Semester	5
CHIN:1112	First-Year Chinese: Second Semester	5
CHIN:2103	Accelerated Second-Year Chinese: First Semester	3
CHIN:2104	Accelerated Second-Year Chinese: Second Semester	3

Students who have taken CHIN:2103 Accelerated Second-Year Chinese: First Semester and/or CHIN:2104 Accelerated Second-Year Chinese: Second Semester should not enroll in CHIN:2101 Second-Year Chinese: First Semester and/or CHIN:2102 Second-Year Chinese: Second Semester.

Additional coursework is available, including advanced Chinese, classical Chinese, and business Chinese. Consult the department for appropriate placement in Chinese language courses.

## Japanese

The following sequence fulfills the GE CLAS Core World Languages requirement and is appropriate for students without previous knowledge of Japanese.

Code	Title	Hours
JPNS:1001	First-Year Japanese: First Semester	5
JPNS:1002	First-Year Japanese: Second Semester	5
JPNS:2001	Second-Year Japanese: First Semester	5
JPNS:2002	Second-Year Japanese: Second Semester	5

## Korean

The following sequence fulfills the GE CLAS Core World Languages requirement and leads to elementary/intermediate proficiency in Korean.

Code	Title	Hours
KORE:1101	First-Year Korean: First Semester	4

KORE:1102	First-Year Korean: Second Semester	4
KORE:2101	Second-Year Korean: First Semester	4
KORE:2102	Second-Year Korean: Second Semester	4

Students interested in Korean language study beyond the GE CLAS Core requirement may take the third- and fourth-year Korean courses.

## Russian

The following sequence fulfills the GE CLAS Core World Languages requirement.

Code	Title	Hours
RUSS:1111	First-Year Russian I	5
RUSS:1112	First-Year Russian II	5
RUSS:2111	Second-Year Russian I	4
RUSS:2112	Second-Year Russian II	4

Students interested in Russian language study beyond the GE CLAS Core requirement may take the third- and fourth-year Russian courses.

## Related Certificate

### International Business

The College of Liberal Arts and Sciences and the Tippie College of Business offer the Certificate in International Business. The program entails study of international business and economics; international relations and institutions; a language; and the art, literature, culture, and/or politics of a geographic area. Students of Chinese, Japanese, or Russian are likely to satisfy the certificate's language requirement while completing the requirements for their major. For more information, see the Certificate in International Business [p. 1286] (Tippie College of Business) in the Catalog.

## Study Abroad

The department strongly encourages its students to seek opportunities for summer language study and study abroad to accelerate the language acquisition process. Many students participate in summer, semester, and year-long study abroad programs in China, Japan, India, and Korea offered through other U.S. universities. In many cases credit is transferable, and it is possible for a student to study abroad and still complete the Four-Year Graduation Plan. There are many resources available for funding research and study abroad. It also may be possible for students to apply University of Iowa financial aid to their study abroad programs. Interested students should contact a study abroad advisor at International Programs Study Abroad and the language coordinator in the Department of Asian and Slavic Languages and Literatures.

## Chinese

The Iowa in Tianjin Summer Program is a faculty-led Chinese language and culture study program. This program provides students with a comprehensive and balanced curriculum and combines classroom instruction with field trips, language partnerships, and extracurricular activities.

## Japanese

Students studying Japanese have access to various study abroad possibilities around Japan, including the two UI

Exchange Programs (semester or academic year) and other recommended summer programs.

## UI Exchange Semester or Academic Year Programs

- Kanda University of International Studies Exchange (Chiba)
- Nagoya University of Foreign Studies Exchange (Nagoya, Aichi)

## Recommended Summer Programs

- International Christian University: Summer Courses in Japanese (Mitaka, Tokyo)
- Hokkaido International Foundation Japanese Language and Japanese Culture Program (Hakodate, Hokkaido)
- Kyoto Consortium for Japanese Studies (Kyoto)
- Nanzan University: Center for Japanese Studies (CJS) Summer Japanese Program (Nagoya, Aichi)

## Korean

The University of Iowa partners with The Education Abroad Network (TEAN) to offer students the opportunity to study at Korea University in Seoul, South Korea. The following institutions offer summer, semester, or academic year study abroad programs for University of Iowa students.

- Kyung Hee University Exchange
- Korea University Exchange
- Ewha Womans University Exchange

## Russian

Iowa students participate in summer, semester, or academic year programs in Russian under the auspices of the American Council of Teachers of Russian (ACTR). The association directs academic language training programs in the cities of Moscow, St. Petersburg, and Vladimir.

Contact the Department of Asian and Slavic Languages and Literatures or International Programs Study Abroad for more information.

## Summer Internships

Students are encouraged to enrich their programs of study through internships designed to combine work experience in Asia or the United States with study or research projects. The University's Pomerantz Career Center maintains a list of internships.

## Activities

### Student Associations

Students have many opportunities to enrich their studies in Asian languages and literature while living in Iowa City. The University sponsors student associations for students from many Asian countries, including mainland China, Japan, Korea, India, Pakistan, and Taiwan. All University of Iowa students are welcome to join. Various international community groups sponsor cultural events and holiday celebrations throughout the year.



## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Asian Languages and Literature (Bachelor of Arts) [p. 172]
- Major in Russian (Bachelor of Arts) [p. 177]

#### Minors

- Minor in Asian Languages and Literature [p. 180]
- Minor in Korean Studies [p. 183]
- Minor in Russian [p. 185]
- Minor in Russian and Eastern European Studies [p. 186]

### Graduate Program of Study

#### Major

- Master of Arts in Asian Civilizations [p. 187]

## Facilities

### Center for Language and Culture Learning

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC) and five All-in-One Studios/small group study rooms equipped with video production and editing software, a Computer-Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignALL lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as the Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

### University of Iowa Libraries

Since 1960 University of Iowa Libraries has routinely acquired most American titles in Asian studies and selected overseas scholarly publications in English and other Western languages. The Main Library's Asian collection includes approximately 80,000 volumes in Asian languages and about 140,000 Western-language volumes on Asian subjects. The University has been a member of the Library of Congress Foreign Currency Exchange Program for Indian books and periodicals since 1975. The library's nonprint media collection includes a growing number of Asian feature films. A Chinese-Japanese-Korean computer terminal gives students and faculty access to the growing Research Libraries Information Network database in Asian languages.

## Courses

- Asian Languages, Literatures and Cultures Courses [p. 161]
- Chinese Courses [p. 164]
- Japanese Courses [p. 166]
- Korean Courses [p. 168]
- Russian Courses [p. 169]
- South Asian Studies Courses [p. 170]

### Asian Languages, Literatures and Cultures Courses

#### **ASIA:1000 First-Year Seminar** **1-2 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **ASIA:1016 Classical Chinese Short Fiction** **1 s.h.**

Reading and discussion of classical Chinese short fiction in English translation. Taught in English. Recommendations: completion of required ESL courses. Same as WLLC:1016.

#### **ASIA:1040 Living Religions of the East** **3 s.h.**

Religious beliefs, practices in India, China, Japan. GE: Values and Culture. Same as HIST:1610, RELS:1404.

#### **ASIA:1060 Introduction to Buddhism** **3 s.h.**

Development of Buddhism in India, its spread across Asia, and arrival in the West; exploration of diverse Buddhist philosophies, practices, and cultures; readings from India, Tibet, China, Japan, Korea, and Southeast Asia. GE: Values and Culture. Same as HIST:1612, RELS:1506.

#### **ASIA:1502 Asian Humanities: India** **3 s.h.**

Introduction to 4,000 years of South Asian civilization through popular stories. Taught in English. GE: Values and Culture. Same as RELS:1502, SOAS:1502.

#### **ASIA:1510 Ghost Stories and Tales of the Weird in Premodern Chinese Literature** **3 s.h.**

Reading of Chinese literature concerning ghosts, marvels, and supernatural from the first millennium B.C.E. through the 1800s; readings analyzed against changing historical and religious contexts. Taught in English. Recommendations: completion of all required ESL courses. GE: Interpretation of Literature. Same as WLLC:1510.

#### **ASIA:1601 Civilizations of Asia: China from Origins to the 17th Century** **3 s.h.**

Introductory survey of Chinese history and civilization from its origins to 1800; exploration of traditions in politics, social organization, thought, religion, and culture. GE: Historical Perspectives; International and Global Issues. Same as HIST:1601.

#### **ASIA:1602 Civilizations of Asia: China from the 17th Century to the Present** **3 s.h.**

Introductory survey of Chinese history from the 17th century to present; exploration of political, social, economics, and culture. GE: Historical Perspectives; International and Global Issues. Same as HIST:1602.

#### **ASIA:1604 Civilizations of Asia: Japan** **3-4 s.h.**

GE: Historical Perspectives; International and Global Issues. Same as HIST:1604.

**ASIA:1606 Civilizations of Asia: South Asia 3-4 s.h.**

Civilization of a vast region that includes India, Pakistan, Bangladesh, Nepal, and Sri Lanka. GE: Historical Perspectives; International and Global Issues. Same as HIST:1606, RELS:1606.

**ASIA:1607 Civilizations of Asia: Korea 3-4 s.h.**

Introduction to Korean history and culture; how meanings of "Korea" and "Koreans" changed from ancient times to present; relevant issues of politics, society, and culture; events that shaped ancient Korean states—Koryo state (918-1392), the Choson dynasty (1392-1910), Japanese colonization (1910-1945), and the two Koreas (1945-present); how present perspectives on Korea have influenced understandings of its past. GE: Historical Perspectives; International and Global Issues. Same as HIST:1607.

**ASIA:1609 India Now! Surveying the World's Largest Democracy 3-4 s.h.**

Introduction to India and its place in global economics, politics, religion, science, and culture since independence in 1947; India's contributions and adaptations to contemporary world, gender roles, changing sexual standards, and new ways India enters American lives—from globalized Bollywood films and music to new foods, fashions, and lifestyles; students examine the quiet revolution of affirmative action that has brought self-respect to millions, and market liberalization that has heightened economic inequality; consideration of ongoing challenges to world's largest democracy and contemporary efforts, both peaceful and violent, to address them. GE: Values and Culture. Same as HIST:1609.

**ASIA:1670 Korea in the World 3 s.h.**

Comprehensive and critical understanding of Korea's place in the world; emphasis on historical and sociocultural roots of various aspects of life on the contemporary Korean peninsula (both North and South Korea); comprehensive list of topics including cultural production (K-pop and film), religions, economy, gender relations, cuisine, politics, and prospects for reunification. Taught in English. Same as KORE:1670, RELS:1670.

**ASIA:1770 Asian Humanities: Middle East 3 s.h.**

How the self has been constructed in literary texts from premodern and modern Islamic world.

**ASIA:2001 Global Science Fiction 3 s.h.**

Science fiction from around the world; spanning poetry, fiction, drama, film, television, comics, mobile phone games, and music; produced on six continents. Taught in English. GE: Diversity and Inclusion. Same as FREN:2010, RUSS:2001, SPAN:2001, TRNS:2001, WLLC:2001.

**ASIA:2041 Understanding "The Muslim World" 3 s.h.**

Exploration of expressions and experiences of Muslims in increasingly diverse societies around the world. Same as IS:2041, RELS:2041.

**ASIA:2127 Global Manuscript Cultures 3 s.h.**

Manuscripts and global manuscript cultures from a comparative, interdisciplinary perspective; history of the book in the East and West; diverse material supports, physical formats, and written layouts of manuscripts of the 1st to 19th centuries, including social and cultural contexts; manuscript traditions of particular cultural spheres (Europe, the Middle East and North Africa, India, East Asia) and historical processes of diffusion, remediation, and obsolescence. Taught in English. GE: Historical Perspectives. Same as CLSA:2127, JPNS:2127.

**ASIA:2222 Women in Premodern East Asian Literature 3 s.h.**

Reading of East Asian literature portraying women from the first millennium B.C.E. through the 1800s; discussion of issues related to representations of women and conventional social, familial roles in premodern China, Korea, and Japan; cross-cultural comparison of different perceptions and portrayals of women in premodern East Asian literary traditions. Taught in English. Recommendations: completion of all ESL courses. GE: Diversity and Inclusion. Same as GWSS:2222, WLLC:2222.

**ASIA:2231 Introduction to the Art of China 3 s.h.**

Visual arts of China and their history; emphasis on understanding in context of Chinese civilization, history. Same as ARTH:2220.

**ASIA:2248 The Invention of Writing: From Cuneiform to Computers 3 s.h.**

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

**ASIA:2444 Envision India 3 s.h.**

Introduction to world view and civilization of the South Asian subcontinent, not as a timeless and isolated culture, but as a dynamic and interactive part of evolving global cultural exchanges.

**ASIA:2450 India Beat: The Aesthetics and Politics of India Today 3 s.h.**

Ways in which music forms a crucial part of Indian public sphere, reflecting and shaping culture, society, and economy; wide range of genres commonly performed and heard across India and South Asia today (i.e., film music, several folk forms, classical, semi-classical, Indipop, rock) and locating each of them in their respective historical, cultural, and socioeconomic contexts; exploration of themes and questions (i.e., emergence and impact of technologies of mass production, distribution of music in colonial and post-independence India). GE: Values and Culture.

**ASIA:2500 Cold War Cultures in Korea 3 s.h.**

Analysis of Cold War (1945-1989) not only as an era in geopolitics, but also as a historical period marked by specific cultural and artistic forms; focus on Korean peninsula, looking closely at literary and film cultures of both South Korea and North Korea; how global conflict between United States and Soviet centered societies affected politics, culture, and geography of Korea between 1945 and 1989, treating division of Korea as an exemplary case extending from origins of Cold War to the present.

**ASIA:2684 Korean War: Local and Global History 3 s.h.**

Examination of the Korean War as a local, regional, and global event; major topics of the war including its origins, methods of warfare, refugee question, war crimes, POWs, propaganda, memory, and commemoration from the perspective of multiple nations; discussion and analysis of scholarly works, textbooks, diplomatic documents, memoirs, fiction, visual sources, and film. Same as HIST:2684.

- ASIA:2887 Perspectives on Korea** 3 s.h.  
History of Korea from earliest times to present; changing meanings of Korea and Koreans; relevant issues of politics, society, and culture; events that shaped ancient Korean kingdoms, the Choson dynasty (1392-1910), Japanese occupation, and divided Korean peninsula; how present perspectives on Korea have influenced understandings of its past; placement of Korea within a regional and global context to examine Korea's relationship with the world. Same as HIST:2687.
- ASIA:3055 Death, Dying, and Beyond in Asian Religions** 3 s.h.  
Survey of cultural and religious approaches to the dying process, post-death rituals, and conceptions about the afterlife in different religions in Asia. Same as RELS:3055.
- ASIA:3120 Autobiography in Islamic Literary Cultures** 3 s.h.  
How the self has been constructed in Islamic literary cultures from classical Islamic period to modernity.
- ASIA:3172 Chinese Marriage and Family in Comparative Perspective** 3 s.h.  
Exploration of Chinese marriage and family from cultural, historical, and sociological perspectives; topics include Chinese family values and traditions, family processes and structures, mate selection, and challenges and impact of social movements and governmental policies on family; readings highlight change and continuity of traditional values of marriage and family in Chinese society; students compare marriage and family processes and practices in American society with Chinese society, understand Chinese culture and society through aspects of marriage and family, and think critically on family issues in Chinese and American society. Same as ANTH:3172.
- ASIA:3208 Classical Chinese Literature Through Translation** 3 s.h.  
Reading of English translations of classical Chinese literature; discussion of special features of classical Chinese as a source language for translation; issues in translation practice and theory with focus on trends in translation of Classical Chinese literary works to English. Taught in English. Recommendations: completion of required ESL courses. Same as TRNS:3208, WLLC:3208.
- ASIA:3210 Comparative Arts** 3 s.h.  
Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Taught in English. Same as FREN:3210, IWP:3210, SPAN:3211, WLLC:3210.
- ASIA:3220 Chinese Painting I: Pagodas and Palaces** 3 s.h.  
Early Chinese painting from fourth century B.C.E. through 14th century C.E.; figural style, religious art, emergence of landscape, other nonreligious subjects, interconnectedness of painting and calligraphy as fine arts. Same as ARTH:3230.
- ASIA:3255 Copy and Paste: Methods of Reproduction in Asian Art** 3 s.h.  
Introduction to methods of reproduction in Asian art that predates photography, encompassing technologies of graphic reproduction (manual, mechanical, and somewhere in between); exploration of themes including piece-mold bronze casting, stamping and seals, rubbing, molding and mass production, woodblock printing, trace-copying calligraphy, and free-hand copying of paintings; overarching concepts across different subjects (e.g., authorship and authenticity, value of copies and impact on canon formation, relationship between technology and style, question of aura in—and before—the age of mechanical reproduction). Same as ARTH:3255.
- ASIA:3270 Themes in Asian Art History** 3 s.h.  
Same as ARTH:3270.
- ASIA:3275 Garden Culture in East Asia** 3 s.h.  
Exploration of the rich tradition of gardens in East Asia with a focus on China and Japan; combination of visual material, translated primary texts, and English-language research to learn about various types of gardens, their major elements, and their artistic representation; examination of garden themes, rocks, flower arrangement, and bonsai, as well as Asian gardens in the West and Western gardens in Asia; students discuss each type of garden in the broader artistic, political, and religious context. Same as ARTH:3275.
- ASIA:3431 Gender and Sexuality in East Asia** 3 s.h.  
Examination of historical construction of gender and sexuality in East Asia from mid-19th century to present. Same as GWSS:3131, RELS:3431.
- ASIA:3550 Islam, Secularity, Modernity** 3 s.h.  
How religiosity and secularity are experienced in the Muslim world today.
- ASIA:3561 Religion and Healing** 3 s.h.  
Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as ANTH:3113, GHS:3113, RELS:3580.
- ASIA:3650 Chinese History from 1600 to 1911** 3 s.h.  
Chinese history from the 17th to early 20th century, history of the Qing dynasty (1644-1911); Qing's role in shaping aspects of today's politics in China and the mentality of Chinese people; foundation of Manchu state in early 17th century, Ming-Qing transition in 1644, politics and society during the high Qing era, decline of the empire under foreign invasion and inner rebellions in the 19th century, collapse of the dynasty in 1911. Same as HIST:3650.
- ASIA:3652 Twentieth-Century China** 3 s.h.  
Communist revolution from 1920s to founding of People's Republic of China in 1949; Mao Zedong's radical policies, Cultural Revolution; Deng Xiaoping's economic reforms; China today. Same as HIST:3652.
- ASIA:3655 Zen Buddhism** 3 s.h.  
Same as HIST:3655, RELS:3655.
- ASIA:3685 Modern Korean History** 3 s.h.  
Transformation of Choson Korea to North and South Korea; local, regional, and global transformations in Korea from the late 19th century to present; severing of historic ties with China; encounters with the West and Japan; new ideas of civilization and political community; erasure of Choson as a country in 1910; colonial experience; civil war; industrialization; creation of North Korea; democratic movement in South Korea and spread of diasporic communities abroad; Korean peninsula as a laboratory for analyzing compressed communist and capitalist modernities of the 20th century. Same as HIST:3685.

**ASIA:3700 Topics in Global Cinema 3 s.h.**

Identification of new models and methods to investigate cinema's relationship to current global issues beyond traditional scholarly focus in Western Europe and the United States; exploration of an emerging field, moving away from the paradigm of national cinema and bringing together shared theoretical frameworks while acknowledging different historical and cultural contexts. Taught in English. Same as JPNS:3700, TRNS:3700, WLLC:3700.

**ASIA:4166 Topics in Asian History 3 s.h.**

Same as HIST:4666.

**ASIA:4301 Honors Tutorial arr.****ASIA:4506 Senior Honors Thesis arr.****ASIA:4507 Topics in Asian Studies arr.**

Topics vary.

**ASIA:4508 Asian Studies arr.****ASIA:6483 Multilingual Education and Applied Linguistics 3 s.h.**

Introduction to research in language teaching and learning, drawing on theories and research in applied linguistics, sociolinguistics, anthropology, and psychology; students gain understanding of fundamentals in second language acquisition, educational linguistics, applied linguistics, and methods used in teaching and learning second/foreign languages; applications and implications of research considered when reviewing multilingual education policy and practice. Same as EDTL:6483, SLA:6506.

**ASIA:6501 M.A. Thesis arr.**

Offered fall semesters.

**ASIA:6502 M.A. Thesis arr.**

Offered spring semesters.

**ASIA:6520 Seminar: South Asian Religion 3 s.h.**

Topics in South Asian religions. Same as RELS:6520.

**ASIA:7606 Readings in Chinese History arr.**

Same as HIST:7606.

## Chinese Courses

High school students and University of Iowa students who would like to learn Chinese but do not plan to use Chinese to satisfy the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core may wish to take the beginning Chinese courses CHIN:1115 and CHIN:1116 in sequence and may follow them with the second-year courses CHIN:2101 and CHIN:2102. See the course descriptions below.

**CHIN:1000 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

**CHIN:1030 Introduction to Chinese Ethnic Folk Dance 1 s.h.**

China has 56 ethnic minorities and each has a unique culture; folk dances of Chinese minorities reflect peculiarities of each ethnic group's religious, cultural, and historical narrative. Taught in English.

**CHIN:1101 Conversational Chinese I 1 s.h.**

Introduction to modern Chinese, with focus on communication "survival" skills for discussing oneself, family, daily activities, interests, personal preferences, food, shopping, travel, lodging; situational activities and performance.

**CHIN:1102 Conversational Chinese II 1 s.h.**

Continuation of CHIN:1101, with focus on speaking and listening.

**CHIN:1111 First-Year Chinese: First Semester 5 s.h.**

Sound system of Mandarin Chinese, basic sentence patterns; aural understanding, speaking, reading, writing. Offered fall semesters. Requirements: undergraduate standing. GE: World Languages First Level Proficiency.

**CHIN:1112 First-Year Chinese: Second Semester 5 s.h.**

Continuation of CHIN:1111. Offered spring semesters. Prerequisites: CHIN:1111. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency.

**CHIN:1115 Beginning Chinese I 3 s.h.**

Introduction to modern standard Chinese; development of students' functional language ability.

**CHIN:1116 Beginning Chinese II 3 s.h.**

Continuation of CHIN:1115. Requirements: CHIN:1115 or equivalent as demonstrated in written and oral exams.

**CHIN:1121 Beginning Chinese III 3 s.h.**

Continuation of CHIN:1116; instruction in all four language skills of listening, speaking, reading, and writing; students further develop their understanding of Chinese culture through language learning. Prerequisites: CHIN:1116.

**CHIN:1122 Beginning Chinese IV 3 s.h.**

Continuation of CHIN:1121; instruction in all four language skills of listening, speaking, reading, and writing through task-based and task-supported curriculum; students further develop their understanding of historical and contemporary Chinese culture. Prerequisites: CHIN:1121.

**CHIN:1504 Asian Humanities: China 3 s.h.**

Literary and philosophical texts of China in English translation. GE: Values and Culture.

**CHIN:1702 Chinese Popular Culture 3 s.h.**

Introduction to popular culture from the People's Republic of China, Taiwan, Hong Kong, and the Chinese diaspora; shifting relationships among cultural production, media and technology, and political thought; influences of Japan, Korea, and the West; materials drawn from film, television shows, music, new media, popular literature, comics, magazines, advertising, fashion, art, and material culture; no previous knowledge of Chinese is required. GE: Literary, Visual, and Performing Arts.

**CHIN:1800 Chinese Calligraphy and Culture 3 s.h.**

Introduction to historical development of Chinese script, Chinese calligraphy theories, representative calligraphers, and writing Chinese script using a Chinese writing brush. GE: Values and Culture.

**CHIN:2101 Second-Year Chinese: First Semester 5 s.h.**

Continuation of CHIN:1112. Offered fall semesters. Prerequisites: CHIN:1112. Requirements: undergraduate standing. GE: World Languages Third Level Proficiency.

**CHIN:2102 Second-Year Chinese: Second Semester 5 s.h.**

Continuation of CHIN:2101. Offered spring semesters. Prerequisites: CHIN:2101. Requirements: undergraduate standing. GE: World Languages Fourth Level Proficiency.

**CHIN:2103 Accelerated Second-Year Chinese: First Semester 3 s.h.**

Intermediate Chinese. Requirements: grades of C or higher in CHIN:1111 and CHIN:1112, and one summer of Chinese study in China. GE: World Languages Third Level Proficiency.

- CHIN:2104 Accelerated Second-Year Chinese: Second Semester** 3 s.h.  
Intermediate Chinese. Prerequisites: grade of C or higher in CHIN:2103. GE: World Languages Fourth Level Proficiency.
- CHIN:3101 Third-Year Chinese: First Semester** 3 s.h.  
Reading of advanced modern Chinese texts; speaking, writing. Offered fall semesters. Prerequisites: CHIN:2102 or CHIN:2104.
- CHIN:3102 Third Year Chinese: Second Semester** 3 s.h.  
Continuation of CHIN:3101. Offered spring semesters. Prerequisites: CHIN:3101.
- CHIN:3103 Business Chinese I** 3 s.h.  
Skill development in communicating with Chinese counterparts on a number of domains in business translations; first of a two-course sequence. Prerequisites: CHIN:2102 or CHIN:2104.
- CHIN:3104 Business Chinese II** 3 s.h.  
Skill development in communicating with Chinese counterparts on a number of domains in business translations; second of a two-course sequence. Prerequisites: CHIN:3102 or CHIN:3103.
- CHIN:3201 Workshop in Chinese Literary Translation** 3 s.h.  
Translation from Chinese to English with emphasis on literary translation; issues in theory and practice of translation; special features of Chinese as a source language for translation. Prerequisites: CHIN:3102. Same as TRNS:3202.
- CHIN:3302 Introduction to Chinese Linguistics** 3 s.h.  
Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as LING:3302, SLA:3302.
- CHIN:3341 Chinese Literature: Poetry** 3 s.h.  
Readings in classical and modern Chinese poetry in English translation. Taught in English. Recommendations: sophomore or higher standing.
- CHIN:4101 Classical Chinese: First Semester** 3 s.h.  
Introduction to basic knowledge of classical Chinese; appreciation of traditional Chinese culture through reading idiomatic phrases and ancient fables with vivid and interesting plots. Prerequisites: CHIN:2102 or CHIN:2104.
- CHIN:4102 Classical Chinese: Second Semester** 3 s.h.  
Continuation of CHIN:4101. Prerequisites: CHIN:4101.
- CHIN:4103 Fourth-Year Chinese: First Semester** 3 s.h.  
Proficiency through oral and written discussions of modern texts. Offered fall semesters. Prerequisites: CHIN:3102.
- CHIN:4104 Fourth-Year Chinese: Second Semester** 3 s.h.  
Offered spring semesters. Prerequisites: CHIN:4103.
- CHIN:4150 Advanced Readings in Chinese** 3 s.h.  
Essays in aspects of contemporary Chinese society to further understanding of Chinese society and to expand reading and writing skills. Taught in Chinese. Prerequisites: CHIN:4103.
- CHIN:4203 Modern Chinese Writers** 3 s.h.  
Readings in modern and contemporary Chinese fiction; in English translation. Taught in English. Recommendations: sophomore or higher standing.
- CHIN:4206 Transnational Chinese Cinemas** 3 s.h.  
Films from Mainland China, Hong Kong, Taiwan, and Chinese diasporic communities, silent era to present; relationship of film to nation-state, cultural interflows, media technologies, ideologies. English subtitles. Recommendations: sophomore or higher standing.
- CHIN:4300 Independent Study** arr.  
Research, reading, writing, and translation projects for undergraduate students. Prerequisites: CHIN:3102.
- CHIN:5024 Teaching Chinese as a Second Language VII: Pedagogical Grammar** 3 s.h.  
Introduction to Chinese grammar system from perspective of teaching Chinese as a foreign language; students teach a unit of Chinese grammar to demonstrate understanding of assigned grammar unit and pedagogical approach involved. Prerequisites: CHIN:4103.
- CHIN:5101 Fifth-Year Chinese: First Semester** 3 s.h.  
Major focus is on academic reading and writing; students read selected academic articles and learn to write professional essays.
- CHIN:5102 Fifth-Year Chinese: Second Semester** 3 s.h.  
Continuation of CHIN:5101. Prerequisites: CHIN:5101.
- CHIN:5103 Readings in Chinese Society** 3 s.h.  
Academic texts relating to aspects of Chinese society to develop students' academic reading and writing skills. Requirements: CHIN:5102 for non-native Chinese student.
- CHIN:5106 Individual Chinese for Advanced Students** arr.  
Research, translation projects. Prerequisites: CHIN:4104.
- CHIN:5107 Advanced Classical Chinese** 3 s.h.  
Readings from classical texts of early China period. Prerequisites: CHIN:4102.
- CHIN:5201 Seminar in Chinese Fiction** 3 s.h.  
Novels, novelettes; 16th to 18th centuries (Ming and Qing periods). Taught in English. Requirements: ability to read original texts.
- CHIN:5202 Seminar in Chinese Literature** arr.  
Taught in English. Requirements: two years of modern Chinese and one year of classical Chinese.
- CHIN:6401 Teaching Chinese as a Second Language VI: Research and Pedagogical Projects** 3 s.h.  
Participation in Chinese second language research and material development projects under instructor's guidance.
- CHIN:7401 Teaching Chinese as a Second Language I: Theories and Research** 3 s.h.  
Research, theory on acquisition of Chinese as a non-native language. Taught in English. Same as SLA:7406.
- CHIN:7403 Teaching Chinese as a Second Language III: Instruction and Practicum** 3 s.h.  
Classroom instructional theories, methodologies, and techniques of teaching Chinese as a second language; teaching practicum.
- CHIN:7404 Teaching Chinese as a Second Language IV: Testing and Assessment** 3 s.h.  
Overview of goals, concepts, principles, research, and issues in assessment and testing of Chinese as a second language; knowledge of Chinese required. Taught in English. Same as SLA:7804.
- CHIN:7405 Teaching Chinese as a Second Language V: Seminar in Research and Design** 3 s.h.  
Qualitative and quantitative research design theories and techniques. Taught in English. Prerequisites: CHIN:7401 and PSQF:4143. Same as SLA:7405.

## Japanese Courses

- JPNS:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.
- JPNS:1001 First-Year Japanese: First Semester** 5 s.h.  
Modern Japanese. Offered fall semesters. Requirements: undergraduate standing. GE: World Languages First Level Proficiency.
- JPNS:1002 First-Year Japanese: Second Semester** 5 s.h.  
Continuation of JPNS:1001. Offered spring semesters. Prerequisites: JPNS:1001. Requirements: undergraduate standing. GE: World Languages Second Level Proficiency.
- JPNS:1020 Intensive Kanji: Elementary** 2 s.h.  
Students learn elementary-level Kanji to strengthen their existing knowledge; recommended for students who have studied Japanese for at least one semester at the college level and/or those who plan to take the Japanese Language Proficiency Test (JLPT) at the N4 or N5 level.
- JPNS:1030 Japanese for Travelers** 2 s.h.  
Basic, practical language and social skills that travelers or visitors need in everyday situations, such as making self introductions, ordering food, asking for directions, and traveling by train; Japanese culture, manners and customs, major cities and tourist attractions; for students with no previous experience of Japanese who plan to travel in Japan or would like a practical introduction to the language and culture.
- JPNS:1200 Special Topics in Japanese** 3 s.h.  
Topics vary.
- JPNS:1506 Asian Humanities: Japan** 3 s.h.  
Introduction to premodern, modern, and contemporary Japanese culture; special attention given to the relationship of classical texts to contemporary novels, short stories, manga, anime, music, and film; students consider relationships of textual and visual cultures, high art and low art, moments of crisis and the everyday, the sacred and the profane, men and women. Taught in English. GE: Values and Culture.
- JPNS:2001 Second-Year Japanese: First Semester** 5 s.h.  
Continuation of JPNS:1002. Offered fall semesters. Prerequisites: JPNS:1002. Requirements: undergraduate standing. GE: World Languages Third Level Proficiency.
- JPNS:2002 Second-Year Japanese: Second Semester** 5 s.h.  
Continuation of JPNS:2001. Offered spring semesters. Prerequisites: JPNS:2001. Requirements: undergraduate standing. GE: World Languages Fourth Level Proficiency.
- JPNS:2020 Building Kanji Skills** 1 s.h.  
Designed as a supplement for students currently enrolled in or who have already taken second-year Japanese and who have no other background in languages that use Chinese characters; students develop strategies and skills to learn Kanji more effectively; recommended for students who would like additional instruction and practice with Kanji. Prerequisites: JPNS:1002.
- JPNS:2127 Global Manuscript Cultures** 3 s.h.  
Manuscripts and global manuscript cultures from a comparative, interdisciplinary perspective; history of the book in the East and West; diverse material supports, physical formats, and written layouts of manuscripts of the 1st to 19th centuries, including social and cultural contexts; manuscript traditions of particular cultural spheres (Europe, the Middle East and North Africa, India, East Asia) and historical processes of diffusion, remediation, and obsolescence. Taught in English. GE: Historical Perspectives. Same as ASIA:2127, CLSA:2127.
- JPNS:2175 Japanese Society and Culture** 3 s.h.  
Cultural anthropology of Japan, including historical tradition, religious ethos, social organization, human ecology, educational and political institutions; emphasis on how these aspects relate to and influence one another. GE: Values and Culture. Same as ANTH:2175.
- JPNS:2250 Introduction to the Art of Japan** 3 s.h.  
Chronological survey of Japan's visual arts in their historical and cultural contexts from Neolithic age to present; extensive use of slides, films, other visual materials. Taught in English. Same as ARTH:2250.
- JPNS:3001 Third-Year Japanese I** 4 s.h.  
Modern Japanese; focus on speaking, listening, reading, writing; materials related to everyday life and civilization in Japan. Offered fall semesters. Prerequisites: JPNS:2002 with a minimum grade of C.
- JPNS:3002 Third-Year Japanese II** 4 s.h.  
Continuation of JPNS:3001. Offered spring semesters. Prerequisites: JPNS:3001 with a minimum grade of C.
- JPNS:3020 Intensive Kanji: Intermediate I** 2 s.h.  
Students learn and strengthen their existing knowledge of Kanji; particularly recommended for third-year Japanese students and those who plan to take the Japanese Language Proficiency Test (JLPT) at the N3 level. Prerequisites: JPNS:1002.
- JPNS:3021 Intensive Kanji: Intermediate II** 2 s.h.  
Students learn upper- to intermediate-level Kanji to strengthen their existing knowledge; particularly recommended for third- or fourth-year Japanese students, and/or those who plan to take the Japanese Language Proficiency Test (JLPT) at the N2 level.
- JPNS:3022 Intensive Kanji: Advanced** 2 s.h.  
Students learn advanced-level Kanji to strengthen their existing knowledge; particularly recommended for fourth-year Japanese students, and/or those who plan to take the Japanese Language Proficiency Test (JLPT) at the N1 level.
- JPNS:3107 Classical Japanese: First Semester** 3 s.h.  
Introduction to vocabulary, grammar, and calligraphic scripts of classical Japanese through readings of primary literary and historic sources; instruction in English, readings in classical and modern Japanese. Prerequisites: JPNS:3002.
- JPNS:3128 Introduction to Japanese Linguistics** 3 s.h.  
Basic structural features of the Japanese language; topics include typological and historical background, writing system, phonetics, phonology, syntax, semantics, pragmatics, and language variation; recommended for students who wish to have a deeper understanding of the Japanese language as well as non-Indo-European languages. Taught in English. Prerequisites: JPNS:1002.

- JPNS:3201 Workshop in Japanese Literary Translation** 3 s.h.  
Workshop in translation from Japanese to English, with emphasis on literary translation; issues in theory and practice of translation; special features of Japanese as a source language for translation. Taught in Japanese. Corequisites: JPNS:3001, if not taken as a prerequisite. Same as TRNS:3201.
- JPNS:3202 Traditional Japanese Literature in Translation** 3 s.h.  
Early Japanese literature from 7th to 19th centuries including prose, poetry, drama, and Buddhist texts; students bring traditional Japanese culture to life through practice with experiences ranging from calligraphy, letter folding, and layering kimono patterns to courtly contests and bookbinding. Taught in English.
- JPNS:3203 Modern Japanese Fiction in Translation** 3 s.h.  
Introduction to modern Japanese literature from 1868 to present; focus on representative short stories, novels, and manga; the twin advent of modern Japanese language and the modern novel; rise of autobiographical "I-novel"; Japanese *bundan* (literary establishment), high modernity, and *ero guro nansensu* (erotic grotesque nonsense); stories of the war and its endless postwar; the neo-traditional and the avant-garde; literature of economic collapse and internationalization. Taught in English.
- JPNS:3204 Topics in Japanese Literature in Translation** 3 s.h.  
Topics vary. Taught in English.
- JPNS:3205 Major Authors in Modern Japanese Literature** 3 s.h.  
Modern Japanese literary works in English translation; topics vary. Taught in English.
- JPNS:3206 Warriors' Dreams** 3 s.h.  
Images of the warrior in traditional Japanese literature from ancient legendary heroes, medieval warrior monks, and ninja to the unifying generals, masterless samurai, and women revolutionaries of early modern Japan; students discover what is truth and what is fiction when encountering the warrior in popular culture today. Taught in English.
- JPNS:3207 Japan Illuminated: Japanese Literature and Visual Culture** 3 s.h.  
How text and image have been used together to tell stories across 1,000 years of Japanese culture; students read and view illustrated handscrolls, calligraphy, maps, mandalas, early board games, woodblock prints, modern print media, manga and anime; emphasis on visual analysis and material culture. Taught in English.
- JPNS:3208 Japanese Film** 3 s.h.  
History of Japanese cinema with particular attention paid to Japanese conventions and innovations that differ from classical Hollywood or European paradigms (*benshi* silent-film narrators, *jidaigeki* period films, wartime propaganda, postwar melodrama, avant-garde Japanese New Wave, rise of Japanese documentary, anime); screenings may include works by world famous directors (Mizoguchi, Ozu, Kurosawa) and recent masters (Nishikawa Miwa, Koreeda Hirokazu, Mitani Koki). Taught in English.
- JPNS:3210 Japanese Theater** 3 s.h.  
Major forms of Japanese theater and performance including No and kyogen, the bunraku puppet theater, kabuki, shingeki "Western" theater, benshi film narration, butoh modern dance, counterculture and street theater of the 1960s, Japanese musicals; focus on textual analysis and performance practices; weekly screenings of theatrical performances and student-led staged readings of contemporary performances. Taught in English.
- JPNS:3401 Language in Japanese Society** 3 s.h.  
Aspects of the Japanese language that reflect culture, social structures of Japan; communication styles and strategies, cross-cultural communication, language in media, metaphors. Prerequisites: JPNS:1002.
- JPNS:3402 Japan: Culture and Communication** 3 s.h.  
How Japanese-speaking people communicate; what factors determine the way they speak; how they communicate nonverbally; how people convey messages and emotions in various social settings. Taught in English. Prerequisites: JPNS:1002.
- JPNS:3500 Japanese for Professional Purposes I** 3 s.h.  
Introduction to essential linguistic skills and practical knowledge needed to effectively communicate in Japanese in various professional contexts and in socially appropriate manners; recommended for anyone interested in working in Japan or using Japanese at work. Prerequisites: JPNS:2002 with a minimum grade of B-. Corequisites: JPNS:3001.
- JPNS:3501 Japanese for Professional Purposes II** 3 s.h.  
Continuation of JPNS:3500; advanced linguistic skills needed to become an effective communicator in various professional settings; develop a deeper understanding of Japanese business culture; improve intercultural communication and problem-solving skills; recommended for students interested in working in Japan or using Japanese at work. Prerequisites: JPNS:3500 with a minimum grade of B-.
- JPNS:3601 Contemporary Japanese Culture** 3 s.h.  
Japanese media and culture including manga (comics), anime (animation), films, video games, television drama, fashion, music, sports, food, and contemporary art in the 20th and 21st centuries; students explore aspects of Japanese society relating to youth and otaku cultures, technology and humanity, gender and sexuality, power and violence, obscenity and censorship, beauty and fashion, and global consumption of and participation in Japanese pop culture. Taught in English.
- JPNS:3700 Topics in Global Cinema** 3 s.h.  
Identification of new models and methods to investigate cinema's relationship to current global issues beyond traditional scholarly focus in Western Europe and the United States; exploration of an emerging field, moving away from the paradigm of national cinema and bringing together shared theoretical frameworks while acknowledging different historical and cultural contexts. Taught in English. Same as ASIA:3700, TRNS:3700, WLLC:3700.
- JPNS:4001 Fourth-Year Japanese I** 3 s.h.  
Modern Japanese; focus on reading, writing, speaking, listening. Offered fall semesters. Prerequisites: JPNS:3002 with a minimum grade of C.
- JPNS:4002 Fourth-Year Japanese II** 3 s.h.  
Continuation of JPNS:4001. Offered spring semesters. Prerequisites: JPNS:4001 with a minimum grade of C.

**JPNS:4201 The Tale of Genji** 3 s.h.

Close reading of Murasaki Shikibu's classic *Tale of Genji*; students come to know the characters by exploring the social and cultural context of the tale and discover the art, literature, and film that the *Tale of Genji* has inspired while tracking its reception through the history of Japan and across the globe. Taught in English.

**JPNS:4610 Japan - Age of the Samurai** 3 s.h.

Society, culture, and politics of feudal Japan; social class, gender, norms, and political and economic developments explored through cinema and literature. Taught in English. Same as HIST:4610.

**JPNS:4615 Modern Japan** 3 s.h.

Political, social, and cultural developments of Japanese feudalism; feature films, fiction. Taught in English. Same as HIST:4615.

**JPNS:4620 Japan-U.S. Relations** 3 s.h.

Political, social, economic, and cultural developments in Japan mid-19th century to late 20th century. Taught in English. Same as HIST:4620.

**JPNS:5301 Japanese Linguistics** 3 s.h.

Japanese language as linguistic system; basic linguistic terminology; sound systems, grammar, meanings, usages.

**JPNS:5901 Practicum in Teaching Japanese as a Foreign Language** 1-3 s.h.

Teaching apprenticeship guided and supervised by a faculty member skilled in University curriculum and instruction.

**JPNS:5902 Individual Japanese for Advanced Students** arr.**JPNS:7101 Readings in Modern Japanese** 3 s.h.

Readings in modern Japanese.

## Korean Courses

**KORE:1000 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

**KORE:1051 Korean for Travel and Business** 2 s.h.

Introduction to basic communication skills and Korean culture; Korean alphabet (Hangeul), survival Korean expressions, cultural etiquette and norms; speaking, comprehension, reading, and writing in basic Korean; Korean business culture; classroom activities and assignments based on authentic material.

**KORE:1052 Korean for Travel and Business: Second Semester** 2 s.h.

Continuation of KORE:1051; introduction to basic communication skills and Korean culture which are essential for communicating with Korean people while traveling or doing business; basic Korean expressions, cultural etiquette, and norms; speaking, comprehension, reading, and writing in basic Korean; Korean business culture; classroom activities and homework assignments based on authentic material. Requirements: some familiarity with Korean is needed, but completion of specific coursework in Korean is not required.

**KORE:1101 First-Year Korean: First Semester** 4 s.h.

Modern Korean; speaking, listening, reading, writing. Offered fall semesters. GE: World Languages First Level Proficiency.

**KORE:1102 First-Year Korean: Second Semester** 4 s.h.

Continuation of KORE:1101. Offered spring semesters. Prerequisites: KORE:1101. GE: World Languages Second Level Proficiency.

**KORE:1135 Korean Language and Contemporary Pop Culture** 3 s.h.

Introduction to various sociolinguistic phenomena in Korean society; general linguistic characteristics of Korean; Confucianism and honorifics; language changes in North and South Korea; gender differences and generation differences; Korean contacts with English, Chinese, Japanese, others. Taught in English.

**KORE:1500 Asian Humanities: Korea** 3 s.h.

Introduction to most representative cultural heritages in Korean humanities tradition throughout 4,500 years of Korean history; English translations of famous works in Korean traditional literature, performing and visual arts, philosophy; understanding the essence of traditional Korean culture through exposure to various aspects of Korean humanities; how Korean traditional culture is reflected in contemporary pop culture; readings and discussions taught in English, video materials with English subtitles.

**KORE:1670 Korea in the World** 3 s.h.

Comprehensive and critical understanding of Korea's place in the world; emphasis on historical and sociocultural roots of various aspects of life on the contemporary Korean peninsula (both North and South Korea); comprehensive list of topics including cultural production (K-pop and film), religions, economy, gender relations, cuisine, politics, and prospects for reunification. Taught in English. Same as ASIA:1670, RELS:1670.

**KORE:2101 Second-Year Korean: First Semester** 4 s.h.

Continuation of KORE:1102; conversation and readings in intermediate Korean language; Korean culture. Prerequisites: KORE:1102. GE: World Languages Third Level Proficiency.

**KORE:2102 Second-Year Korean: Second Semester** 4 s.h.

Continuation of KORE:2101. Prerequisites: KORE:2101. GE: World Languages Fourth Level Proficiency.

**KORE:3070 Topics in Korean Studies** 3 s.h.

Varied topics in Korean studies.

**KORE:3100 Introduction to Korean Linguistics** 3 s.h.

Introduction to various topics in Korean linguistics including sentence structures, sound patterns, word formation, discourse structures, and historical background of Korean language. Taught in English. Recommendations: two years of Korean language study. Same as LING:3101.

**KORE:3101 Third-Year Korean: First Semester** 3 s.h.

Continuation of KORE:2102; advanced intermediate Korean—conversation and grammar skills beyond basic intermediate level; vocabulary expansion with increasingly complex, abstract concepts; how to advance one's opinion and discuss thoughts, ideas. Requirements: KORE:2102 with a minimum grade of C-.

**KORE:3102 Third-Year Korean: Second Semester** 3 s.h.

Continuation of KORE:3101; conversation and grammar skills beyond basic intermediate level; writing skills for formal occasions; advanced discussion skills—how to advance one's opinion and share thoughts and ideas; traditional and modern Korean culture. Requirements: KORE:3101 with a minimum grade of C-.



**KORE:3200 Introduction to Korean-English Translation** **3 s.h.**

Opportunity to develop skills and methods in translating texts from Korean into English; students practice reading and translating various types of Korean texts (e.g., novels, cartoons, movie/drama subtitles, newspaper articles) based on the foundation learned in Korean language courses; students analyze translated works before translation and discussion of how to approach translating various genres depending on targeted audiences, purposes, and circumstances. Taught in English and Korean. Prerequisites: KORE:2102 with a minimum grade of C.

**KORE:4000 Fourth Year Korean: First Semester** **3 s.h.**

Continuation of KORE:3102; development of intermediate high to advanced-level Korean; enlarging vocabulary, exploring Korean sentence structures, reading various types of texts, listening to authentic Korean materials; Korean society and culture; content-based learning methodology. Requirements: KORE:3102 with a minimum grade of C-.

**KORE:4001 Fourth Year Korean: Second Semester** **3 s.h.**

Continuation of KORE:4000; development of intermediate high- to advanced-level Korean speaking ability; enlarging vocabulary, exploring Korean sentence structures, reading various types of texts, and listening to authentic Korean materials; Korean society and culture; materials provided to prepare for Korean standardized tests; content-based learning methodology. Requirements: KORE:4000 with a minimum grade of C-.

**KORE:4151 Selected Readings in Korean I** **3 s.h.**

Korean literary works and various readings related to Korean history, culture, and society; expansion of Korean literacy and cultural knowledge through readings; advanced Korean texts.

**KORE:4152 Selected Readings in Korean II** **3 s.h.**

Reading various genres of more advanced texts than those covered in KORE:4151; short stories, poetry, and essays familiar with educated Korean people; texts related to history and current events (e.g., articles from newspapers or magazines); texts written in hangul (Korean characters) and hanja (Chinese characters); Korean literature, history, and culture.

**KORE:5102 Individual Korean for Advanced Students** **arr.**

Korea's modern/traditional culture, history, and current social issues; reading, translating authentic articles. Prerequisites: KORE:3102.

## Russian Courses

**RUSS:1000 First-Year Seminar** **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

**RUSS:1082 Youth Subcultures After Socialism** **3 s.h.**

Examination of youth subculture (i.e., distinct style and identity, beliefs, value system, fashion and favorite music) on the territory of post-communist Europe and its relations with the mainstream culture; how young people of Russia express their individuality after years of dullness and monotony. GE: Values and Culture.

**RUSS:1111 First-Year Russian I** **5 s.h.**

Basic language skills of listening, speaking, reading, and writing Russian; fundamentals of Russian grammar. GE: World Languages First Level Proficiency.

**RUSS:1112 First-Year Russian II** **5 s.h.**

Continuation of RUSS:1111. Requirements: RUSS:1111. GE: World Languages Second Level Proficiency.

**RUSS:1131 Introduction to Russian Culture** **3 s.h.**

Development of cultural history in Russia during the Romanov period (1613-1917); painting, music, architecture, and literature viewed against their political, historical, and social settings. Taught in English. GE: Values and Culture. Same as WLLC:1131.

**RUSS:1132 Russia Today** **3 s.h.**

Contemporary Russia, with focus on prevailing social, political, economic, ethnic, environmental conditions; attention to historical evolution of problems, current factors; what these factors might portend for the future. Taught in English. GE: International and Global Issues; Values and Culture.

**RUSS:1500 Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture** **3 s.h.**

Cultural specificity of Ukraine as a large multicultural European country; vital background information for analysis of present-day political events; strategic location between East and West; centuries-long history and culture; all readings in English, no knowledge of Russian or Ukrainian required. Taught in English.

**RUSS:1531 Slavic Folklore** **3 s.h.**

Introduction to culture, history, and art of eastern European peoples; pagan, dualistic, and animistic beliefs and their coexistence with Christian faith in eastern Europe. GE: Historical Perspectives; Values and Culture.

**RUSS:1532 Traces of Ancient Russian Culture (IX-XVII Centuries): Vikings, Mongols, and Tsars** **3 s.h.**

Early and medieval Slavic history, with focus on Russian art, literature, and religion from 10th through 17th century. Taught in English. GE: Historical Perspectives; Values and Culture.

**RUSS:2001 Global Science Fiction** **3 s.h.**

Science fiction from around the world; spanning poetry, fiction, drama, film, television, comics, mobile phone games, and music; produced on six continents. Taught in English. GE: Diversity and Inclusion. Same as ASIA:2001, FREN:2010, SPAN:2001, TRNS:2001, WLLC:2001.

**RUSS:2050 Women from an Unknown Land: The Fight for Independence** **3 s.h.**

Exploration of past and current issues related to the Caucasus—a mountainous region located where Europe, the Middle East, and Asia meet—forming a geographical and cultural crossroad; topics include those related to women's rights, causes of poverty and ethnic conflicts, and foreign policy including terrorism in the region, the fight for freedom, and the struggle over natural resources. Taught in English. GE: International and Global Issues. Same as WLLC:2050.

**RUSS:2100 Russian Mindset: Sex, Business, and Politics** **3 s.h.**

Deeper insight of Russian mentality through philosophical, historical, cultural, and practical developments that have shaped Russian behavior and thought. GE: Values and Culture.

**RUSS:2110 Russian Sports: Politics, Scandal, Glory** 3 s.h.

Overview of Russian sports from its beginnings in Slavic tribes through the importance of sports as a political tool during Soviet time to the scandals and glory of modern days; focus on the strong cultural background and rigorous traditions that form the powerhouse known as Russian sports; includes Russian sport celebrities of past and present. Taught in English.

**RUSS:2111 Second-Year Russian I** 4 s.h.

Transition to upper-level study through oral practice, grammar exercises, tapes, videos, readings from the Russian press. Requirements: RUSS:1112. GE: World Languages Third Level Proficiency.

**RUSS:2112 Second-Year Russian II** 4 s.h.

Continuation of RUSS:2111. Requirements: RUSS:2111. GE: World Languages Fourth Level Proficiency.

**RUSS:2232 Romani (Gypsy) Cultures of Eastern Europe** 3 s.h.

Aspects of culture shared by most Roma (Gypsies) around the world; samples of folklore from Europe; impact of Roma on European literature, music, and culture; readings in English; no previous knowledge of Russian or Romani required. Taught in English. GE: Diversity and Inclusion.

**RUSS:3111 Third-Year Russian I** 4 s.h.

Advanced Russian grammar, reading, conversation, and written skills through oral reports, compositions, conversation. Requirements: RUSS:2112.

**RUSS:3112 Third-Year Russian II** 4 s.h.

Advanced Russian grammar, reading, conversation, and written skills through oral reports, compositions, conversation. Requirements: RUSS:3111.

**RUSS:3113 Russian Composition and Conversation** 4 s.h.

Russian oral and aural skills developed through idiomatic usage, stylistics, phonetics, intonation, grammar review; supplemented by short stories, newspaper texts. Taught in Russian. Requirements: RUSS:1112.

**RUSS:3122 Tolstoy and Dostoevsky** 3-4 s.h.

Tolstoy's *War and Peace* and *Anna Karenina*; Dostoevsky's *Crime and Punishment*, *The Demons*, and short stories. Taught in English. Same as TRNS:3122, WLLC:3122.

**RUSS:3200 Advanced Russian Through Music, Literature, and Film I** 3 s.h.

Implementation of a variety of print and online materials to acquaint students with methods to increase their listening, reading, and speaking skills in Russian; initial focus on essentials of Russian pronunciation and reading short literary works (and audio recordings) to prepare a strong base for work with authentic Russian audio, music video, and feature films; online Russian grammar review on traditional aspects of intermediate and advanced Russian grammar. Taught in Russian. Requirements: RUSS:2112 with a minimum grade of C+.

**RUSS:3201 Advanced Russian Through Music, Literature, and Film II** 3 s.h.

Continuation of RUSS:3200; implementation of a variety of print and online materials; methods to increase listening, reading, and speaking skills in Russian. Taught in Russian. Requirements: RUSS:2112 with a minimum grade of C+. Recommendations: completion of RUSS:3200.

**RUSS:3202 Russian Literature in Translation 1860-1917** 3 s.h.

Survey of major works, figures, and trends of 19th- and early 20th-century Russian literature; age of the Russian novel; works of Turgenev (*Fathers and Sons*), Tolstoy (*Confession*), Dostoevsky (*The Idiot*, *The Brothers Karamazov*), and Chekhov (plays). Taught in English. Same as HIST:3492, TRNS:3203, WLLC:3202.

**RUSS:3990 Special Readings** arr.

Russian-language materials determined by student and instructor. Requirements: 16 s.h. of Russian language instruction.

**RUSS:4111 Fourth-Year Russian I** 4 s.h.

Perfecting spoken Russian and aural comprehension of native speech. Taught in Russian. Requirements: RUSS:3112 or three years of college-level Russian.

**RUSS:4112 Fourth-Year Russian II** 4 s.h.

Perfecting spoken Russian and aural comprehension of native speech. Taught in Russian. Requirements: RUSS:4111 or three years of college-level Russian.

**RUSS:4990 Independent Research** arr.

Directed study.

**RUSS:4995 Honors** arr.

Honors project with a faculty member.

## South Asian Studies Courses

**SOAS:1502 Asian Humanities: India** 3 s.h.

Introduction to 4,000 years of South Asian civilization through popular stories. Taught in English. GE: Values and Culture. Same as ASIA:1502, RELS:1502.

**SOAS:1550 Sex, Music, and Pop Culture in India** 3 s.h.

Exploration of debates and conflicts around gender and sexuality in Indian and South Asian popular culture, particularly music; shifting representations of gender relations, sexuality, gender/sexual identities in Indian music; focus on postcolonial period; how folk music, film songs, and classical music (among other genres) have dealt with issues such as changing conceptions of womanhood or masculinity, "queer" or gender/sexually variant communities and identities; how popular culture has negotiated questions of gender and sexuality in relation to nationhood, globalization, and cultural identity.

**SOAS:1620 Bhagavad Gita: Essential Teachings of Indian Religion** 3 s.h.

Students read the Bhagavad Gita and discuss its interpretations and use in classical and modern religious, literary, and political contexts; composed around 2000 years ago, it is the best known and most influential religious text in Indian history and concisely addresses war and peace, duty and righteousness, renunciation, devotion, and the nature of the universe; its been read, debated, and discussed by ancient philosophers, modern religious teachers, and political figures such as Mahatma Gandhi, the father of modern Independent India. Same as RELS:1620.

**SOAS:3500 Queerness in South Asian Literature and Cinema** **3 s.h.**

Debates and conflicts around gender or sexual variance in South Asian cultural spheres; shifting representations of queerness—a broad label for non-normative gender/sexual practices or identities—in literature and films from India and neighboring regions; diverse constructions of gender/sexuality in precolonial India; focus on postcolonial period when regulation of deviant gender/sexuality became tied to colonial administration and emerging national identity; how cultural representations constructed normative or deviant genders/sexualities in relation to class, caste, and nationhood.

**SOAS:3644 Gandhi and His Legacy** **0-1,3 s.h.**

In-depth introduction to the life, ideas, and ongoing impact of Mohandas Karamchand Gandhi (1869-1948); from his conservative upbringing to his early career as a lawyer, his transformative experiences, and self-transformation into a charismatic mahatma ("great soul"), the pursuit of political and social liberation through non-violent civil disobedience, the assertion of human rights, and the quest for sustainable lifestyles that uphold the common good and protect the natural environment; evolution of Gandhi's thought and activism and his legacy. Same as HIST:3644, RELS:3644.

**SOAS:4103 Individual Hindi** **arr.**

Readings in medieval and modern Hindi.

**SOAS:4802 South Asian Research Seminar** **arr.**

Faculty and student research.

**SOAS:5201 Individual Sanskrit for Advanced Students** **arr.**

Research, translation projects. Requirements: fourth-year proficiency.

# Asian Languages and Literature, B.A.

The B.A. program in Asian languages and literature gives students the opportunity to develop advanced skills in an Asian language while they study the people, literatures, and cultures of Asia. Students choose one of two tracks: Chinese or Japanese.

Many other disciplines work well as second majors for Asian languages and literature students, such as history, art history, political science, religion, sociology, journalism, business, and anthropology.

## Learning Outcomes

### Culture and Literature Knowledge

Students will have:

- knowledge about the target literature and culture, from premodern to modern and contemporary;
- the cultural foundation and critical thinking skills necessary to engage with relevant primary and secondary materials; and
- the ability to communicate their knowledge of Chinese or Japanese culture and language effectively.

### Language Competence

Students are able to:

- carry out tasks in various circumstances and interact with others in different social settings and everyday situations in a culturally appropriate manner;
- understand relatively uncomplicated texts that describe events and personal feelings, while they understand the essence of various types of lengthy, more complex written materials; and
- critically assess materials and produce coherent writing based on the acquired information.

### Linguistics Knowledge

Students will have:

- basic knowledge of sociocultural aspects of the language and skills to see through the stereotypes and myths of the target culture in order to have a better understanding of both the target culture and their own.

## Requirements

The Bachelor of Arts with a major in Asian languages and literature requires a minimum of 120 s.h., including 30-32 s.h. of work for the major, depending on the track. Students choose one of two tracks: Chinese or Japanese. Credit required for the major depends on choice of track; requirements for each track are listed below. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Furthering Language Incentive Program (FLIP) credit may not be counted toward the major.

The amount of approved transfer credit that may be applied to the major varies by track; students should consult their advisors about courses taken at other institutions, including study abroad.

Students may earn the Asian languages and literature major and minor if the minor emphasis language (Chinese or Japanese) differs from the major language track.

The B.A. with a major in Asian languages and literature requires the following work.

## Tracks

- Chinese Track [p. 172]
- Japanese Track [p. 173]

### Chinese Track

Students in the Chinese track must complete the following coursework.

Code	Title	Hours
Prerequisite Chinese Language Courses		
	Chinese Language Courses	15
	Chinese Literature and Cinema Courses	6
	Chinese Culture and Society Courses	9
<b>Total Hours</b>		<b>30</b>

### Prerequisite Chinese Language

Students must successfully complete the prerequisite courses below, or the equivalent, before they enroll in required courses. These courses do not count as credit earned toward track requirements.

Code	Title	Hours
This sequence:		
CHIN:2101- CHIN:2102	Second-Year Chinese: First Semester - Second-Year Chinese: Second Semester	10

### Chinese Language

Code	Title	Hours
All of these:		
CHIN:3101- CHIN:3102	Third-Year Chinese: First Semester - Third Year Chinese: Second Semester	6
CHIN:4101	Classical Chinese: First Semester	3
CHIN:4103- CHIN:4104	Fourth-Year Chinese: First Semester - Fourth-Year Chinese: Second Semester	6

### Chinese Literature and Cinema

Code	Title	Hours
Two of these:		
CHIN:3341	Chinese Literature: Poetry	3
CHIN:4203	Modern Chinese Writers	3
CHIN:4206	Transnational Chinese Cinemas	3

### Chinese Culture and Society

Courses in this area include those in art, history, literature, linguistics, religion, and translation.

Code	Title	Hours
At least 9 s.h. from these:		
ASIA:1060/ HIST:1612/ RELS:1506	Introduction to Buddhism	3

ASIA:1510/ WLLC:1510	Ghost Stories and Tales of the Weird in Premodern Chinese Literature	3
ASIA:1602/ HIST:1602	Civilizations of Asia: China from the 17th Century to the Present	3
ASIA:2222/ GWSS:2222/ WLLC:2222	Women in Premodern East Asian Literature	3
ASIA:3208/ TRNS:3208/ WLLC:3208	Classical Chinese Literature Through Translation	3
ASIA:3220/ ARTH:3230	Chinese Painting I: Pagodas and Palaces	3
CHIN:1504	Asian Humanities: China	3
CHIN:1702	Chinese Popular Culture	3
CHIN:1800	Chinese Calligraphy and Culture	3
CHIN:3201/ TRNS:3202	Workshop in Chinese Literary Translation	3
CHIN:3302/ LING:3302/ SLA:3302	Introduction to Chinese Linguistics	3
CHIN:4150	Advanced Readings in Chinese	3
HIST:3650/ ASIA:3650	Chinese History from 1600 to 1911	3
HIST:3652/ ASIA:3652	Twentieth-Century China	3

## Electives

Courses and requirements listed above represent the minimum hours required to complete the Chinese track. Students also may choose additional Chinese elective courses (prefix CHIN), but may not exceed a total of 56 s.h. that will apply to the minimum 120 s.h. required to graduate. Elective Chinese courses will not count toward Chinese requirements for the major. Independent studies and arranged hours may be used as elective hours but are not counted toward requirements for the major.

## Japanese Track

Students in the Japanese track must complete the following coursework.

Code	Title	Hours
	Prerequisite Japanese Language Courses	
	Third- and Fourth-Year Japanese	14
	Literature and Translation Courses	9
	Linguistics and Advanced Language Studies Courses	6
	Cultural Studies Course	3
<b>Total Hours</b>		<b>32</b>

Students may apply a maximum of 12 s.h. of approved transfer credit toward track requirements. Those who are planning to study abroad should consult with their Japanese track advisors in advance to determine whether their planned coursework abroad will be accepted toward track requirements.

## Prerequisite Japanese Language Courses

Students must successfully complete the prerequisite courses below, or the equivalent, before they enroll in required

courses. These courses do not count as credit earned toward track requirements.

Code	Title	Hours
All of these:		
JPNS:1001	First-Year Japanese: First Semester	5
JPNS:1002	First-Year Japanese: Second Semester	5
JPNS:2001	Second-Year Japanese: First Semester	5
JPNS:2002	Second-Year Japanese: Second Semester	5

## Third- and Fourth-Year Japanese

Code	Title	Hours
Both of these sequences:		
JPNS:3001- JPNS:3002	Third-Year Japanese I-II	8
JPNS:4001- JPNS:4002	Fourth-Year Japanese I-II	6

## Literature and Translation

Code	Title	Hours
Three of these:		
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
JPNS:3202	Traditional Japanese Literature in Translation	3
JPNS:3203	Modern Japanese Fiction in Translation	3
JPNS:3204	Topics in Japanese Literature in Translation	3
JPNS:3205	Major Authors in Modern Japanese Literature	3
JPNS:3206	Warriors' Dreams	3
JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3
JPNS:3208	Japanese Film	3
JPNS:3210	Japanese Theater	3
JPNS:3601	Contemporary Japanese Culture	3
JPNS:4201	The Tale of Genji	3

## Linguistics and Advanced Language Studies

Code	Title	Hours
At least 6 s.h. from these:		
JPNS:3107	Classical Japanese: First Semester	3
JPNS:3128	Introduction to Japanese Linguistics	3
JPNS:3401	Language in Japanese Society	3
JPNS:3402	Japan: Culture and Communication	3
JPNS:3501	Japanese for Professional Purposes II	3

## Cultural Studies

Students complete one course chosen from the following lists.

## Asian and Slavic Languages and Literatures

Code	Title	Hours
JPNS:1506	Asian Humanities: Japan	3
JPNS:3500	Japanese for Professional Purposes I	3

## Anthropology

Code	Title	Hours
JPNS:2175/ ANTH:2175	Japanese Society and Culture	3

## Art History

Code	Title	Hours
JPNS:2250/ ARTH:2250	Introduction to the Art of Japan	3

## History

Code	Title	Hours
JPNS:4610/ HIST:4610	Japan - Age of the Samurai	3
JPNS:4615/ HIST:4615	Modern Japan	3
JPNS:4620/ HIST:4620	Japan-U.S. Relations	3

## World Languages, Literatures, and Cultures

Code	Title	Hours
JPNS:3700/ ASIA:3700/ TRNS:3700/ WLLC:3700	Topics in Global Cinema	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

Asian languages and literature majors must complete designated pedagogy and linguistics courses in the department in addition to the coursework required for their major.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students earning a major in Asian languages and literature with a minimum g.p.a. of 3.50 in the major and an overall minimum g.p.a. of 3.33 have the opportunity to graduate with honors in the major. Students interested in earning honors in the major should seek the consent of the department chair and a faculty sponsor (an Asian specialist from any department) for departmental honors work. Students must register for ASIA:4301 Honors Tutorial and ASIA:4506 Senior Honors Thesis and must complete an acceptable thesis based on original research.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Asian languages and literature major.

### Financial Support

Undergraduate students have access to financial aid and scholarship resources. Visit Undergraduate Awards and Scholarships on the Department of Asian and Slavic Languages and Literatures website for available scholarships and application information.

### Career Advancement

Asian languages and literature graduates pursue careers in education, government, communication, business, and other fields in the United States and beyond. The programs also provide an excellent background for advanced study in the humanities and social sciences and in professional schools, such as law and business. The number of Americans who can speak Asian languages is relatively small, so many career opportunities exist for individuals trained in these areas.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** for students in Chinese and Japanese tracks, language work begun (students in the Sanskrit tracks may begin language work in their sophomore year).

**Before the fifth semester begins:** at least first-year language competency.

**Before the seventh semester begins:** at least second-year language competency and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least third-year, first-semester language competency and one additional course in the major (for the Japanese track, two additional courses in the major).

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Asian Languages and Literature, B.A.

- Chinese Track [p. 175]
- Japanese Track [p. 176]

### Chinese Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHIN:1111	First-Year Chinese: First Semester <sup>b</sup>	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
Elective course		1
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
CHIN:1112	First-Year Chinese: Second Semester <sup>b</sup>	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
Elective course		3
Elective course		1
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
CHIN:2101	Second-Year Chinese: First Semester <sup>b</sup>	5
Major: Chinese literature and cinema course		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
CHIN:2102	Second-Year Chinese: Second Semester <sup>b</sup>	5
Major: Chinese literature and cinema course		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>17</b>
<b>Third Year</b>		
<b>Fall</b>		
CHIN:3101	Third-Year Chinese: First Semester	3
CHIN:4101	Classical Chinese: First Semester	3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15</b>

### Spring

CHIN:3102	Third Year Chinese: Second Semester	3
Major: Chinese culture and society course		3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

### Fourth Year

#### Fall

CHIN:4103	Fourth-Year Chinese: First Semester	3
Major: Chinese culture and society course		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

#### Spring

CHIN:4104	Fourth-Year Chinese: Second Semester	3
Major: Chinese culture and society course		3
GE CLAS Core: Social Sciences <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>e</sup>		
<b>Hours</b>		<b>15</b>

**Hours** **15**

**Total Hours** **123-125**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b CHIN:1111, CHIN:1112, CHIN:2101, and CHIN:2102 do not count for credit toward the major. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Japanese Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Students may apply a maximum of 12 s.h. of approved transfer credit toward track requirements.<sup>a</sup>

GE CLAS Core: Sustainability<sup>b</sup>

<b>Hours</b>		<b>0</b>
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### First Year

#### Fall

JPNS:1001	First-Year Japanese: First Semester <sup>c</sup>	5
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RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
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GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
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Elective course <sup>e</sup>		1
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CSI:1600	Success at Iowa	2
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<b>Hours</b>		<b>14-15</b>
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#### Spring

JPNS:1002	First-Year Japanese: Second Semester <sup>c</sup>	5
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RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
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GE CLAS Core: Historical Perspectives <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		1
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<b>Hours</b>		<b>15-16</b>
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### Second Year

#### Fall

JPNS:2001	Second-Year Japanese: First Semester <sup>c</sup>	5
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GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
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GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		1
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<b>Hours</b>		<b>15</b>
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#### Spring

JPNS:2002	Second-Year Japanese: Second Semester <sup>c</sup>	5
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GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		1
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<b>Hours</b>		<b>15</b>
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### Third Year

#### Fall

JPNS:3001	Third-Year Japanese I	4
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Major: cultural studies course		3
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GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		2
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<b>Hours</b>		<b>16</b>
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#### Spring

JPNS:3002	Third-Year Japanese II	4
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Major: literature and translation course		3
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Major: literature and translation course		3
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GE CLAS Core: International and Global Issues <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>16</b>
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### Fourth Year

#### Fall

JPNS:4001	Fourth-Year Japanese I	3
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Major: linguistics and advanced language studies course		3
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Major: literature and translation course		3
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GE CLAS Core: Values and Culture <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>15</b>
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#### Spring

JPNS:4002	Fourth-Year Japanese II	3
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Major: linguistics and advanced language studies course		3
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GE CLAS Core: Social Sciences <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		3
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Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>f</sup>		
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<b>Hours</b>		<b>15</b>
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<b>Total Hours</b>		<b>121-123</b>
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a Students who are planning to study abroad should consult with their Japanese track advisors in advance to determine whether their planned coursework abroad will be accepted toward track requirements.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

c JPNS:1001, JPNS:1002, JPNS:2001, and JPNS:2002 do not count for credit toward the major. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



## Russian, B.A.

The Russian major leading to the B.A. degree trains students in both written and spoken Russian and in Russian literature, culture, and civilization. The department encourages students to pursue a second major (e.g., global health, history, linguistics, political science) and to develop their interests in related or complementary fields. Students interested in focusing on a broader interdisciplinary understanding of the region may earn a second major in international studies; see the B.A. in international studies [p. 752] in the Catalog.

### Learning Outcomes

By graduation, Russian majors will have:

- enhanced their language proficiency and cultural awareness of the Russian-speaking world; and
- attained skills to engage critically with histories, cultures, literatures, and other arts, and gained knowledge of the diversified Russian-speaking world (Russia, former Republics of the Soviet Union, and Southern and Western Slavs).

### Study Abroad

The Department of Asian and Slavic Languages and Literatures offers an Intensive Summer Language Program at Plekhanov Russian University of Economics (PRUE) in Moscow, Russia. Scholarship opportunities are available and students earn University of Iowa credit. By participating in this program, students can complete the requirements for the Russian major in three years and two months.

Students live and study in the historical center of Moscow, within walking distance from famous landmarks such as Red Square, the Kremlin, the Bolshoi Theater, the State Tretyakov Gallery, and Saint Basil's Cathedral. This immersion in Russian language and culture enables students to become fluent in the Russian language faster, enjoy an authentic Russian language and cultural experience, and make friends from around the world.

Contact the academic coordinator of the Russian program or International Programs Study Abroad for more information.

### Requirements

The Bachelor of Arts with a major in Russian requires a minimum of 120 s.h., including 32 s.h. of work for the major earned in Russian courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students must complete RUSS:2112 Second-Year Russian II or the equivalent before they complete language requirements for the major.

The B.A. with a major in Russian requires the following coursework.

Code	Title	Hours
	Language Courses	23
	Russian and East European Culture Courses	9
<b>Total Hours</b>		<b>32</b>

## Language

Code	Title	Hours
All of these:		
RUSS:2112	Second-Year Russian II (course is 4 s.h., but only 3 s.h. applies toward the major)	3
RUSS:3111	Third-Year Russian I	4
RUSS:3112	Third-Year Russian II	4
RUSS:3113	Russian Composition and Conversation	4
RUSS:4111	Fourth-Year Russian I	4
RUSS:4112	Fourth-Year Russian II	4

## Russian and East European Culture

Code	Title	Hours
Three of these (9 s.h.):		
RUSS:1131/ WLLC:1131	Introduction to Russian Culture	3
RUSS:1132	Russia Today	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Traces of Ancient Russian Culture (IX-XVII Centuries): Vikings, Mongols, and Tsars	3
RUSS:2050/ WLLC:2050	Women from an Unknown Land: The Fight for Independence	3
RUSS:2100	Russian Mindset: Sex, Business, and Politics	3
RUSS:2110	Russian Sports: Politics, Scandal, Glory	3
RUSS:3122/ TRNS:3122/ WLLC:3122	Tolstoy and Dostoevsky	3
RUSS:3200	Advanced Russian Through Music, Literature, and Film I	3
RUSS:3201	Advanced Russian Through Music, Literature, and Film II	3
RUSS:3202/ HIST:3492/ TRNS:3203/ WLLC:3202	Russian Literature in Translation 1860-1917	3

Students are urged to choose elective courses in economics, geographical and sustainability sciences, history, political science, global health, and international studies. Nearly every avenue of professional training and employment requires a solid background in Russian area studies. For example, criteria for U.S. government employment include substantive knowledge in history, economics, political science, sociological disciplines, scientific specialties, demography, military-related skills, and in some cases, cultural and religious background. In-depth knowledge of literature or linguistics without other substantive background may be of limited practical use in finding employment.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

Majors must complete designated pedagogy and linguistics courses in the department in addition to the coursework required for their major.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. They must have junior or senior standing, a g.p.a. of at least 3.33 in Russian, and a cumulative University of Iowa g.p.a. of at least 3.33 in order to enroll in the honors program.

Honors students must register for RUSS:4995 Honors. They must complete an honors project (e.g., thesis, translation, cultural studies, or research) in Russian. Students must present their work to a faculty committee as determined by their honors thesis advisor. Contact the department for more information about requirements for graduation with honors in the Russian major.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Russian major.

## Financial Support

Undergraduate students have access to the following financial aid and scholarship resources. Visit the Department of Asian and Slavic Languages and Literatures for available scholarships and application information.

## Career Advancement

Training in Russian is often an important asset to careers in the natural and physical sciences, engineering, medicine, business, journalism, library and information science, and the social and military sciences. It also may be appropriate preparation for study of law or international relations as well as Russian language and literature, translation, and other humanistic disciplines.

Some governmental agencies are interested in job candidates who have advanced training in Russian; these agencies give preference to applicants who combine strong language proficiency with a well-rounded background in area studies. Students who develop an exceptional facility with the Russian language may pursue careers in literary and technical translation and interpretation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** competence in first-year Russian.

**Before the fifth semester begins:** competence in second-year Russian.

**Before the seventh semester begins:** competence in third-year Russian, an additional course in the major, and at least 90 s.h. earned toward the degree.

**Before the eighth semester:** competence in fourth-year Russian and two more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Russian, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
RUSS:1111	First-Year Russian I <sup>b</sup>	5
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
Elective course <sup>d</sup>		1
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>14-15</b>
<b>Spring</b>		
RUSS:1112	First-Year Russian II <sup>b</sup>	5
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		1
	<b>Hours</b>	<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
RUSS:2111	Second-Year Russian I <sup>b</sup>	4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
Elective course <sup>d</sup>		2

Elective course <sup>d</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
RUSS:2112 Second-Year Russian II <sup>e</sup>	4
Major: Russian and East European culture course	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	2
<b>Hours</b>	<b>15</b>
<b>Third Year</b>	
<b>Fall</b>	
RUSS:3111 Third-Year Russian I	4
RUSS:3113 Russian Composition and Conversation	4
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>	4
Elective course <sup>d</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
RUSS:3112 Third-Year Russian II	4
Major: Russian and East European culture course	3
GE CLAS Core: International and Global Issues <sup>c</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>	3
Elective course <sup>d</sup>	1 - 3
<b>Hours</b>	<b>14-16</b>
<b>Fourth Year</b>	
<b>Fall</b>	
RUSS:4111 Fourth-Year Russian I	4
Major: Russian and East European culture course	3
GE CLAS Core: Values and Culture <sup>c</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	2
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
RUSS:4112 Fourth-Year Russian II	4
GE CLAS Core: Social Sciences <sup>c</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>f</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>118-122</b>

should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Only 3 s.h. from RUSS:2112 applies toward the major.

f Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b RUSS:1111, RUSS:1112, and RUSS:2111 do not count for credit toward the major. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students

# Asian Languages and Literature, Minor

## Requirements

The undergraduate minor in Asian languages and literature is offered with two emphases: Chinese or Japanese. The minor requires 15-17 s.h. of credit, depending on the emphasis. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students may earn the Asian languages and literature major and minor if the minor emphasis language (Chinese or Japanese) differs from the major language track.

The minor requirements for each emphasis are listed below.

- Chinese Emphasis [p. 180]
- Japanese Emphasis [p. 180]

## Chinese Emphasis

The minor in Asian languages and literature with Chinese emphasis requires 15 s.h., including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa. The minor must include the following coursework. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for that course.

Code	Title	Hours
Both of these sequences:		
CHIN:3101- CHIN:3102	Third-Year Chinese: First Semester - Third Year Chinese: Second Semester	6
CHIN:4103- CHIN:4104	Fourth-Year Chinese: First Semester - Fourth-Year Chinese: Second Semester	6
One of these:		
CHIN:3302/ LING:3302/ SLA:3302	Introduction to Chinese Linguistics	3
CHIN:3341	Chinese Literature: Poetry	
CHIN:4203	Modern Chinese Writers	
CHIN:4206	Transnational Chinese Cinemas	
<b>Total Hours</b>		<b>15</b>

## Japanese Emphasis

The minor in Asian languages and literature with Japanese emphasis requires 17 s.h., including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa. Furthering Language Incentive Program (FLIP) credit may not be counted toward the Japanese emphasis.

The following courses are prerequisite to the Japanese emphasis; they do not count toward the minor.

Code	Title	Hours
JPNS:1001	First-Year Japanese: First Semester	5
JPNS:1002	First-Year Japanese: Second Semester	5

JPNS:2001	Second-Year Japanese: First Semester	5
JPNS:2002	Second-Year Japanese: Second Semester	5

The minor with Japanese emphasis must include the following courses.

Code	Title	Hours
JPNS:3001	Third-Year Japanese I	4
JPNS:3002	Third-Year Japanese II	4
One course in literature and translation		3
One course in linguistics and advanced language studies		3
One course in literature and translation, or in linguistics and advanced language studies, or in cultural studies		3
<b>Total Hours</b>		<b>17</b>

Students select courses in literature and translation, linguistics and advanced language studies, and cultural studies from the lists below.

## Literature and Translation

Code	Title	Hours
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
JPNS:3202	Traditional Japanese Literature in Translation	3
JPNS:3203	Modern Japanese Fiction in Translation	3
JPNS:3204	Topics in Japanese Literature in Translation	3
JPNS:3205	Major Authors in Modern Japanese Literature	3
JPNS:3206	Warriors' Dreams	3
JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3
JPNS:3208	Japanese Film	3
JPNS:3210	Japanese Theater	3
JPNS:3601	Contemporary Japanese Culture	3
JPNS:4201	The Tale of Genji	3

## Linguistics and Advanced Language Studies

Code	Title	Hours
JPNS:3107	Classical Japanese: First Semester	3
JPNS:3128	Introduction to Japanese Linguistics	3
JPNS:3401	Language in Japanese Society	3
JPNS:3402	Japan: Culture and Communication	3
JPNS:3501	Japanese for Professional Purposes II	3

## Cultural Studies

### Asian and Slavic Languages and Literatures

Code	Title	Hours
JPNS:1506	Asian Humanities: Japan	3
JPNS:3500	Japanese for Professional Purposes I	3

### Anthropology

Code	Title	Hours
JPNS:2175/ ANTH:2175	Japanese Society and Culture	3

### Art History

Code	Title	Hours
JPNS:2250/ ARTH:2250	Introduction to the Art of Japan	3

### History

Code	Title	Hours
JPNS:4610/ HIST:4610	Japan - Age of the Samurai	3
JPNS:4615/ HIST:4615	Modern Japan	3
JPNS:4620/ HIST:4620	Japan-U.S. Relations	3

### World Languages, Literatures, and Cultures

Code	Title	Hours
JPNS:3700/ ASIA:3700/ TRNS:3700/ WLLC:3700	Topics in Global Cinema	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Asian Languages and Literature, Minor

- Chinese Emphasis [p. 181]
- Japanese Emphasis [p. 181]

### Chinese Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

The minor in Asian languages with Chinese emphasis requires 15 s.h., including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa.

Some of the courses have prerequisites; students must complete all of a course's prerequisites before they may register for that course.

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**Hours** **0**

### First Year

<b>Fall</b>		
CHIN:1111	First-Year Chinese: First Semester <sup>a, b</sup>	5

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**Hours** **5**

### Spring

CHIN:1112	First-Year Chinese: Second Semester <sup>a, b</sup>	5
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**Hours** **5**

### Second Year

<b>Fall</b>		
CHIN:2101	Second-Year Chinese: First Semester <sup>a, b</sup>	5

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**Hours** **5**

### Spring

CHIN:2102	Second-Year Chinese: Second Semester <sup>a, b</sup>	5
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**Hours** **5**

### Third Year

<b>Fall</b>		
CHIN:3101	Third-Year Chinese: First Semester	3

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**Hours** **3**

### Spring

CHIN:3102	Third Year Chinese: Second Semester	3
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**Hours** **3**

### Fourth Year

<b>Fall</b>		
CHIN:4103	Fourth-Year Chinese: First Semester	3

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**Hours** **3**

### Spring

CHIN:4104	Fourth-Year Chinese: Second Semester	3
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**Hours** **3**

Minor: Chinese elective course <sup>c</sup>		3
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**Hours** **6**

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**Total Hours** **35**

a Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

b This course is a prerequisite for the required minor courses.

c Choose one from the following courses: CHIN:3302, CHIN:3341, CHIN:4203, CHIN:4206.

### Japanese Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

The minor in Asian languages with Japanese emphasis requires 17 s.h., including 12 s.h. earned in courses considered advanced for the minor taken at the University of Iowa.

Furthering Language Incentive Program (FLIP) credit may not be counted toward the Japanese emphasis.

Some of the courses have prerequisites; students must complete all of a course's prerequisites before they may register for that course.

<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
JPNS:1001	First-Year Japanese: First Semester a, b	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
JPNS:1002	First-Year Japanese: Second Semester a, b	5
<b>Hours</b>		<b>5</b>
<b>Second Year</b>		
<b>Fall</b>		
JPNS:2001	Second-Year Japanese: First Semester a, b	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
JPNS:2002	Second-Year Japanese: Second Semester a, b	5
<b>Hours</b>		<b>5</b>
<b>Third Year</b>		
<b>Fall</b>		
JPNS:3001	Third-Year Japanese I	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
JPNS:3002	Third-Year Japanese II	4
<b>Hours</b>		<b>4</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Minor: Japanese course in literature and translation <sup>c</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: Japanese course in linguistics and advanced language studies <sup>d</sup>		3
Minor: Japanese course in literature and translation, linguistics and advanced language studies, or cultural studies <sup>c, d, e</sup>		3
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>37</b>

a Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

b This course is a prerequisite for the required minor courses.

c Courses in Literature and Translation: JPNS:3201, JPNS:3202, JPNS:3203, JPNS:3204, JPNS:3205, JPNS:3206, JPNS:3207, JPNS:3208, JPNS:3210, JPNS:3601, JPNS:4201.

d Courses in Linguistics and Advanced Language Studies: JPNS:3107, JPNS:3128, JPNS:3401, JPNS:3402, JPNS:3501.

e Courses in Cultural Studies: JPNS:1506, JPNS:2175, JPNS:2250, JPNS:3500, JPNS:3700, JPNS:4610, JPNS:4615, JPNS:4620.

# Korean Studies, Minor

## Requirements

The undergraduate minor in Korean studies requires a minimum of 15 s.h., with a minimum of 9 s.h. completed at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

A maximum of 6 s.h. in transfer coursework may be selected in approved study abroad coursework. See "Study Abroad" below for details.

## Required Courses

Code	Title	Hours
One of these:		
KORE:1135	Korean Language and Contemporary Pop Culture	3
KORE:3100/ LING:3101	Introduction to Korean Linguistics	3
Two of these:		
KORE:3101	Third-Year Korean: First Semester	3
KORE:3102	Third-Year Korean: Second Semester	3
KORE:4000	Fourth Year Korean: First Semester	3
KORE:4001	Fourth Year Korean: Second Semester	3

## Electives

Students proficient through upper-level Korean language courses (more advanced than third-year Korean or with a Test of Proficiency in Korean [TOPIK] level of 3 or higher) and who have an approved waiver from the Korean program coordinator may substitute 6 s.h. of other coursework from the list below instead of completing the Korean language requirement.

Students proficient through upper-level Korean language courses who do not have a waiver must complete a minimum of 3 s.h. in a related area elective. They can select a course from the list below or consult with the Korean program coordinator for approval to take a different elective course.

All other students select 6 s.h. from the following (consult Korean program coordinator for options involving study abroad or waivers).

Code	Title	Hours
KORE:1135	Korean Language and Contemporary Pop Culture (if not already taken)	3
KORE:1500	Asian Humanities: Korea	3
KORE:1670/ ASIA:1670/ RELS:1670	Korea in the World	3
KORE:3070	Topics in Korean Studies	3
KORE:3100/ LING:3101	Introduction to Korean Linguistics (if not already taken)	3

KORE:3200	Introduction to Korean-English Translation	3
KORE:5102	Individual Korean for Advanced Students (with instructor approval)	arr.
HIST:1607/ ASIA:1607	Civilizations of Asia: Korea	3-4
HIST:2687/ ASIA:2887	Perspectives on Korea	3
HIST:3685/ ASIA:3685	Modern Korean History	3
Related elective (approval required)		3
One or two Big Ten Academic Alliance (BTAA) Korean e-school courses (delivered through video conferencing from other Big Ten institutions)		
Study abroad options (see "Study Abroad" below)		arr.

## Study Abroad

Students may select a maximum of 6 s.h. (one or two courses per year) from courses offered by Ewha Womans University, Korea University, Kyung Hee University, or other universities in South Korea eligible for credit transfer. Consult the Korean program coordinator before undertaking study abroad work.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Korean Studies, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in Korean studies requires a minimum of 15 s.h., with a minimum of 9 s.h. completed at the University of Iowa.		
Students must maintain a 2.00 GPA in all courses for the minor.		
Coursework in the minor may not be taken pass/nonpass.		
A maximum of 6 s.h. in transfer coursework may be selected in approved study abroad coursework. Consult the Korean program coordinator before undertaking study abroad work.		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
KORE:1101	First-Year Korean: First Semester <sup>a, b</sup>	4
		<b>Hours</b>
		<b>4</b>
<b>Spring</b>		
KORE:1102	First-Year Korean: Second Semester <sup>a, b</sup>	4
		<b>Hours</b>
		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
KORE:2101	Second-Year Korean: First Semester <sup>a, b</sup>	4

KORE:1135 or KORE:3100	Korean Language and Contemporary Pop Culture or Introduction to Korean Linguistics	3
<b>Hours</b>		<b>7</b>
<b>Spring</b>		
KORE:2102	Second-Year Korean: Second Semester <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: upper-level Korean language course <sup>c</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: upper-level Korean language course <sup>c</sup>		3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Minor: Korean minor elective <sup>d</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: Korean minor elective <sup>d</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>31</b>

a Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

b This course is a prerequisite for the required minor courses.

c Choose from: KORE:3101, KORE:3102, KORE:4000, or KORE:4001.

d See General Catalog or talk with your advisor for a list of possible course options that can be used to fulfill this requirement.



# Russian, Minor

## Requirements

The undergraduate minor in Russian requires a minimum of 16 s.h. in Russian coursework. All courses must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Furthering Language Incentive Program (FLIP) credit cannot be applied toward the minor.

The minor in Russian requires the following coursework.

## Required Courses

Code	Title	Hours
All of these:		
RUSS:3111	Third-Year Russian I	4
RUSS:3112	Third-Year Russian II	4
RUSS:4111	Fourth-Year Russian I	4
RUSS:4112	Fourth-Year Russian II	4

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Russian, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in Russian requires a minimum of 16 s.h. in Russian coursework. All courses must be taken at the University of Iowa.		
Students must maintain a GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.		
Coursework may not be taken pass/nonpass.		
Furthering Language Incentive Program (FLIP) credit cannot be applied toward the minor.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
RUSS:1111	First-Year Russian I <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
RUSS:1112	First-Year Russian II <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>
<b>Second Year</b>		
<b>Fall</b>		
RUSS:2111	Second-Year Russian I <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
RUSS:2112	Second-Year Russian II <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>

### Third Year

RUSS:3111	Third-Year Russian I	4
<b>Hours</b>		<b>4</b>

### Spring

RUSS:3112	Third-Year Russian II	4
<b>Hours</b>		<b>4</b>

### Fourth Year

<b>Fall</b>		
RUSS:4111	Fourth-Year Russian I	4
<b>Hours</b>		<b>4</b>

### Spring

RUSS:4112	Fourth-Year Russian II	4
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>34</b>

a This course is a prerequisite for the required minor courses.  
 b Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

# Russian and Eastern European Studies, Minor

## Requirements

The undergraduate minor in Russian and Eastern European studies requires a minimum of 15 s.h., including 12 s.h. earned in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. The minor does not require knowledge of the Russian language.

Students select courses from the following.

Code	Title	Hours
RUSS:1131/ WLLC:1131	Introduction to Russian Culture	3
RUSS:1132	Russia Today	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Traces of Ancient Russian Culture (IX-XVII Centuries): Vikings, Mongols, and Tsars	3
RUSS:2050/ WLLC:2050	Women from an Unknown Land: The Fight for Independence	3
RUSS:2100	Russian Mindset: Sex, Business, and Politics	3
RUSS:2110	Russian Sports: Politics, Scandal, Glory	3
RUSS:2111	Second-Year Russian I	4
RUSS:2112	Second-Year Russian II	4
RUSS:3122/ TRNS:3122/ WLLC:3122	Tolstoy and Dostoevsky	3-4
RUSS:3202/ HIST:3492/ TRNS:3203/ WLLC:3202	Russian Literature in Translation 1860-1917	3
POLI:3410	Russian Foreign Policy	3

# Asian Civilizations, M.A.

## Requirements

The Master of Arts program in Asian civilizations requires a minimum of 30 s.h. of graduate credit, including 24 s.h. earned in residence at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 3.00.

Detailed information on degree requirements is sent to all applicants. By the end of the first semester in residence, students propose a study plan developed in consultation with their advisor and in accordance with guidelines for specializations within the program.

M.A. students choose from two tracks: teaching Chinese as a foreign language and interdisciplinary Chinese studies. Currently, the department is not accepting applicants for Hindi, Sanskrit, or Japanese tracks.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. The Department of Asian and Slavic Languages and Literatures requires a g.p.a. of at least 3.00 for regular admission and a g.p.a. of at least 2.75 for conditional admission.

A B.A. in Chinese language and literature, teaching Chinese as a second language, or the equivalent is required for study in the M.A. in teaching Chinese as a second language track. Chinese language proficiency equivalent to third-year Chinese, as determined by examination, is required for the M.A. in Chinese studies track.

All international applicants must submit Test of English as a Foreign Language (TOEFL) iBT scores for reading, listening, speaking, and writing. They must also submit an essay in response to specific questions indicated in the application instructions. Applicants whose first language is not English must score at least 98 on the TOEFL.

Applicants must submit a statement of purpose, a research paper written in English, three letters of recommendation, and scores on the Graduate Record Exam (GRE) General Test.

Both international and U.S. graduate applications requesting financial support for the following academic year are due February 1. All other applications are accepted until April 15 for fall admission and October 1 for spring admission.

Application materials are available from the department.

## Financial Support

Graduate students have access to the following financial aid and scholarship resources. Contact the Department of Asian and Slavic Languages and Literatures for application information.

**Cheng/Liu Scholarship:** Students currently majoring in Chinese in the Department of Asian and Slavic Languages and Literatures at the University of Iowa may apply for the Cheng/Liu Scholarship. The award can be used for summer Chinese language study.

**Fairall Scholarship:** Majors who have attended and/or graduated from Iowa elementary or secondary schools may be nominated by the department to receive a Fairall Scholarship.

Preference is given to Japanese studies students. Applications are available late spring, with scholarships to be awarded the following fall semester.

**Foreign language and area studies fellowships:** Only U.S. citizens are eligible. Graduate students combining work in Asian languages at an advanced level with interdisciplinary or professional programs may apply. The award is offered by International Programs for academic year and summer language study.

**Graduate assistantships:** The department offers teaching assistantships for graduate students in the program. All graduate applicants receive information on applying for an assistantship. Assistantships are awarded each spring for the following academic year.

**Graduate international research:** Opportunities for funding research abroad include Stanley Fellowships for Graduate Student Research Abroad, CIREH Research Scholarships in International Health, Fulbright Grants, and Foreign Language Area Scholarships.

**Summer language scholarships:** Currently enrolled students may compete for a Stanley-University of Iowa Foundation Support Organization Summer Language Scholarship to be used for intensive summer language study in Chinese, Japanese, or Sanskrit. Eight to ten awards of \$2,000-\$2,500 are made each summer. Applications are due March 1.

## Career Advancement

The master's degree program in Asian civilizations prepares students for doctoral study in a variety of disciplines. It also may be a good choice for students planning nonacademic careers in which advanced knowledge of Asian civilizations could be useful. For example, students working toward professional degrees, such as an M.D. or J.D., may decide to earn the M.A. in Asian civilizations while completing the professional degree. The program also provides an excellent background for advanced study in the humanities.

The number of Americans who can speak Asian languages is relatively small, so many career opportunities exist for individuals trained in these areas.

The Pomerantz Career Center is a great resource for students researching internships and careers.

# Biology

## Chair

- Jodie M. Plumert

**Undergraduate major:** biology (B.A., B.S.)

**Undergraduate minor:** biology

**Graduate degrees:** M.S. in integrated biology; Ph.D. in integrated biology

**Faculty:** <https://biology.uiowa.edu/people/faculty>

**Website:** <https://biology.uiowa.edu/>

The Department of Biology offers undergraduate and graduate programs that prepare students for careers in a wide variety of fields such as health science or biological research, technology, and education. It also offers several courses that undergraduate students in all majors may use to satisfy the GE CLAS Core [p. 20] Natural Sciences requirement and other courses on topics of general interest for undergraduate non-biology majors, including a First-Year Seminar course, BIOL:1000 First-Year Seminar, designed for entering students. The department also administers the interdisciplinary biomedical sciences [p. 215] major and the neuroscience [p. 916] major, both leading to a Bachelor of Science degree.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Biology (Bachelor of Arts) [p. 193]
- Major in Biology (Bachelor of Science) [p. 198]

#### Minor

- Minor in Biology [p. 209]

### Graduate Programs of Study

#### Majors

- Master of Science in Integrated Biology [p. 210]
- Doctor of Philosophy in Integrated Biology [p. 212]

## Facilities

The department is housed in two contiguous buildings, with modern facilities and equipment for state-of-the-art research.

Facilities include the W.M. Keck Dynamic Image Analysis Facility, which couples sophisticated state-of-the-art microscopy and computerized motion analysis to permit three-dimensional real-time analysis of cell movement in vitro and in situ. The Roy J. Carver Center for Genomics houses the department's DNA sequencing, oligo synthesis, quantitative PCR, functional genomics facilities, and informatics facilities. The Roy J. Carver Center for Imaging is a microscopy and imaging facility; its confocal microscopes are available for teaching and research.

A large greenhouse is used in plant research and education. The department also houses animal-care facilities suitable for mice, rats, rabbits, *Xenopus laevis*, and zebra fish. These facilities are managed by the University's animal care unit, which is accredited by the Association for Assessment and Accreditation of Laboratory Animal Care. A central University

facility provides assistance in the preparation of transgenic mice.

The department is home to the Developmental Studies Hybridoma Bank, which is affiliated with the National Institutes of Health. The hybridoma bank collects and distributes monoclonal antibodies that originate in laboratories all over the world. Its collection now contains more than 3,500 monoclonal antibodies that are distributed to users internationally for a modest fee.

In addition to department facilities, the University offers a genomic sequencing service, a DNA oligonucleotide synthesis and enzyme lab, oligopeptide synthesis and sequencing equipment, and mass- and NMR spectroscopy facilities. The Center for Biocatalysis and Bioprocessing is available for growing large amounts of microorganisms (e.g., 100 liters) for use in protein isolation.

## Iowa Lakeside Laboratory

The Iowa Lakeside Laboratory is a field station run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa. Located on West Lake Okoboji, in northwestern Iowa, the laboratory affords excellent conditions for summer study in field biology, limnology, phycology, aquatic ecology, pollination biology, and plant taxonomy. It offers a wide variety of summer courses at the undergraduate and graduate levels. Students should check with their advisors to determine whether specific courses may be counted toward requirements for graduation. See Iowa Lakeside Laboratory [p. 2184] (University College) in the Catalog or visit the Lakeside Laboratory website.

## Courses

### Biology Courses

Many courses include laboratory, discussion, and/or field components.

The following courses are not open to graduate students and do not provide credit toward a biology major: BIOL:1060 Big Ideas: Origins of the Universe, Earth, and Life; BIOL:1140 Human Biology: Nonmajors; BIOL:1141 Human Biology: Health Professions; BIOL:1251 How the Brain Works (and Why it Doesn't); BIOL:1260 Plants and Human Affairs; BIOL:1261 Introduction to Botany; BIOL:1370 Understanding Evolution; and BIOL:2211 Genes, Genomes, and the Human Condition.

#### **BIOL:1000 First-Year Seminar** **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

#### **BIOL:1060 Big Ideas: Origins of the Universe, Earth, and Life** **3 s.h.**

Origin of the universe, the biochemistry of life, and the origin of life on Earth; for non-science majors. Recommendations: first-year or sophomore standing. GE: Natural Sciences without Lab. Same as ASTR:1060, EES:1060.

#### **BIOL:1140 Human Biology: Nonmajors** **4 s.h.**

Overview of molecular and cellular basis of human life; structure, function of human tissues, organs, organ systems; evolution, reproduction, genetics, impact of molecular biology and genetic engineering; integration of humans and the biosphere; lecture, laboratory. GE: Natural Sciences with Lab.

- BIOL:1141 Human Biology: Health Professions** 4 s.h.  
Molecular and cellular basis of human life; structure, function of human tissues, organs, organ systems; evolution, reproduction, genetics, impact of molecular biology and genetic engineering; integration of humans and the biosphere; lecture, laboratory. Requirements: one year of high school chemistry. Recommendations: CHEM:1070. GE: Natural Sciences with Lab.
- BIOL:1251 How the Brain Works (and Why it Doesn't)** 3-4 s.h.  
Introductory survey of neuroscience; structure and function of the brain; nature of consciousness; brain function in mental illness and degenerative disorders; genes and the mind; perception, sensation, memory, and emotions. Requirements: non-biology major. GE: Natural Sciences without Lab.
- BIOL:1260 Plants and Human Affairs** 2-3 s.h.  
How plants are useful to people: food, clothing, shelter, medicines, psychoactive agents; plants' social, economic, ecological significance. GE: Natural Sciences without Lab.
- BIOL:1261 Introduction to Botany** 4 s.h.  
Biology of plant life; emphasis on structure, function, reproduction, inheritance, diversity, evolution. Requirements: one year of high school chemistry. GE: Natural Sciences with Lab.
- BIOL:1295 Career Preparation and Life Design for Biology Majors** 1 s.h.  
Exploration of career paths, employers, graduate programs; preparation for life after college; development of practical skills in job searching, writing, interviewing, and networking; for students who are unsure what they can do after graduation with a bachelor's degree in biology. Requirements: junior or senior standing.
- BIOL:1370 Understanding Evolution** 3 s.h.  
Evolution and diversity of living things, their patterns on Earth, their organization in ecological systems; dynamics of evolutionary processes. GE: Natural Sciences without Lab.
- BIOL:1411 Foundations of Biology** 4 s.h.  
Unifying concepts of living systems; emphasis on common properties and processes; chemical and cellular basis of life, genetics, and evolution. Prerequisites: CHEM:1110 with a minimum grade of C- or CHEM:1070 with a minimum grade of A-. GE: Natural Sciences with Lab.
- BIOL:1412 Diversity of Form and Function** 4 s.h.  
Underlying unifying concepts of life; emphasis on diversity of living systems; the tree of life, cellular evolution, prokaryotic and eukaryotic diversity, plant and animal form and function; interactions among diverse forms of life and their environment. Prerequisites: BIOL:1411 with a minimum grade of C-. GE: Natural Sciences with Lab.
- BIOL:1808 Ways of Knowing Science** 1 s.h.  
Science as a powerful way of knowing based on experimentation and observation of natural world; introduction to subdisciplines of scientific research; scope and methods of scientific research; questions that scientific research seek answers for; methods that scientists use to obtain answers to their questions; how science affects us personally and how it affects the rest of society; research seminars, discussion, and exploration.
- BIOL:2120 Good Genes Gone Bad: Genetic Disorders of Notable Celebrities** 3 s.h.  
Introduction to a wide range of genetic disorders affecting notable celebrities; relevant genetic pathways in easy-to-understand language; exploration of mechanisms of disease and treatments. GE: Natural Sciences without Lab.
- BIOL:2211 Genes, Genomes, and the Human Condition** 3 s.h.  
Organization, expression, and evolution of genes in context of genomes; focus on human genome; distribution and transmission of variation in human population. Prerequisites: BIOL:1411. Recommendations: BIOL:1412.
- BIOL:2246 Entomology Lab** 4 s.h.  
Insects are the most species-rich and diverse of all animals; introduction to insect biology; emphasis on evolution, diversity, ecology, and morphology with some additional focus on physiology and behavior; students work in lab and field settings; memorization of entomological terms required; hands-on learning including how to employ various tools, techniques, and approaches used by professional entomologists, insect collecting and preservation, DNA extraction and sequencing, and analysis of evolutionary and ecological data. Prerequisites: BIOL:1412.
- BIOL:2254 Endocrinology** 3 s.h.  
Production and effect of hormonal chemical messengers of secretory glands; emphasis on cell signaling in vertebrate systems; actions of hormones in regulating growth, physiology, and reproduction; organ to molecular levels. Prerequisites: BIOL:1411 and (BIOL:1412 or HHP:3500 or PSY:2701). Recommendations: CHEM:2210.
- BIOL:2374 Biogeography** 3 s.h.  
Introduction to processes that lead to the patterns of plant and animal distributions we see across the globe; processes of focus include plate tectonics, climate, and human-ecological interactions; species management and conservation in relationship to climate and change in human patterns of environment. Prerequisites: BIOL:1141 or BIOL:1370 or BIOL:1261 or GEOG:1020 or BIOL:1412. Same as GEOG:2374.
- BIOL:2512 Fundamental Genetics** 4 s.h.  
Nature, function of genetic material: classical, molecular, developmental aspects. Prerequisites: BIOL:1411 with a minimum grade of C- and (BIOL:1412 with a minimum grade of C- or PSY:2701 with a minimum grade of C-) and CHEM:1110. Recommendations: CHEM:2210.
- BIOL:2663 Plant Response to the Environment** 3 s.h.  
Mechanisms of plant responses to environmental factors (biotic and abiotic) at organismal and molecular levels. Prerequisites: BIOL:1411 and BIOL:1412.
- BIOL:2673 Ecology** 3 s.h.  
Adaptations of organisms to their physical and biological environments; organism-environment interactions; population biology; interactions between species; ecology of communities, ecosystems; human impact on ecosystems. Prerequisites: BIOL:1411 and BIOL:1412. Recommendations: a basic statistics or calculus course. Same as ENVS:2673.
- BIOL:2723 Cell Biology** 3 s.h.  
Structures of cells and organelles in relation to their functions at molecular, cellular levels; emphasis on higher eukaryotic cells. Prerequisites: BIOL:1411 and (BIOL:1412 or HHP:3500 or PSY:2701) and CHEM:1120.
- BIOL:2753 Introduction to Neurobiology** 3 s.h.  
Techniques of molecular biology, genomics, neuropharmacology, and functional brain imaging applied to understanding how the brain works. Prerequisites: (BIOL:1412 or HHP:3500) and BIOL:1411.

- BIOL:3172 Evolution** **4 s.h.**  
Nature, evidence, analysis, implications, molecular/genetic basis; historical record, phylogeny, speciation, adaptation, investigative methods. Prerequisites: BIOL:2512 with a minimum grade of C- and (STAT:2010 or STAT:3510 or MATH:1550 or MATH:1850 or MATH:1460).
- BIOL:3212 Bioinformatics for Beginners** **3 s.h.**  
Overview of bioinformatics topics including access to sequence data, pairwise and multiple sequence alignment algorithms, molecular phylogeny, microarray data analysis, protein analysis, proteomics, and protein structure analysis; emphasis on each topic includes biological motivation, computational approach (practical and theoretical), and interpretation of output. Prerequisites: BIOL:2512 or BIOL:2211 or BMB:3120 or MICR:3170. Same as IGPI:3212.
- BIOL:3233 Introduction to Developmental Biology** **3 s.h.**  
Fundamental mechanisms in differentiation, organogenesis, morphogenesis; and pattern formation; mechanistic approach at molecular, cellular, tissue levels of organizations. Prerequisites: BIOL:1411 and CHEM:1120 and (BIOL:1412 with a minimum grade of C- or HHP:3500 with a minimum grade of C-). Recommendations: BIOL:2512.
- BIOL:3244 Animal Behavior** **3,5 s.h.**  
Genetics, sensory physiology, migration, development of behavior, circadian rhythms, foraging strategies, aggression, sexual and parental behavior, group selection, social behavior. Prerequisites: BIOL:1411 and (BIOL:1412 or PSY:2701).
- BIOL:3253 Neurobiology I** **4 s.h.**  
Neurobiology from molecular/cellular to systems levels including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity; functional neuroanatomy; sensory, motor, and autonomic systems; emotion, memory, sleep, language, attention and cognition, neuronal development; focus on systems and developmental neurobiology; first in a two-semester sequence. Prerequisites: BIOL:1411 and (PSY:2701 or BIOL:2753).
- BIOL:3254 Neurobiology II** **4 s.h.**  
Neurobiology from molecular/cellular to systems levels including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity; functional neuroanatomy; sensory, motor, and autonomic systems; emotion, memory, sleep, language, attention and cognition, neuronal development; focus on molecular/cellular neurobiology and neurophysiology; second in a two-semester sequence. Prerequisites: BIOL:3253 and (PHYS:1512 or PHYS:1612).
- BIOL:3314 Genomics** **3 s.h.**  
Major areas of genomics including genome sequencing, assembly, and annotation; evolutionary genomics, metagenomics, functional genomics, and computational genomics; synthetic biology and genome engineering. Prerequisites: BIOL:2211 or BIOL:2512 or BIOL:2723. Same as IGPI:3314.
- BIOL:3343 Animal Physiology** **3 s.h.**  
Principles of cellular and systems physiology; emphasis on quantitative and experimental aspects. Prerequisites: BIOL:1411 and CHEM:1110 and CHEM:1120 and (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850). Recommendations: (PHYS:1511 and PHYS:1512) or (PHYS:1611 and PHYS:1612).
- BIOL:3363 Plant Developmental Biology** **3 s.h.**  
Developmental processes throughout life cycle of vascular plants; current knowledge of mechanisms, control; emphasis on molecular and genetic approaches to studying development. Prerequisites: BIOL:2512.
- BIOL:3373 Human Population Genetics and Variation** **3 s.h.**  
Principles of evolutionary change of genes and genomes applied to human populations and to comparisons between humans and their closest primate relatives; emphasis on consequences of mutation, natural selection, and demographic changes. Prerequisites: BIOL:2512 with a minimum grade of C- or BIOL:2211 with a minimum grade of C-.
- BIOL:3383 Introduction to Systems Biology** **3 s.h.**  
Concepts and skills used to develop computer models that provide insight into the operation of cellular processes like metabolic pathways and genetic circuits. Prerequisites: BIOL:1411 and (MATH:1460 or MATH:1550 or MATH:1850).
- BIOL:3603 Mechanisms of Aging** **3 s.h.**  
Evolutionary theories of aging, cellular and genetic basis of aging and repair, disruption of homeostasis in aging; focus on studies of biological and environmental causes of age-related diseases. Prerequisites: BIOL:1411 and (BIOL:1412 or HHP:3500 or PSY:2701). Recommendations: BIOL:2723.
- BIOL:3626 Cell Biology Laboratory** **4 s.h.**  
Conceptual understanding and technical skills in fluorescence microscopy and digital imaging, mammalian cell culture, tissue fractionation, centrifugation, electrophoresis, and expression of recombinant proteins. Prerequisites: BIOL:2723.
- BIOL:3655 Neurogenetics Laboratory** **4 s.h.**  
Emphasis on project-oriented training to develop fundamental hands-on experimental manipulations and techniques, problem-solving skills, and data analysis methodology; students utilize modern genetic, behavioral, and electrophysiological methods to explore how gene and environment influence nervous system function and behavioral expression using genetic model organisms. Prerequisites: BIOL:2512 or BIOL:2211. Recommendations: BIOL:2753 or PSY:2701.
- BIOL:3656 Neurobiology Laboratory** **4 s.h.**  
Principles and practice of neurobiology research, including microscopy and imaging, cellular and molecular neurobiology, and electrophysiology. Prerequisites: (BIOL:1411 and PSY:2701) or BIOL:2753.
- BIOL:3663 Plant Response to the Environment** **3 s.h.**  
Mechanisms of plant responses to environmental factors (biotic and abiotic) at organismal and molecular levels. Prerequisites: BIOL:2512 or BIOL:2723 or BIOL:3716 or BMB:3120.
- BIOL:3676 Evolution Lab** **4 s.h.**  
Methods of sampling and describing variation in natural populations; application of molecular genetic, bioinformatic, and computational techniques to describe genetic variation through sequence analysis; use of controlled laboratory experiments and computer simulations to illustrate evolutionary principles. Prerequisites: BIOL:2512 or BIOL:2211. Corequisites: BIOL:3172 or BIOL:3373, if not taken as a prerequisite. Recommendations: grade of C or higher in BIOL:3172.

- BIOL:3713 Molecular Genetics** 4 s.h.  
Mechanism, regulation of RNA, DNA, protein biosynthesis, with emphasis on methods of genetic analysis; application of modern recombinant DNA techniques to basic problems. Prerequisites: BIOL:2512 or BMB:3120 or BMB:3110.
- BIOL:3716 Genetics and Biotechnology Lab** 4 s.h.  
Expansion of genetic concepts introduced in BIOL:2512; introduction to genetic/molecular techniques currently used in genetic analysis and biotechnology. Prerequisites: BIOL:1411. Corequisites: BIOL:2512 or BIOL:2211, if not taken as a prerequisite. Recommendations: grade of C or higher in BIOL:2512.
- BIOL:3736 Developmental Biology Lab** 4 s.h.  
Experimental manipulation of embryos to examine mechanisms of early development, including gametogenesis and fertilization, cleavage, gastrulation, pattern formation and organogenesis; in vivo imaging of development, methods to visualize gene expression and independent research; model organisms including sea urchin, fish, frog, chick, mouse. Prerequisites: BIOL:3233.
- BIOL:3994 Introduction to Research** 2-3 s.h.  
Independent scientific research related to the field of biology.
- BIOL:3999 Independent Research in Neuroscience** 2-3 s.h.  
Independent scientific research related to the field of neuroscience. Same as PSY:3999.
- BIOL:4213 Bioinformatics** 2,4 s.h.  
Overview of bioinformatics topics, including access to sequence data, pairwise and multiple sequence alignment algorithms, molecular phylogeny, microarray data analysis, protein analysis, proteomics and protein structure analysis; emphasis on each topic includes biological motivation, computational approach (practical and theoretical), and interpretation of output. Prerequisites: BMB:3120 or MICR:3170 or BIOL:2512 or BMB:3110. Recommendations: grade of B+ or higher in BIOL:2512 or BIOC:3120, or graduate standing. Same as GENE:4213, IGPI:4213.
- BIOL:4314 Introduction to Synthetic Biology in the Lab** 4 s.h.  
Introduction to theory and practice of large-scale design goals of synthetic biology in which various types of DNA instructions, known from decades of research and discovery on specific biological systems, are taken out of context and used to execute various novel tasks designed to solve real-world problems; basic laboratory instruction in standardized construction techniques for stringing together off-the-shelf DNA components that are then introduced into organisms capable of executing the instructional set; controlled experiments to investigate the degree of variability exhibited by engineered genetic constructs. Prerequisites: BIOL:1411. Same as BME:4314.
- BIOL:4316 Summer Practicum in Genomics** 2 s.h.  
Major areas of genomics, including sequence similarity searching, whole genome comparisons, phylogenetic analysis, and regulatory informatics; computer workshop experience in application of bioinformatics tools. Prerequisites: BIOL:4213 or BIOL:3314.
- BIOL:4333 Genes and Development** 3 s.h.  
Mechanisms by which genes control development of multicellular animals; methodology of scientific research applied to developmental genetics. Prerequisites: BIOL:2512 with a minimum grade of C-. Recommendations: BIOL:3233.
- BIOL:4353 Neurophysiology: Cells and Systems** 3-4 s.h.  
Physiological properties of nerve cells, nervous systems; axonal conduction, synaptic transmission, sensory transduction, integrative processes, higher functions. Prerequisites: (BIOL:2753 or BIOL:3253) and (MATH:1460 or MATH:1380 or MATH:1550 or MATH:1850) and ((PHYS:1511 and PHYS:1512) or (PHYS:1611 and PHYS:1612)). Same as NSCI:4353.
- BIOL:4373 Molecular Evolution: Genes, Genomes, and Organisms** 3 s.h.  
Theory underlying phylogenetic analysis with application of these methods to molecular data sets; analysis of multigene data, organellar, and nuclear genome sequences to reconstruct the history of cells. Prerequisites: BIOL:3172 with a minimum grade of C-. Same as IGPI:4373.
- BIOL:4386 Introduction to Scientific Computing for Biologists** 3 s.h.  
In modern biological research, computational tools are no longer a luxury but a necessity; introduction to a set of computational tools and best practices in data analysis to prepare for data-intensive research in the field of biomedical sciences; topics include reproducibility in computational projects, version control, command-line interface, remote computing, and general and statistical programming. Prerequisites: BIOL:2512 or BMB:3110 or BMB:3120 or MICR:3170. Recommendations: CS:2110.
- BIOL:4806 Service Learning in Biology** arr.  
Credit for community outreach and/or service; service learning projects involve more than just volunteering; preparation of a detailed plan summarizing project goals, activities, and audience; routine meetings with team members and faculty mentor; research and development of educational materials and/or activities focused on a biology topic; plan, promote, support, and assess an event that engages the targeted community.
- BIOL:4897 Teaching Internship in Biology** 1-3 s.h.  
Training and practical experiences in the teaching of biology; includes a weekly training session with a Ph.D. instructor or course supervisor, active assistance of the primary instructor in one or more class meetings each week, and/or providing constructive written feedback on laboratory or classroom exercises; additional experiences may include leading a training session, co-teaching or lead-teaching one or more lab or classroom exercises, and assisting with the development of classroom activities or resources; specific experiences will vary depending on the course and supervisor needs. Prerequisites: BIOL:1411 with a minimum grade of B and BIOL:1412 with a minimum grade of B. Requirements: third- or fourth-year standing and interview with instructor.
- BIOL:4898 Communicating Research** 1 s.h.  
Independent, investigative research experience; research process and communication—establishing goals and expectations with a mentor, developing and framing a research hypothesis or question, communicating results in written and oral form to scientist and nonscientist audiences; supportive learning environment to share research experiences and develop identities as scientists, learn skills to become effective independent researchers and science communicators. Corequisites: BIOL:3994 or BIOL:4999.
- BIOL:4995 Honors Research in Neuroscience** arr.  
Independent scientific research related to the field of neuroscience. Requirements: honors standing in neuroscience, UI g.p.a. of at least 3.33, and neuroscience g.p.a. of at least 3.33. Same as PSY:4995.

- BIOL:4998 Honors Seminar in Biology** 2 s.h.  
Prerequisites: BIOL:1411. Requirements: honors standing.
- BIOL:4999 Honors Research in Biology** arr.  
Independent scientific research related to the field of biology. Requirements: honors standing in biology, UI g.p.a. of at least 3.33, and biology g.p.a. of at least 3.33.
- BIOL:5110 Practicum: College Teaching for Biology Teaching Assistants** 2 s.h.  
Practical pedagogical concerns including how to structure a course, devise learning outcomes, development of syllabus and calendar of assignments, evaluation of student work, and creation of a student-centered classroom with collaborative learning experiences; for biology TAs teaching in introductory courses BIOL:1411 and BIOL:1412.
- BIOL:5117 Topics in Molecular Genetics** 0-2 s.h.  
Prerequisites: BIOL:2512 with a minimum grade of B-.
- BIOL:5199 Critical Readings in Biology** arr.
- BIOL:5211 Genes, Genomes, and the Human Condition Graduate Lecture** 3 s.h.  
Organization, expression, and evolution of genes in context of genomes; focus on human genome; distribution and transmission of variation in human population. Recommendations: BIOL:1411 highly recommended. Same as IGPI:5211.
- BIOL:5218 Microscopy for Biomedical Research** arr.  
Basic microscopy methods for research including optics, preparation, and analysis of biomedical specimens; light, fluorescence, confocal, transmitting electron, scanning electron, atomic force microscopes, elemental analysis; immunochemistry and stereology techniques; individualized laboratory instruction. Prerequisites: BIOL:2723. Same as ACB:5218, MICR:5218.
- BIOL:5412 Fundamental Genetics - Graduate Lecture** 3 s.h.  
Nature and function of genetic material; classical, molecular, and developmental aspects. Corequisites: BIOL:5512.
- BIOL:5512 Readings in Genetics** 2 s.h.  
Critical evaluation of classic genetics papers. Requirements: biology graduate standing.
- BIOL:5653 Fundamental Neurobiology I** 3 s.h.  
Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity, functional neuroanatomy, sensory, motor and autonomic systems; emotion, memory, sleep, language, attention and cognition, neuronal development; focus on systems and developmental neurobiology; first in a two-semester sequence. Same as NSCI:5653, PSY:5203.
- BIOL:5654 Fundamental Neurobiology II** 3 s.h.  
Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity; functional neuroanatomy, sensory, motor and autonomic systems; emotion, memory, sleep, language, attention and cognition, neuronal development; focus on molecular/cellular neurobiology and neurophysiology; second in a two-semester sequence. Prerequisites: BIOL:5653 or NSCI:5653 or PSY:5203. Same as NSCI:5654, PSY:5205.
- BIOL:5658 Fundamental Neurobiology I Discussion** 2 s.h.  
Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5653 lecture material. Same as NSCI:5658, PSY:5204.
- BIOL:5659 Fundamental Neurobiology II Discussion** 2 s.h.  
Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5654 lecture material. Same as NSCI:5659, PSY:5206.
- BIOL:6188 Seminar: Writing in Natural Sciences** 2 s.h.  
Writing and critiquing skills in the natural sciences.
- BIOL:6199 Research: Biology** arr.
- BIOL:6265 Neuroscience Seminar** 0-1 s.h.  
Research presentations. Same as ACB:6265, MPB:6265, NSCI:6265, PSY:6265.
- BIOL:6298 Concepts, Models, and Systems in Biology (COSMOS) Seminar** 1-2 s.h.  
Analysis and presentation of primary research on central biological questions utilizing a full array of model and non-model organisms and analytical approaches; development of effective skills in public speaking, presentation, and scientific writing.
- BIOL:6899 Independent Study in Biology** arr.
- BIOL:7270 Principles of Scholarly Integrity** 1 s.h.  
Training in responsible conduct of research; student/mentor responsibilities; authorship and reviewing; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects; data handling. Requirements: enrollment in graduate psychology or biology program. Same as PSY:7270.
- BIOL:7604 Principles of Scholarly Integrity** 0 s.h.  
Training in responsible conduct of research and scholarly activities; student/mentor responsibilities; authorship; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects; data handling. Requirements: postdoctoral standing in psychology or biology. Same as PSY:7604.



## Biology, B.A.

All biology majors complete a chemistry/mathematics foundation and the biology core. In addition, B.A. students choose courses from several breadth menus and have a wide selection of elective courses, while B.S. students complete physics foundation courses and choose one of four tracks.

The department acquaints undergraduate students with the nature of practicing scientists' work by offering BIOL:3994 Introduction to Research (requires a Department of Biology faculty sponsor), BIOL:4898 Communicating Research (a course supporting students involved in research), and BIOL:4999 Honors Research in Biology (requires membership in the Biology Honors Program). Students associate with one of the department's research groups in experiments, discussion of current research, study of specialized topics, and attendance at research seminars.

Students interested in field biology, zoology, or botany may take varied courses in those subjects offered during the summer at Iowa Lakeside Laboratory [p. 2184].

### Learning Outcomes

The graduate with a bachelor's degree in biology will be able to demonstrate the following.

#### Foundational Knowledge

Comprehension of fundamental principles and concepts of biology.

Graduates will be able to:

- explain fundamental biological principles within and across levels of organization, from molecules to ecosystem;
- apply foundational knowledge and conceptual frameworks to new situations;
- recognize the consequences of evolutionary history in contrasts between living organisms;
- appreciate the historical sequence and diversity of people who have contributed to the achievements of biological discovery; and
- evaluate new information reported in the news and/or in scientific publications against prior knowledge.

#### New Discovery

Scientific reasoning and experimental process in biology.

Graduates will be able to:

- perform basic laboratory procedures, including correct operation of devices;
- formulate questions about biological processes based on current knowledge;
- construct a hypothesis to guide experimental enquiry;
- design experiments, identifying variables of analysis and controls for error;
- consider appropriate strategies or technologies applicable to investigate a novel problem;
- collect, organize, summarize, and interpret biological data;
- analyze and evaluate experimental results to inform a hypothesis; and
- distinguish between necessary and sufficient causes.

### Quantitative Skills

Mathematical reasoning and basic numeracy applied to biology.

Graduates will be able to:

- perform essential mathematical operations such as unit conversions, dilutions, and molarity calculations;
- apply mathematical concepts and rules of probability to make predictions;
- select and apply appropriate statistical tests to determine significance of experimental results; and
- use mathematical and/or statistical expressions to evaluate hypotheses with experimental data.

### Information Literacy

Acquisition, analysis, and summary of published biological information.

Graduates will be able to:

- locate and evaluate the relevance and credibility of information from electronic and print sources;
- navigate and obtain relevant information from public databases;
- recognize and appropriately cite sources of information;
- identify questions addressed and methodologies used; and
- assess findings reported and conclusions drawn in published scientific articles.

### Communication Proficiency

Written and oral presentation of biological information.

Graduates will be able to:

- write concise scientific reports based on findings or literature searches;
- construct visual presentations of results or findings from the scientific literature; and
- orally present findings or results from the literature with appropriate media.

## Requirements

The Bachelor of Arts with a major in biology requires a minimum of 120 s.h., including at least 68-77 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major for the Bachelor of Arts prepares students for graduate study in the biological sciences and is especially appropriate for those interested in careers in biological science education at all levels. It also provides suitable preparation for professional positions in industry, laboratory, field research, or for professional study in medicine and other health-related fields.

The B.A. program is broadly based. It introduces students to key concepts in important areas of biology and, compared to the B.S. program, provides more flexibility in choosing elective courses. Students working toward a Bachelor of Arts degree must complete the chemistry/math foundation; the biology core; three courses from the breadth menus; one course with a laboratory; and five or six elective courses, which may include one course in the history or philosophy of science.

Students who wish to apply transfer credit toward the biology major should consult their biology advisor.

The B.A. with a major in biology requires the following coursework.

Code	Title	Hours
Chemistry/Mathematics Foundation Courses		18
Biology Core Courses		19
Breadth Menus		9-13
Course with a Laboratory		4-6
Electives		18-21
<b>Total Hours</b>		<b>68-77</b>

## Chemistry/Mathematics Foundation

Code	Title	Hours
All of these:		
CHEM:1110- CHEM:1120	Principles of Chemistry I-II	8
BMB:3110	Biochemistry	3
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
One of these:		
STAT:2010	Statistical Methods and Computing	3
STAT:3510	Biostatistics	3

## Biology Core

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
BIOL:3172	Evolution	4

## Breadth Menus

### Genes and Genomes

Code	Title	Hours
One of these:		
BIOL:3212	Bioinformatics for Beginners	3
BIOL:3314	Genomics	3
BIOL:3373	Human Population Genetics and Variation	3
BIOL:3713	Molecular Genetics	4
BIOL:4373	Molecular Evolution: Genes, Genomes, and Organisms	3
BIOL:4386	Introduction to Scientific Computing for Biologists	3

## Biological Systems

Code	Title	Hours
Two of these:		
BIOL:2254	Endocrinology	3
BIOL:2673	Ecology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3244	Animal Behavior	3,5
BIOL:3253	Neurobiology I	4
BIOL:3343	Animal Physiology	3
BIOL:3363	Plant Developmental Biology	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:3603	Mechanisms of Aging	3
BIOL:4333	Genes and Development	3
May include one of these:		
BIOL:2663	Plant Response to the Environment	3
BIOL:3663	Plant Response to the Environment	3

## Course with a Laboratory

Code	Title	Hours
One of these (must not have been used as a breadth menu course):		
BIOL:2246	Entomology Lab	4
BIOL:3244	Animal Behavior	5
BIOL:3626	Cell Biology Laboratory	4
BIOL:3655	Neurogenetics Laboratory	4
BIOL:3656	Neurobiology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab	4
BIOL:4314	Introduction to Synthetic Biology in the Lab	4
BIOL:4999	Honors Research in Biology	6
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
Iowa Lakeside Laboratory courses (consult advisor)		4-5

## Electives

Students complete at least two biology elective courses (prefix BIOL) for 6 s.h. plus 12 s.h. of coursework outside the Department of Biology from the list below.

Biology courses may include courses chosen from the "Breadth Menus" list or the "Course with a Laboratory" list above that have not been used to satisfy those requirements; other 2-4 s.h. courses numbered 2000 or above offered by the Department of Biology except for BIOL:2120 Good Genes Gone Bad: Genetic Disorders of Notable Celebrities and BIOL:2211 Genes, Genomes, and the Human Condition; and approved advanced biology courses taught at Iowa Lakeside Laboratory [p. 2184] with approval from the advisor.

Students may count BIOL:3994 Introduction to Research (2-3 s.h.) and BIOL:4897 Teaching Internship in Biology (1-3 s.h.) only once toward the elective requirement.

Code	Title	Hours
Three to four courses from these (12 s.h.):		
ANTH:2320	Origins of Human Infectious Disease	3
ANTH:3307	Modern Human Origins	3
ANTH:3325	Human Evolutionary Genetics	3
ANTH:3328	Molecular Genetics of Human Disease	3
ASP:3160	Biology of Aging	3
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
CPH:3230	Human Genetics and Public Health	3
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3210	Principles of Paleontology	3
EES:3220	Evolution of the Vertebrates	4
EES:4700	Evolution of Ecosystems	3
ENVS:3095	Field Ecology	4
ENVS:3096	Winter Ecology	2
ENVS:3097	Introduction to Bird Study	2
GEOG:2374	Biogeography	3
GEOG:2950	Environmental Conservation	4
GEOG:3210	Health, Work, and the Environment	3
GEOG:3310	Landscape Ecology	3
GEOG:3350	Urban Ecology	3
GEOG:4470	Ecological Climatology	3
GHS:2415	Bioethics	3
GHS:3325	Global Epidemics	3
MICR:2157	General Microbiology	3
MICR:2158	General Microbiology Laboratory	2
MICR:3147	Immunology and Human Disease	3
MICR:3168	Viruses and Human Disease	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3
From the physics courses, students may choose from the following (maximum of two courses); if they select PHYS:1511, they could take PHYS:1512; if they select PHYS:1611, they could take PHYS:1612:		
PHYS:1400	Basic Physics	3-4
or		
PHYS:1511	College Physics I	4
or PHYS:1611	Introductory Physics I	
PHYS:1512	College Physics II	3-4

or PHYS:1612 Introductory Physics II

Only one course from the list below may count toward the elective requirement:

GEOG:3110	Geography of Health	3
GHS:3500	Global Public Health	3
HIST:3133	Science, Technology, and Society in the Modern World	3
HIST:4419	Ancient and Medieval Science	3
PHIL:3604	Introduction to Philosophy of Science	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.A./M.A.T. (Science Education Subprogram)

Students interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. The combined program enables students to earn a B.A. in biology and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 19 s.h. of qualifying credit toward both degrees. For more information, see Science Education [p. 1524] in the Master of Arts in Teaching (College of Education) section of the Catalog. Interested students should consult an advisor.

## Honors

### Honors in the Major

Students majoring in biology have the opportunity to graduate with honors in the major. The Biology Honors Program introduces students to the pursuits of practicing scientists. Honors students associate with one of the department's research groups and participate in an independent research project guided by a faculty member (the research supervisor).

Biology honors students write a thesis based on an interesting biological problem, which is usually identified by the research supervisor. The thesis should clearly document that a student has acquired the necessary experimental skills to address specific questions and test specific hypotheses related to the research problem. Honors Seminar in Biology (BIOL:4998), or an equivalent seminar, provides students with an ideal opportunity to improve their skills in seminar presentation and in writing scientific English. Throughout undergraduate residence, departmental honors students also may enroll in courses with honors sections offered by the Department of Biology and by other departments and programs.

To graduate with honors in the biology major, students must fulfill the following requirements:

- complete the requirements for a major in biology with a g.p.a. of at least 3.33 in all coursework in the major taken at the University of Iowa (including all biology courses and cognates in chemistry, biochemistry, mathematics, and statistics) and a cumulative University of Iowa g.p.a. of at least 3.33;
- complete 1 s.h. in BIOL:4898 Communicating Research;
- complete 2 s.h. in either BIOL:4998 Honors Seminar in Biology or an advanced biology seminar course;
- complete a minimum of 6 s.h. (taken over two or more semesters) of BIOL:4999 Honors Research in Biology;
- write a brief research proposal summarizing the background and goals of their proposed honors research;
- upon completion of their research, submit an acceptable honors thesis; and
- give a brief oral presentation of their research findings to other biology honors students.

Students may apply 6 s.h. of BIOL:4999 Honors Research in Biology toward the required course with a laboratory and count the 2 s.h. earned in BIOL:4998 Honors Seminar in Biology toward the elective requirement.

Biology majors interested in graduating with honors in the major should contact the biology honors advisor as early as possible, preferably during their sophomore or junior year, so that they may be matched with an appropriate lab. Visit Biology Honors Program to learn more about honors study in the department.

Students who are interested in the University of Iowa Honors Program satisfy the level two requirements when they satisfy the biology honors requirements; see University Honors Program below.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Students who satisfy the requirements for honors in the biology major also satisfy the experiential learning requirement of the University honors curriculum.

Membership in the UI Honors Program is not required to earn honors in the biology major.

## Career Advancement

The major in biology prepares students to enter research or service careers associated with private industry or government programs and for primary and secondary school teaching. It also prepares them to enter advanced degree programs leading to careers in higher education and to independent research in a variety of biological fields, or for practice in health professions such as medicine, dentistry, pharmacy, nursing, veterinary medicine, medical technology, and physical therapy.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, and BIOL:1411 Foundations of Biology.

**Before the fifth semester begins:** BIOL:1412 Diversity of Form and Function, STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics, and four other courses in the major.

**Before the seventh semester begins:** BIOL:2512 Fundamental Genetics, BIOL:2723 Cell Biology, BIOL:3172 Evolution, five or six more courses in the major, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two or three more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Biology, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
Research: Iowa Lakeside Laboratory summer field courses <sup>b</sup>		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>c</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1460	Calculus for the Biological Sciences <sup>d</sup>	4
GE CLAS Core: Social Sciences <sup>e</sup>		
CSI:1600	Success at Iowa	2
		<b>16-17</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4

GE CLAS Core: Diversity and Inclusion <sup>e</sup>	3
<b>Hours</b>	<b>14-15</b>
<b>Second Year</b>	
<b>Fall</b>	
BIOL:1412 Diversity of Form and Function	4
STAT:2010 Statistical Methods and Computing or STAT:3510 or Biostatistics	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>	4 - 5
<b>Hours</b>	<b>14-15</b>
<b>Spring</b>	
BIOL:2723 Cell Biology	3
Major: elective outside biology <sup>g</sup>	3
GE CLAS Core: Historical Perspectives <sup>e</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
<b>Hours</b>	<b>13-14</b>
<b>Third Year</b>	
<b>Fall</b>	
BIOL:2512 Fundamental Genetics	4
BMB:3110 Biochemistry	3
Major: elective outside biology <sup>g</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
<b>Hours</b>	<b>14-15</b>
<b>Spring</b>	
BIOL:3172 Evolution	4
Major: biological systems requirement I	3
Major: elective outside biology <sup>g</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>	4 - 5
<b>Hours</b>	<b>14-15</b>
<b>Fourth Year</b>	
<b>Fall</b>	
Major: biological systems requirement II	3
Major: biology elective I	3
Major: elective outside biology <sup>g</sup>	3
GE CLAS Core: International and Global Issues <sup>e</sup>	3
GE CLAS Core: Values and Culture <sup>e</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
Major: course with a laboratory requirement	4 - 6
Major: genes and genomes requirement	3
Major: biology elective II	3
Elective course <sup>h</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	
<b>Hours</b>	<b>13-15</b>
<b>Total Hours</b>	<b>113-121</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b After completing BIOL:1412 Diversity of Form & Function, students are eligible to enroll in Lakeside Laboratory summer field courses. Registration for these courses is in winter of each year.

c Enrollment in chemistry courses requires completion of a placement exam.

d Enrollment in math courses requires completion of a placement exam.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Students complete 12 s.h. of coursework outside the Department of Biology by choosing courses from an approved list.

h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Biology, B.S.

All biology majors complete the chemistry/mathematics foundation and the biology core. In addition, B.S. students complete physics foundation courses and choose one of four tracks, while B.A. students choose courses from several breadth menus and have a wider selection of elective courses.

The department acquaints undergraduate students with the nature of practicing scientists' work by offering BIOL:3994 Introduction to Research (requires a Department of Biology faculty sponsor), BIOL:4898 Communicating Research (a course supporting students involved in research), and BIOL:4999 Honors Research in Biology (requires membership in the Biology Honors Program). Students associate with one of the department's research groups for experiments, discuss current research, study specialized topics, and attend research seminars.

Students interested in field biology, zoology, or botany may take varied courses in those subjects offered during the summer at Iowa Lakeside Laboratory [p. 2184].

### Learning Outcomes

Graduates with a bachelor's degree in biology will be able to demonstrate the following.

#### Foundational Knowledge

Comprehension of fundamental principles and concepts of biology.

Graduates will be able to:

- explain fundamental biological principles within and across levels of organization, from molecules to ecosystem;
- apply foundational knowledge and conceptual frameworks to new situations;
- recognize the consequences of evolutionary history in contrasts between living organisms;
- appreciate the historical sequence and diversity of people who have contributed to the achievements of biological discovery; and
- evaluate new information reported in the news and/or in scientific publications against prior knowledge.

#### New Discovery

Scientific reasoning and experimental process in biology.

Graduates will be able to:

- perform basic laboratory procedures, including correct operation of devices;
- formulate questions about biological processes based on current knowledge;
- construct a hypothesis to guide experimental enquiry;
- design experiments, identifying variables of analysis and controls for error;
- consider appropriate strategies or technologies applicable to investigate a novel problem;
- collect, organize, summarize, and interpret biological data;
- analyze and evaluate experimental results to inform a hypothesis; and
- distinguish between necessary and sufficient causes.

### Quantitative Skills

Mathematical reasoning and basic numeracy applied to biology.

Graduates will be able to:

- perform essential mathematical operations such as unit conversions, dilutions, and molarity calculations;
- apply mathematical concepts and rules of probability to make predictions;
- select and apply appropriate statistical tests to determine significance of experimental results; and
- use mathematical and/or statistical expressions to evaluate hypotheses with experimental data.

### Information Literacy

Acquisition, analysis, and summary of published biological information.

Graduates will be able to:

- locate and evaluate the relevance and credibility of information from electronic and print sources;
- navigate and obtain relevant information from public databases;
- recognize and appropriately cite sources of information;
- identify questions addressed and methodologies used; and
- assess findings reported and conclusions drawn in published scientific articles.

### Communication Proficiency

Written and oral presentation of biological information.

Graduates will be able to:

- write concise scientific reports based on findings or literature searches;
- construct visual presentations of results or findings from the scientific literature; and
- orally present findings or results from the literature with appropriate media.

## Requirements

The Bachelor of Science with a major in biology requires a minimum of 120 s.h., including at least 70-79 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. Students who wish to apply transfer credit toward graduation with a major in biology should consult their biology advisor. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students must complete the chemistry/mathematics/physics foundation, the biology core, and one of four tracks. The four tracks emphasize dynamic and active areas in the biological sciences. Three of the tracks—cell and developmental biology, genetics and biotechnology, and neurobiology—emphasize distinct areas. The fourth track—integrative biology—provides highly diverse content.

The B.S. with a major in biology requires the following coursework.

Code	Title	Hours
	Chemistry/Mathematics/Physics Foundation Courses	29
	Biology Core Courses	15

Track Courses 26-35

**Total Hours 70-79**

## Chemistry/Mathematics/Physics Foundation

Code	Title	Hours
All of these:		
CHEM:1110- CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210	Organic Chemistry I	3
One of these:		
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I (students who take BMB:3120 also must take BMB:3130 as one of their track courses)	3
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
One of these:		
STAT:2010	Statistical Methods and Computing (preferred for evolution track)	3
STAT:3510	Biostatistics	3

## Biology Core

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3

## Tracks

Bachelor of Science students must select a single track. Each track includes at least eight courses. The experiential elective requirement may be satisfied by taking an appropriate investigative lab for the track, or through several other options: students who use BIOL:4999 Honors Research in Biology to fulfill the experiential elective requirement must complete a minimum of 6 s.h. in that course; students who use BIOL:3994 Introduction to Research must complete a minimum of 5 s.h. in that course in combination with 1 s.h. in BIOL:4898 Communicating Research; and students who use BIOL:4897 Teaching Internship in Biology or BIOL:4806 Service Learning in Biology must complete a minimum of 4 s.h. in those courses.

Additionally, students may satisfy the experiential elective requirement by completing at least 4 s.h. in two different courses from a combination of these courses: BIOL:3994 Introduction to Research, BIOL:4213 Bioinformatics, BIOL:4897

Teaching Internship in Biology, BIOL:4999 Honors Research in Biology, LATH:3001 Latham Fellows: Science Outreach Project, and an approved biology-related internship.

- Cell and Developmental Biology Track [p. 199]
- Genetics and Biotechnology Track [p. 200]
- Integrative Biology Track [p. 201]
- Neurobiology Track [p. 202]

## Cell and Developmental Biology Track

The cell and developmental biology track provides education in the structure and function of cells and in the principles of development as they apply to animals and plants. This track is appropriate for students who wish to pursue graduate study in cellular and developmental biology, to prepare for professional study in medicine and other health-related fields, or to take positions in laboratories and companies engaged in cancer research and related fields.

### Track Courses

Code	Title	Hours
Two of these:		
BIOL:3172	Evolution	4
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3363	Plant Developmental Biology	3
One of these:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3736	Developmental Biology Lab	4
One of these:		
BIOL:3212	Bioinformatics for Beginners	3
BMB:3130	Biochemistry and Molecular Biology II (students who take BMB:3120 as a chemistry/mathematics/physics foundation course must take this course)	3
CHEM:2220	Organic Chemistry II	3
CS:2110	Programming for Informatics	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5

## Experiential Elective

Code	Title	Hours
One of these 12 options:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3655	Neurogenetics Laboratory	4
BIOL:3656	Neurobiology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab (if not taken as a track course)	4
BIOL:3994 & BIOL:4898	Introduction to Research - Communicating Research (BIOL:3994 must be taken for a total of 5 s.h.)	6
BIOL:4213	Bioinformatics	4
BIOL:4314	Introduction to Synthetic Biology in the Lab	4

BIOL:4806	Service Learning in Biology (taken two times for a total of 4 s.h.)	4
BIOL:4897	Teaching Internship in Biology (must be taken two different semesters for a total of 4 s.h.)	4
BIOL:4999	Honors Research in Biology	6
or		
A combination of at least two different courses for a total of 4 s.h. from these:		
BIOL:3994	Introduction to Research	2-3
BIOL:4213	Bioinformatics	2
BIOL:4897	Teaching Internship in Biology	2-3
BIOL:4999	Honors Research in Biology	arr.
LATH:3001	Latham Fellows: Science Outreach Project	2
An approved biology-related internship		

## Electives

Code	Title	Hours
At least three of these, with a minimum of one course numbered 3000 or above:		
BIOL:2254	Endocrinology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3172	Evolution (if not taken as a track course)	4
BIOL:3233	Introduction to Developmental Biology (if not taken as a track course)	3
BIOL:3253	Neurobiology I	4
BIOL:3254	Neurobiology II	4
BIOL:3314	Genomics	3
BIOL:3343	Animal Physiology	3
BIOL:3363	Plant Developmental Biology (if not taken as a track course)	3
BIOL:3603	Mechanisms of Aging	3
BIOL:3713	Molecular Genetics	4
BIOL:4333	Genes and Development	3
May include one of these:		
BIOL:2663	Plant Response to the Environment	3
BIOL:3663	Plant Response to the Environment	3

## Genetics and Biotechnology Track

The genetics and biotechnology track provides education in the key principles of transmission, maintenance, regulation, and manipulation of genes. This track is appropriate for students who wish to pursue graduate study in fields related to genetics or to enter the modern biotechnology industry. It also provides excellent preparation for professional study in medicine and other health-related fields.

### Track Courses

Code	Title	Hours
All of these:		
BIOL:3172	Evolution	4
BIOL:3314	Genomics	3

BIOL:3713	Molecular Genetics	4
BIOL:3716	Genetics and Biotechnology Lab	4
One of these:		
BIOL:3212	Bioinformatics for Beginners	3
BMB:3130	Biochemistry and Molecular Biology II (students who take BMB:3120 as a chemistry/mathematics/physics foundation course must take this course)	3
CHEM:2220	Organic Chemistry II	3
CS:2110	Programming for Informatics	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5

## Experiential Elective

Code	Title	Hours
One of these 10 options:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3655	Neurogenetics Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3736	Developmental Biology Lab	4
BIOL:3994 & BIOL:4898	Introduction to Research - Communicating Research (BIOL:3994 must be taken for a total of 5 s.h.)	6
BIOL:4213	Bioinformatics	4
BIOL:4314	Introduction to Synthetic Biology in the Lab	4
BIOL:4806	Service Learning in Biology (taken two times for a total of 4 s.h.)	4
BIOL:4897	Teaching Internship in Biology (must be taken two different semesters for a total of 4 s.h.)	4
BIOL:4999	Honors Research in Biology	6
or		
A combination of at least two different courses for a total of 4 s.h. from these:		
BIOL:3994	Introduction to Research	2-3
BIOL:4213	Bioinformatics	2
BIOL:4897	Teaching Internship in Biology	2-3
BIOL:4999	Honors Research in Biology	arr.
LATH:3001	Latham Fellows: Science Outreach Project	2
An approved biology-related internship		

## Electives

Code	Title	Hours
At least two of these, with a minimum of one course numbered 3000 or above:		
BIOL:2254	Endocrinology	3
BIOL:2673	Ecology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3244	Animal Behavior	3,5



BIOL:3253	Neurobiology I	4
BIOL:3343	Animal Physiology	3
BIOL:3363	Plant Developmental Biology	3
BIOL:3373	Human Population Genetics and Variation	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:3603	Mechanisms of Aging	3
BIOL:4333	Genes and Development	3
BIOL:4373	Molecular Evolution: Genes, Genomes, and Organisms	3
BIOL:4386	Introduction to Scientific Computing for Biologists	3
May include one of these:		
BIOL:2663	Plant Response to the Environment	3
BIOL:3663	Plant Response to the Environment	3

## Integrative Biology Track

The integrative biology track offers a diverse, well-balanced introduction to the major fields of biology. This track prepares students for graduate study in the biological sciences, in science education, and for work in laboratories that engage in research and applications in many fields of biology. It also provides broadly based preparation for professional study in medicine and other health-related fields.

### Track Courses

Code	Title	Hours
Both of these:		
BIOL:2673	Ecology	3
BIOL:3172	Evolution	4
One of these:		
BIOL:3212	Bioinformatics for Beginners	3
BMB:3130	Biochemistry and Molecular Biology II (students who take BMB:3120 as a chemistry/mathematics/physics foundation course must take this course)	3
CHEM:2220	Organic Chemistry II	3
CS:2110	Programming for Informatics	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5

## Breadth Menus

### Genes and Genomes

Code	Title	Hours
One of these:		
BIOL:3314	Genomics	3
BIOL:3373	Human Population Genetics and Variation	3
BIOL:3713	Molecular Genetics	4
BIOL:4333	Genes and Development	3
BIOL:4373	Molecular Evolution: Genes, Genomes, and Organisms	3
BIOL:4386	Introduction to Scientific Computing for Biologists	3

## Biological Systems

Code	Title	Hours
Two of these:		
BIOL:2254	Endocrinology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3244	Animal Behavior	3,5
BIOL:3253	Neurobiology I	4
BIOL:3343	Animal Physiology	3
BIOL:3363	Plant Developmental Biology	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:3603	Mechanisms of Aging	3
May include one of these:		
BIOL:2663	Plant Response to the Environment	3
BIOL:3663	Plant Response to the Environment	3

## Investigative Lab

Code	Title	Hours
One of these:		
BIOL:2246	Entomology Lab	4
BIOL:3626	Cell Biology Laboratory	4
BIOL:3655	Neurogenetics Laboratory	4
BIOL:3656	Neurobiology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab	4

## Experiential Elective

Code	Title	Hours
One of these 12 options:		
BIOL:2246	Entomology Lab (if not used for investigative lab course)	4
BIOL:3626	Cell Biology Laboratory (if not used for investigative lab course)	4
BIOL:3655	Neurogenetics Laboratory (if not used for investigative lab course)	4
BIOL:3656	Neurobiology Laboratory (if not used for investigative lab course)	4
BIOL:3676	Evolution Lab (if not used for investigative lab course)	4
BIOL:3716	Genetics and Biotechnology Lab (if not used for investigative lab course)	4
BIOL:3736	Developmental Biology Lab (if not used for investigative lab course)	4
BIOL:3994 & BIOL:4898	Introduction to Research - Communicating Research (BIOL:3994 must be taken for a total of 5 s.h.)	6
BIOL:4213	Bioinformatics	4

BIOL:4806	Service Learning in Biology (taken two times for a total of 4 s.h.)	4
BIOL:4897	Teaching Internship in Biology (must be taken two different semesters for a total of 4 s.h.)	4
BIOL:4999	Honors Research in Biology	6
An approved Iowa Lakeside Laboratory course		
or		
A combination of at least two different courses for a total of 4 s.h. from these:		
BIOL:3994	Introduction to Research	2-3
BIOL:4213	Bioinformatics	2
BIOL:4897	Teaching Internship in Biology	2-3
BIOL:4999	Honors Research in Biology	arr.
LATH:3001	Latham Fellows: Science Outreach Project	2

An approved biology-related internship

## Neurobiology Track

The neurobiology track provides education in nervous system function at all levels, from molecular to systems biology. This track is appropriate for students who wish to pursue graduate study in neurobiology and related areas, including psychology and the social sciences; to enter laboratories that study the therapeutic basis of neurological disorders; or to work in pharmaceutical companies. It also provides good preparation for professional study in medicine and other health-related fields.

### Track Courses

Code	Title	Hours
All of these:		
BIOL:2753	Introduction to Neurobiology	3
BIOL:3244	Animal Behavior	5
BIOL:3253	Neurobiology I	4
BIOL:3254	Neurobiology II	4
One of these:		
BIOL:3655	Neurogenetics Laboratory	4
BIOL:3656	Neurobiology Laboratory	4
One of these:		
BIOL:3212	Bioinformatics for Beginners	3
BMB:3130	Biochemistry and Molecular Biology II (students who take BMB:3120 as a chemistry/mathematics/physics foundation course must take this course)	3
CHEM:2220	Organic Chemistry II	3
CS:2110	Programming for Informatics	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
PHYS:2703	Physics III	4
PHYS:3850	Electronics	4
PSY:3040	Psychology of Learning	3
PSY:3230	Psychopharmacology	3

PSY:3250	Neuroscience of Learning and Memory	3
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Other courses by permission of advisor

## Experiential Elective

Code	Title	Hours
One of these 10 options:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab	4
BIOL:3994 & BIOL:4898	Introduction to Research - Communicating Research (BIOL:3994 must be taken for a total of 5 s.h.)	6
BIOL:4213	Bioinformatics	4
BIOL:4314	Introduction to Synthetic Biology in the Lab	4
BIOL:4806	Service Learning in Biology (taken two times for a total of 4 s.h.)	4
BIOL:4897	Teaching Internship in Biology (must be taken two different semesters for a total of 4 s.h.)	4
BIOL:4999	Honors Research in Biology	6
or		
A combination of at least two different courses for a total of 4 s.h. from these:		
BIOL:3994	Introduction to Research	2-3
BIOL:4213	Bioinformatics	2
BIOL:4897	Teaching Internship in Biology	2-3
BIOL:4999	Honors Research in Biology	arr.
LATH:3001	Latham Fellows: Science Outreach Project	2

An approved biology-related internship

## Electives

Code	Title	Hours
One of these:		
BIOL:2254	Endocrinology	3
BIOL:3172	Evolution	4
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3343	Animal Physiology	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:3603	Mechanisms of Aging	3
BIOL:4333	Genes and Development	3
BIOL:4353	Neurophysiology: Cells and Systems	3
BIOL:4386	Introduction to Scientific Computing for Biologists	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.S./M.A.T. (Science Education Subprogram)

Students interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Science/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. The combined program enables students to earn a B.S. in biology and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting qualifying credit toward both degrees. For more information, see Science Education [p. 1524] in the Master of Arts in Teaching (College of Education) section of the Catalog. Interested students should consult an advisor.

## Honors

### Honors in the Major

Students majoring in biology have the opportunity to graduate with honors in the major. The Biology Honors Program introduces students to the pursuits of practicing scientists. Honors students associate with one of the department's research groups and participate in an independent research project guided by a faculty member (the research supervisor).

Biology honors students write a thesis based on an interesting biological problem, which is usually identified by the research supervisor. The thesis should clearly document that the student has acquired the necessary experimental skills to address specific questions and test specific hypotheses related to the research problem. Honors Seminar in Biology (BIOL:4998), or an equivalent seminar, provides students with an ideal opportunity to improve their skills in seminar presentation and in writing scientific English. Throughout undergraduate residence, departmental honors students also may enroll in courses with honors sections offered by the Department of Biology and by other departments and programs.

To graduate with honors in the biology major, students must fulfill the following requirements:

- complete the requirements for a major in biology with a g.p.a. of at least 3.33 in all coursework in the major taken at the University of Iowa (including all biology courses and cognates in chemistry, physics, biochemistry, mathematics, and statistics) and a cumulative University of Iowa g.p.a. of at least 3.33;
- complete 2 s.h. in either BIOL:4998 Honors Seminar in Biology or an advanced biology seminar course;
- complete a minimum of 6 s.h. (taken over two or more semesters) of BIOL:4999 Honors Research in Biology;
- write a brief research proposal summarizing the background and goals of their proposed honors research;
- upon completion of their research, submit an acceptable honors thesis; and
- give a brief oral presentation of their research findings to other biology honors students.

Students pursuing a B.S. in biology may apply 6 s.h. of BIOL:4999 Honors Research in Biology toward the experiential elective requirement in an appropriate track.

Biology majors interested in graduating with honors in the major should contact the biology honors advisor as early as possible, preferably during their sophomore or junior year, so that they may be matched with an appropriate lab. Visit Biology Honors Program to learn more about honors study in the department.

Students who are interested in the University of Iowa Honors Program satisfy the level two requirements when they satisfy the biology honors requirements; see University Honors Program below.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Students who satisfy the requirements for honors in the biology major also satisfy the experiential learning requirement of the University honors curriculum.

Membership in the UI Honors Program is not required to earn honors in the biology major.

## Career Advancement

The major in biology prepares students to enter research or service careers associated with private industry or government programs and for primary and secondary school teaching. It also prepares them to enter advanced degree programs leading to careers in higher education and to independent research in a variety of biological fields, or for practice in health professions such as medicine, dentistry, pharmacy, nursing, veterinary medicine, medical technology, and physical therapy.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, and BIOL:1411 Foundations of Biology.

**Before the fifth semester begins:** BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I, STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics, and two other courses in the major.

**Before the seventh semester begins:** BIOL:2512 Fundamental Genetics; PHYS:1511 College Physics I and PHYS:1512 College Physics II, or equivalents; six or seven more courses in the major; and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two or three more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Biology, B.S.

- Cell and Developmental Biology Track [p. 204]
- Genetics and Biotechnology Track [p. 205]
- Integrative Biology Track [p. 206]
- Neurobiology Track [p. 207]

### Cell and Developmental Biology Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1460	Calculus for the Biological Sciences <sub>c</sub>	4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Social Sciences <sup>d</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Research: students interested in research should begin the placement search process in the second year.		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
STAT:3510 or STAT:2010	Biostatistics or Statistical Methods and Computing	3

GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>	4 - 5
<b>Hours</b>	<b>14-15</b>

#### Spring

BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
Major: foundation track course - BMB:3110 Biochemistry or BMB:3120 Biochemistry and Molecular Biology I <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>	4 - 5	
<b>Hours</b>	<b>14-15</b>	

#### Third Year

##### Fall

BIOL:3233 or BIOL:3172 or BIOL:3363	Introduction to Developmental Biology or Evolution or Plant Developmental Biology	3 - 4
PHYS:1511	College Physics I	4
Major: foundation track course <sup>g</sup>		3 - 5
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>	4 - 5	
<b>Hours</b>	<b>14-18</b>	

##### Spring

BIOL:3363 or BIOL:3172 or BIOL:3233	Plant Developmental Biology or Evolution or Introduction to Developmental Biology	3 - 4
PHYS:1512	College Physics II	4
Major: cell and developmental biology elective I <sup>h</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>	4 - 5	
<b>Hours</b>	<b>14-16</b>	

#### Fourth Year

##### Fall

BIOL:3736 or BIOL:3626	Developmental Biology Lab or Cell Biology Laboratory	4
Major: cell and developmental biology elective II <sup>h</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
Elective course <sup>i</sup>		3
<b>Hours</b>	<b>16</b>	

##### Spring

Major: cell and developmental biology elective III <sup>h</sup>		3
Major: experiential requirement <sup>j</sup>		4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>k</sup>		
<b>Hours</b>	<b>13</b>	
<b>Total Hours</b>	<b>115-125</b>	

<sup>a</sup> Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students who take BMB:3120 also must take BMB:3130 as one of their track courses.
- g See General Catalog for list of approved courses. Students who took BMB:3120 must take BMB:3130.
- h At least one elective in the major must be numbered 3000 or above.
- i Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- j See General Catalog for list of approved options; some may require more than one semester.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Genetics and Biotechnology Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1460	Calculus for the Biological Sciences <sup>c</sup>	4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture <sup>d</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Research: students interested in research should begin the placement search process in the second year.		
<b>Hours</b>		<b>0</b>

<b>Fall</b>		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
STAT:3510 or STAT:2010	Biostatistics or Statistical Methods and Computing	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

<b>Spring</b>		
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
Major: foundation track course - BMB:3110 Biochemistry or BMB:3120 Biochemistry and Molecular Biology I <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

<b>Third Year</b>		
<b>Fall</b>		
BIOL:3172	Evolution	4
BIOL:3713	Molecular Genetics	4
Major: foundation track course <sup>g</sup>		3 - 5
GE CLAS Core: World Languages Third Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>15-18</b>

<b>Spring</b>		
BIOL:3314	Genomics	3
PHYS:1511	College Physics I	4
GE CLAS Core: Social Sciences <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

<b>Fourth Year</b>		
<b>Fall</b>		
PHYS:1512	College Physics II	4
Major: genetics elective I <sup>h</sup>		3
Major: experiential elective <sup>i</sup>		4
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
<b>Hours</b>		<b>17</b>

<b>Spring</b>		
BIOL:3716	Genetics and Biotechnology Lab	4
Major: genetics elective II <sup>h</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
Elective course <sup>j</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>k</sup>		
<b>Hours</b>		<b>13</b>
<b>Total Hours</b>		<b>117-125</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students who take BMB:3120 also must take BMB:3130 as one of their track courses.
- g See General Catalog for list of approved courses. Students who took BMB:3120 must take BMB:3130.
- h At least one elective must be numbered 3000 or above.
- i See General Catalog for list of approved options; some may require more than one semester.
- j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Integrative Biology Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
Research: Iowa Lakeside Laboratory summer field courses <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>c</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1460	Calculus for the Biological Sciences <sup>d</sup>	4
GE CLAS Core: Social Sciences <sup>e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
<b>Hours</b>		<b>14-15</b>

## Second Year

### Any Semester

Research: students interested in research should begin the placement search process in the second year.

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
STAT:3510 or STAT:2010	Biostatistics or Statistical Methods and Computing	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 14-15**

### Spring

BIOL:2512	Fundamental Genetics	4
BIOL:2673	Ecology	3
PHYS:1511	College Physics I	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 15-16**

## Third Year

### Fall

BIOL:2723	Cell Biology	3
PHYS:1512	College Physics II	4
Major: foundation track course - BMB:3110 Biochemistry or BMB:3120 Biochemistry and Molecular Biology I <sup>g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 14-15**

### Spring

BIOL:3172	Evolution	4
Major: biological systems course I		3
Major: foundation track course <sup>h</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 14-15**

## Fourth Year

### Fall

Major: biological systems course II		3
Major: investigative lab		4
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: International and Global Issues <sup>e</sup>		3
Elective course <sup>i</sup>		3

**Hours 16**

### Spring

Major: genes and genomes course		3
Major: experiential elective <sup>j</sup>		4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: Values and Culture <sup>e</sup>		3
Elective course <sup>i</sup>		3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)

Hours	16
<b>Total Hours</b>	<b>119-125</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b After completing BIOL:1412 Diversity of Form & Function, students are eligible to enroll in Lakeside Laboratory summer field courses. Registration for these courses is in winter of each year.
- c Enrollment in chemistry courses requires completion of a placement exam.
- d Enrollment in math courses requires completion of a placement exam.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students who take BMB:3120 also must take BMB:3130 as one of their track courses.
- h See General Catalog for list of approved courses. Students who took BMB:3120 must take BMB:3130.
- i Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- j See General Catalog for list of approved options; some may require more than one semester.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Neurobiology Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1460	Calculus for the Biological Sciences <sup>c</sup>	4
GE CLAS Core: Social Sciences <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>

## Spring

BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
<b>Hours</b>		<b>14-15</b>

## Second Year

### Any Semester

Research: students interested in research should begin the placement search process in the second year.

Hours	0	
<b>Fall</b>		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
STAT:3510 or STAT:2010	Biostatistics or Statistical Methods and Computing	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>	<b>14-15</b>	

## Spring

BIOL:2512	Fundamental Genetics	4
BIOL:2753	Introduction to Neurobiology	3
PHYS:1511	College Physics I	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>	<b>15-16</b>	

## Third Year

### Fall

BIOL:3244	Animal Behavior	5
BMB:3110 or BMB:3120	Biochemistry <sup>f</sup> or Biochemistry and Molecular Biology I	3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>	<b>15-16</b>	

## Spring

BIOL:2723	Cell Biology	3
BMB:3130	Biochemistry and Molecular Biology II <sup>g</sup>	3
PHYS:1512	College Physics II	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>	<b>14-15</b>	

## Fourth Year

### Fall

BIOL:3253	Neurobiology I	4
BIOL:3656 or BIOL:3655	Neurobiology Laboratory or Neurogenetics Laboratory	4
Major: neurobiology elective		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
<b>Hours</b>	<b>14</b>	

## Spring

BIOL:3254	Neurobiology II	4
Major: experiential elective <sup>h</sup>		4

GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>	3
GE CLAS Core: Values and Culture <sup>d</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	
<b>Hours</b>	<b>14</b>
<b>Total Hours</b>	<b>116-122</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students who take BMB:3120 also must take BMB:3130.
- g See General Catalog for list of approved courses. Students who took BMB:3120 must take BMB:3130.
- h See General Catalog for list of approved options; some may require more than one semester.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Biology, Minor

## Requirements

The undergraduate minor in biology requires a minimum of 15 s.h. in biology coursework, including 12 s.h. in courses numbered 2000 or above offered by the Department of Biology at the University of Iowa or in approved Iowa Lakeside Laboratory [p. 2184] courses. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Students may not use transfer coursework to count as courses numbered 2000 or above.

Either BIOL:2512 Fundamental Genetics or BIOL:2211 Genes, Genomes, and the Human Condition will count toward the minor, but not both. Good Genes Gone Bad: Genetic Disorders of Notable Celebrities (BIOL:2120) and Honors Research in Neuroscience (BIOL:4995) do not count toward the minor.

Students may count BIOL:3994 Introduction to Research (maximum of 3 s.h.) and BIOL:4897 Teaching Internship in Biology (maximum of 3 s.h.) only once toward the minor requirement.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Biology, Minor

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
CHEM:1120	Principles of Chemistry II <sup>a</sup>	4
<b>Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:1411	Foundations of Biology <sup>c</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
BIOL:1412	Diversity of Form and Function <sup>c</sup>	4
<b>Hours</b>		<b>4</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: biology course (prefix BIOL) <sup>d</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: biology course (prefix BIOL) <sup>d</sup>		3
<b>Hours</b>		<b>3</b>

### Fourth Year

#### Fall

Minor: biology course (prefix BIOL) <sup>d</sup>	3
<b>Hours</b>	<b>3</b>

#### Spring

Minor: biology course (prefix BIOL) <sup>d</sup>	3
<b>Hours</b>	<b>3</b>
<b>Total Hours</b>	<b>28</b>

- a Chemistry does not count toward the biology minor, but CHEM:1110 is a prerequisite to the first biology course and is required for most other biology courses. CHEM:1120 will be required for some but not all upper-level biology courses.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c BIOL:1411 and BIOL:1412 are both required before taking upper-level biology courses.
- d Any biology course numbered 2000 or above except BIOL:2120 and BIOL:4995. Either BIOL:2512 or BIOL:2211 will count toward the minor, but not both. Students may count BIOL:3994 (maximum of 3 s.h.) and BIOL:4897 (maximum of 3 s.h.) only once toward the minor. Lakeside Laboratory courses can be approved for the minor.

## Integrated Biology, M.S.

The Department of Biology's graduate programs in integrated biology (iBio) emphasize original research and developing the skills essential for publishing and communicating research findings to the scientific community. Research programs in the department cover many areas of the biological sciences: cell biology, developmental biology, ecology, evolution, genetics, and neurobiology. Graduate study in the department provides students with a broad understanding of these basic areas.

Newly admitted graduate students are assigned a temporary advisor and together they discuss the student's educational background to formulate a first-semester study plan before registration. The programs allow each student to tailor coursework to their own research interests. Students may be advised to take specific coursework in order to enhance their background in certain areas.

During the first year, students whose preparation in chemistry, genetics, mathematics, or physics is insufficient may need to remedy deficiencies by taking appropriate coursework.

Entering students typically will have taken the following courses: organic chemistry, biochemistry, calculus or physics, and 20 s.h. of coursework in biology including a fundamental genetics course.

Students with bachelor's degrees outside the biological sciences may request modification of certain area requirements. The Graduate Affairs Committee decides whether portions of the requirements may be waived.

### Learning Outcomes

Graduates will:

- master the skill of reading, understanding, and summarizing primary literature across a variety of biology subdisciplines, demonstrating effective scholarly communication in the process;
- explain in writing the experimental rationale, articulate the central hypothesis, and outline the major investigative steps that will be undertaken in a student's primary area of research;
- orally communicate established scientific concepts as well as ongoing research hypotheses, experimental design, and results to a wide array of audiences using established scientific communication norms;
- master in-depth pedagogical concepts through advanced lecture courses and engage in a vertically integrated critical analysis of a single topic over many levels of basic biology;
- learn and implement field-specific experimental processes, techniques, and data analyses in a responsible manner consistent with current bioethical protocols; and
- establish networking connections within the scientific profession, from peer level through established, independent researchers.

### Requirements

The Master of Science program in integrated biology requires 30 s.h. of graduate credit with thesis or 34 s.h. of graduate credit without thesis. Students must maintain a cumulative g.p.a. of at least 3.00. Entering students are typically admitted only to the thesis program; however, students who

decide not to continue their studies may opt for the nonthesis program.

Students must enroll in at least two advanced lecture courses (or courses approved by the Graduate Affairs Committee). In the first year, students enroll in BIOL:5512 Readings in Genetics in the fall semester and BIOL:6298 Concepts, Models, and Systems in Biology (COSMOS) Seminar in the fall and spring semesters. In subsequent years, students continue to enroll in BIOL:6298 for 1 s.h.

At the end of the first year, students take a qualifying exam that consists of essay questions based on major themes in biology. Students must perform satisfactorily on this exam in order to continue in the program. In the second year, students take one seminar course (2 s.h.) with significant writing and oral presentation components, as well as BIOL:6188 Seminar: Writing in Natural Sciences in the fall and spring semesters.

Thesis students may count a maximum of 9 s.h. of research credit toward the 30 s.h. required for the master's degree with thesis. Remaining coursework is tailored to a student's background and career goals and is selected in consultation with the student's advisory committee. The thesis is based on original research. After the thesis is accepted by the student's supervisor and advisory committee, the student must pass an oral examination based on the thesis research and on related subjects. Nonthesis students must write a library research report for a maximum of 4 s.h. of credit. They may apply up to 8 s.h. of research credit toward the 34 s.h. required for the master's degree without thesis.

Visit the iBio Graduate Program website for more detailed information about the Master of Science program.

### Admission

Individuals who wish to pursue graduate study in integrated biology may apply to the Master of Science with thesis program. The M.S. without thesis is an exit program and does not admit entering graduate students.

Application materials for the graduate program must be uploaded to the University's Office of Admissions website. These are reviewed by the Department of Biology Graduate Recruitment and Admissions Committee. For detailed instructions, visit iBio Application on the integrated biology graduate program website.

Applicants must hold a valid B.A. or B.S. from an accredited institution. They must supply official transcripts from each undergraduate and graduate institution they have attended. The Graduate Record Examination (GRE) General Test is not required for admission, but if students wish to have their results considered they must include their verbal, quantitative, and analytical writing scores.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) and have their score sent to the Office of Admissions. International applicants who received their degrees (either bachelor's or master's) from a U.S. institution are exempt from this requirement. All international students whose first language is not English are required to take the on-campus English Proficiency Evaluation before they first enroll for classes.

Successful applicants for graduate admission typically have a g.p.a. of at least 3.00 (on a 4.00 scale) and a Graduate Record Examination (GRE) General Test score above 308 (combined verbal and quantitative), although the GRE exam is not a requirement for admission. The admissions committee also

considers letters of recommendation, the personal statement, and other appropriate criteria, especially prior research experience.

Although most applicants will have completed undergraduate programs in biology, the department also considers applicants with backgrounds in related sciences, providing they have taken the required coursework.

Students applying for admission to the M.S. with thesis program should have a bachelor's degree in one of the biological sciences. Students with bachelor's degrees in other areas may need to register as nondegree students and complete the equivalent of the department's bachelor's degree program prior to consideration for admission. Nondegree students must complete chemistry, physics, and calculus requirements in addition to the biology courses listed in the undergraduate program. Nondegree students should consult the department's graduate program administrator before applying for admission.

Applications are reviewed on a rolling basis prior to January 1; visit the Integrated Biology Graduate Program website for updated deadline information.

Applicants must meet the minimum admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Students generally are supported by available research or teaching assistantships. Offers of admission include information about offers of financial support.

## Career Advancement

The graduate program in integrated biology prepares students for careers in academic research, science education, industry, government, and a variety of other careers in which their scientific expertise can be used.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Integrated Biology, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b, c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>d</sup>		
<b>Hours</b>		<b>0</b>

<b>Fall</b>		
BIOL:5512	Readings in Genetics	2
BIOL:6199	Research: Biology <sup>a</sup>	3
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	1
BIOL:7270	Principles of Scholarly Integrity	1
Advanced lecture elective course <sup>e</sup>		3 - 4
<b>Hours</b>		<b>10-11</b>
<b>Spring</b>		
BIOL:6199	Research: Biology <sup>a</sup>	3
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	2
Advanced lecture elective course <sup>e</sup>		3 - 4
Data informatics course <sup>e</sup>		3
<b>Hours</b>		<b>11-12</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:6199	Research: Biology <sup>a</sup>	1
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	1
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
BIOL:6188	Seminar: Writing in Natural Sciences	2
BIOL:6199	Research: Biology <sup>a</sup>	1
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	1
Final Exam <sup>f</sup>		4
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>30-32</b>

a Maximum of 9 s.h. earned in research may apply towards the degree.

b Students who take coursework to make up for undergraduate deficiencies (e.g., physics, biochemistry, or fundamental genetics) may not count that coursework towards the degree requirements.

c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

d Taken at the end of first year if continuing to PhD.

e Work with faculty advisor to determine appropriate elective coursework.

f Thesis defense.

## Integrated Biology, Ph.D.

The Department of Biology's graduate programs in integrated biology (iBio) emphasize original research and developing the skills essential for publishing and communicating research findings to the scientific community. Research programs in the department cover many areas of the biological sciences: cell biology, developmental biology, ecology, evolution, genetics, and neurobiology. Graduate study in the department provides students with a broad understanding of these basic areas.

Newly admitted graduate students are assigned a temporary advisor and together they discuss the student's educational background to formulate a first-semester study plan before registration. The programs allow each student to tailor coursework to their own research interests. Students may be advised to take specific coursework in order to enhance their background in certain areas.

During the first year, students whose preparation in chemistry, genetics, mathematics, or physics is insufficient may need to remedy deficiencies by taking appropriate coursework.

Entering students typically will have taken the following courses: two semesters of organic chemistry, or one semester of organic chemistry and one semester of biochemistry; one semester of calculus; two semesters of college physics; and 20 s.h. of coursework in biology, including genetics.

Students with bachelor's degree outside the biological sciences may request modification of certain area requirements. The Graduate Affairs Committee decides whether portions of the requirements may be waived.

## Learning Outcomes

Graduates will:

- master the skill of reading, understanding, and summarizing primary literature across a variety of biology subdisciplines, demonstrating effective scholarly communication in the process;
- explain in writing the experimental rationale, articulate the central hypothesis, and outline the major investigative steps that will be undertaken in a student's primary area of research;
- orally communicate established scientific concepts as well as ongoing research hypotheses, experimental design, and results to a wide array of audiences using established scientific communication norms;
- master in-depth pedagogical concepts through advanced lecture courses and engage in a vertically integrated critical analysis of a single topic over many levels of basic biology;
- learn and implement field-specific experimental processes, techniques, and data analyses in a responsible manner consistent with current bioethical protocols;
- establish networking connections within the scientific profession, from peer level through established, independent researchers; and
- become a research subproject leader (evidenced by publication/meeting presentation/grant submittal) within the context of a research group.

## Requirements

The Doctor of Philosophy program in integrated biology requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00.

New Ph.D. students go through three laboratory rotations with different faculty during their first semester (August-December). Students consult with their temporary advisor and prospective faculty research sponsors before identifying their preferences for research rotations. Based on their rotations, they choose a laboratory affiliation for their thesis late in the first semester.

During the first year, students are required to enroll in BIOL:5512 Readings in Genetics in the fall semester and BIOL:6298 Concepts, Models, and Systems in Biology (COSMOS) Seminar in the fall and spring semesters. The course, BIOL:6298, introduces them to multiple levels of biological analysis and provides them with significant opportunities to hone their skills in written and oral communication. At the end of the first year, students take a qualifying exam that consists of essay questions based on major themes in biology. Students must perform satisfactorily on this exam in order to continue in the program.

During the first two years, students must enroll in at least two advanced lecture courses (or courses approved by the Graduate Affairs Committee)—one elective and one approved data informatics or statistics course.

Prior to the comprehensive examination, students also take BIOL:6188 Seminar: Writing in Natural Sciences (2 s.h.) and a seminar course with significant writing and oral presentation components.

The comprehensive examination is taken in the summer of the second year in residence. Students prepare a National Institutes of Health/National Science Foundation-style grant application on their planned thesis work and orally defend this work in front of a review committee. They must demonstrate knowledge of biology fundamentals and the analytic and synthetic skills necessary to become creative, independent scientists. Once they complete the coursework and proficiency requirements and pass the comprehensive examination, students may be admitted to full candidacy for the Ph.D. degree.

Following the comprehensive examination, students must take at least two additional seminar courses (2 s.h. each). Seminar courses from other departments may be approved by the Graduate Affairs Committee in consultation with the faculty advisor to satisfy the requirement.

Students must serve as teaching assistants for at least two semesters in order to develop and demonstrate teaching proficiency. The first teaching semester takes place during the spring of a student's first year and is preceded by extensive departmental training in effective teaching skills.

The department also offers career seminars that explore types of employment outside of academic research, including teaching careers and other topics.

The program culminates in students' preparation of a dissertation based on original independent research. Students must pass a final examination that covers the thesis and its specialized field before the Ph.D. is awarded.

Visit the iBio Graduate Program website for more detailed information about the Ph.D. program.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in integrated biology in a combined degree program offered by the Carver College of Medicine and the Graduate College. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

### Admission

Application materials for the graduate program must be uploaded to the University's Office of Admissions website. These are reviewed by the Department of Biology Graduate Recruitment and Admissions Committee. For detailed instructions, visit iBio Application on the integrated biology graduate program website.

Applicants must hold a valid B.A. or B.S. from an accredited institution. They should supply official transcripts from each undergraduate and graduate institution they have attended. The Graduate Record Examination (GRE) General Test is not required for admission, but if students wish to have their results considered they must include their verbal, quantitative, and analytical writing scores.

Applicants whose first language is not English must score at least 100 (internet-based test) on the Test of English as a Foreign Language (TOEFL) and have their score sent to the Office of Admissions. International applicants who received their degrees (either bachelor's or master's) from a U.S. institution are exempt from this requirement. All international students whose first language is not English are required to take the on-campus English Proficiency Evaluation before they first enroll for classes or serve as a teaching assistant.

Successful applicants for graduate admission typically have a g.p.a. of at least 3.00 (on a 4.00 scale) and a Graduate Record Examination (GRE) General Test score above 308 (combined verbal and quantitative), although the GRE exam is not a requirement for admission. The admissions committee also considers letters of recommendation, the personal statement, and other appropriate criteria, especially prior research experience.

Although most applicants will have completed undergraduate programs in biology, the department also considers applicants with backgrounds in related sciences, providing they have taken the required coursework. Students with bachelor's degrees in other areas may need to register as nondegree students and complete the equivalent of the department's bachelor's degree program prior to consideration for admission. Nondegree students may be asked to complete chemistry, physics, and calculus in addition to the biology courses listed in the undergraduate program. Nondegree students should consult the department's graduate program administrator before applying.

Review of applications typically begins by December 1; visit the iBio Graduate Program website for updated application information and instructions. Applications are reviewed on a rolling basis until available slots for the interview weekend (typically held in late February) are filled.

Applicants must meet the minimum admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Financial Support

All graduate students making satisfactory progress toward the Ph.D. receive stipend and tuition support from non-University of Iowa fellowships and from teaching assistantships or research assistantships available through individual research grants administered by faculty members or by the University. First-year Ph.D. students are supported by department fellowships during the research rotation period and by teaching assistantships during the spring semester. Offers of admission include information about offers of financial support.

### Career Advancement

The graduate program in integrated biology prepares students for careers in academic research, science education, industry, government, and a variety of other careers in which their scientific expertise can be used.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Integrated Biology, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>c</sup>		
		<b>Hours</b>
		<b>0</b>
<b>Fall</b>		
BIOL:5412	Fundamental Genetics - Graduate Lecture <sup>a</sup>	3
BIOL:5512	Readings in Genetics	2
BIOL:6199	Research: Biology	5
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	1
BIOL:7270	Principles of Scholarly Integrity	1
<sup>d</sup>	Advanced lecture elective or data informatics course	3
		<b>Hours</b>
		<b>15</b>
<b>Spring</b>		
BIOL:5110	Practicum: College Teaching for Biology Teaching Assistants	2

BIOL:6199	Research: Biology	8
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	2
Advanced lecture elective or data informatics course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:6199	Research: Biology	11
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	1
Advanced lecture elective or elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
BIOL:6188	Seminar: Writing in Natural Sciences	2
BIOL:6199	Research: Biology	10
Advanced lecture elective or elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>
<b>Summer</b>		
Comprehensive Exam <sup>e</sup>		0
<b>Hours</b>		<b>0</b>
<b>Third Year</b>		
<b>Fall</b>		
BIOL:6199	Research: Biology	3
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	1
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
BIOL:6199	Research: Biology	1
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	2
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
BIOL:6199	Research: Biology	3
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	1
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
BIOL:6199	Research: Biology	2
BIOL:6298	Concepts, Models, and Systems in Biology (COSMOS) Seminar	2
Final Exam <sup>f</sup>		0
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>75</b>

f Dissertation defense.

a Students who take coursework to make up for undergraduate deficiencies (e.g., physics, biochemistry, or fundamental genetics) may not count that coursework towards the degree requirements.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Taken at the end of first year.

d Work with faculty advisor to determine appropriate elective coursework.

e Comprehensive Exam requires current session enrollment.

# Biomedical Sciences

## Chair, Department of Biology

- Jodie M. Plumert

## Director, Biomedical Sciences

- Bryant F. McAllister (Biology)

**Undergraduate major:** biomedical sciences (B.S.)

**Website:** <https://biology.uiowa.edu/>

Biomedical sciences is an interdisciplinary major designed for students who plan to attend medical school or conduct biomedical research in graduate school and beyond.

The curriculum stretches broadly across scientific and mathematical fields. The major is selective, with a limited number of students admitted, and the curriculum is challenging, requiring dedication by its students, who are mentored by faculty members from the participating disciplines.

The Departments of Biochemistry and Molecular Biology, Biology, Chemistry, and Microbiology and Immunology collaborate to offer the major in biomedical sciences; the major is administered by the Department of Biology [p. 188].

## Programs

## Undergraduate Program of Study

### Major

- Major in Biomedical Sciences (Bachelor of Science) [p. 216]

# Biomedical Sciences, B.S.

## Learning Outcomes

Graduates of the biomedical sciences program will achieve the following.

### Foundational Knowledge

Comprehension of fundamental principles and concepts in the natural and social sciences.

Graduates will be able to:

- integrate across the natural and social sciences;
- apply foundational knowledge and conceptual frameworks to biomedicine;
- recognize the consequences of evolutionary history in the understanding of human biology and disease; and
- evaluate new information reported in the news and/or in scientific publications against prior knowledge.

### New Discovery

Scientific reasoning and experimental process in biomedicine.

Graduates will be able to:

- perform basic laboratory procedures, including correct operation of devices;
- formulate questions about natural processes based on current knowledge;
- construct a hypothesis to guide experimental enquiry;
- design experiments, identifying variables of analysis and controls for error;
- consider appropriate strategies or technologies applicable to investigate a novel problem;
- collect, organize, summarize, and interpret data;
- analyze and evaluate experimental results to inform a hypothesis; and
- distinguish between necessary and sufficient causes.

### Quantitative Skills

Mathematical reasoning and basic numeracy applied to biomedicine.

Graduates will be able to:

- perform essential mathematical operations such as unit conversions, dilutions, and molarity calculations;
- apply mathematical concepts and rules of probability to make predictions;
- select and apply appropriate statistical tests to determine significance of experimental results; and
- use mathematical and/or statistical expressions to evaluate hypotheses with experimental data.

### Information Literacy

Acquisition, analysis, and summary of published biomedical information.

Graduates will be able to:

- locate and evaluate the relevance and credibility of information from electronic and print sources;
- navigate and obtain relevant information from public databases;
- recognize and appropriately cite sources of information;

- identify questions addressed and methodologies used; and
- assess findings reported and conclusions drawn in published scientific articles.

## Communication Proficiency

Written and oral presentation of biomedical information.

Graduates will be able to:

- write concise scientific reports based on findings or literature searches;
- construct visual presentations of results or findings from the scientific literature; and
- present findings or results from the literature orally with appropriate media.

## Requirements

The Bachelor of Science with a major in biomedical sciences requires a minimum of 120 s.h., including at least 80-82 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The interdisciplinary major provides an excellent foundation for medical training and for research and/or practice in the chemical, genetic, cellular, and physiological bases of human disease. The curriculum includes required and elective coursework in biochemistry and molecular biology, biology, chemistry, health and human physiology, mathematics, microbiology and immunology, physics, psychology, sociology, and statistics. Students who wish to apply transfer credit toward the major should consult their departmental advisor.

The B.S. with a major in biomedical sciences requires the following coursework.

Code	Title	Hours
Required Courses		65-66
Elective Courses		15-16
<b>Total Hours</b>		<b>80-82</b>

## Required Courses

Students complete the following coursework (65-66 s.h.).

### Chemistry

Code	Title	Hours
All of these:		
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CHEM:2410	Organic Chemistry Laboratory	3

### Life Sciences

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4



BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOL:3373	Human Population Genetics and Variation	3
HHP:3500	Human Physiology	3
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory (both courses should be taken in the same semester)	5

## Mathematics

Code	Title	Hours
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

## Statistics

Code	Title	Hours
This course:		
STAT:3510	Biostatistics	3

## Physics

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8

## Social Sciences

Code	Title	Hours
Both of these:		
PSY:1001	Elementary Psychology	3
SOC:1010	Introduction to Sociology	3-4
One of these:		
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
PSY:2130	Advanced Psychology for Pre-Medical Track	3
PSY:2930	Abnormal Psychology: Health Professions	3

## Elective Courses

Students complete a total of 15-16 s.h. of elective coursework chosen from the following lists.

### Lecture Courses

Code	Title	Hours
Two of these:		
BIOL:2254	Endocrinology	3
BIOL:2723	Cell Biology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3212	Bioinformatics for Beginners	3

BIOL:3233	Introduction to Developmental Biology	3
BIOL:3343	Animal Physiology	3
BMB:4241	Biophysical Chemistry I	3
MICR:3147	Immunology and Human Disease	3
MICR:3159	Bacteria and Human Disease	3
MICR:3168	Viruses and Human Disease	3

## Investigative Lab

Code	Title	Hours
One of these:		
BIOL:3626	Cell Biology Laboratory	4
BIOL:3656	Neurobiology Laboratory	4
BIOL:3676	Evolution Lab	4
BIOL:3716	Genetics and Biotechnology Lab	4
BIOL:3736	Developmental Biology Lab	4
MICR:3165	Bacteria and Human Disease Laboratory and Discussion	3

## Experiential Learning

The objective of this requirement is to enrich the curriculum through efforts on a research project or other academic experience where a student pursues activities in the biomedical sciences.

Code	Title	Hours
One of these (6 s.h.):		
BIOL:4999	Honors Research in Biology	6
An approved honors research course equivalent, such as HONR:4990; obtain approval of research plan from program director prior to initiation of honors research project		6
Internships, paid hourly research work, or similar experiences conducted over at least two semesters <sup>1</sup>		6

<sup>1</sup> These activities may be used to satisfy the Experiential Learning requirement. They also may be used to fulfill the Experiential Learning requirement for the University of Iowa Honors Program. Students should discuss potential activities with academic advisors, and if necessary, obtain approval from the program director of a personalized plan to satisfy the requirement. A final summary of completed and in-progress experiential learning activities, including courses taken, fellowships received, appointments, presentations, publications, among others are required to evaluate completion.

## Honors

### Honors in the Major

Students majoring in biomedical sciences are encouraged to graduate with honors in the major.

Honor students in the major may enroll in courses with honors sections offered by the Department of Biology and by other departments and programs. They also are advised to participate in the Iowa Center for Research by Undergraduates (ICRU) and to apply for research scholarships.

Students who earn honors in the major must maintain a cumulative University of Iowa g.p.a. of at least 3.33, as required by the College of Liberal Arts and Sciences.

To graduate with honors, students additionally must fulfill the following requirements:

- complete the requirements for a major in biomedical sciences with a g.p.a. of at least 3.33 in all University of Iowa coursework in the major;
- complete 1 s.h. in BIOL:4898 Communicating Research;
- complete 2 s.h. in either BIOL:4998 Honors Seminar in Biology or an advanced biology seminar course;
- complete a minimum of 6 s.h. (taken over two or more semesters) in BIOL:4999 Honors Research in Biology or equivalent research credit approved by the program director;
- write a brief research proposal summarizing the background and goals of their proposed honors research;
- upon completion of their research, submit an acceptable honors thesis; and
- give an oral presentation of their research findings.

Biomedical sciences majors interested in graduating with honors in the major should contact the biomedical sciences honors advisor as early as possible, preferably during their sophomore or junior year, so that they may be matched with an appropriate lab. Contact the Department of Biology to learn more about honors in the major.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the biomedical sciences major.

### Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, BIOL:1411 Foundations of Biology, PSY:1001 Elementary Psychology, SOC:1010 Introduction to Sociology, MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I, CHEM:2210 Organic Chemistry I, CHEM:2220 Organic Chemistry II, MICR:2157 General Microbiology, MICR:2158 General Microbiology Laboratory, PHYS:1511 College Physics I, PHYS:1512 College Physics II, and HHP:3500 Human Physiology.

**Before the seventh semester begins:** BMB:3120 Biochemistry and Molecular Biology I, BMB:3130 Biochemistry and Molecular Biology II, CHEM:2410 Organic Chemistry Laboratory, BIOL:2211 Genes, Genomes, and the Human Condition, BIOL:3373 Human Population Genetics and Variation, and STAT:3510 Biostatistics.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Biomedical Sciences, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>First Year</b>		
<b>Any Semester</b>		
Begin volunteering at a hospital or other healthcare facility in the first year or as early as possible.		0
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
MATH:1460	Calculus for the Biological Sciences <sup>c</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
SOC:1010	Introduction to Sociology	3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
PSY:1001	Elementary Psychology	3
<b>Hours</b>		<b>14-15</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Shadow a doctor and learn more about the field of medicine in the second year.		0
Start the search process for a research lab in the second year.		0
<b>Fall</b>		
CHEM:2210	Organic Chemistry I	3
MICR:2157	General Microbiology <sup>d</sup>	3
MICR:2158	General Microbiology Laboratory <sup>d</sup>	2
PHYS:1511	College Physics I	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>

**Spring**

CHEM:2220	Organic Chemistry II	3
HHP:3500	Human Physiology	3
PHYS:1512	College Physics II	4
STAT:3510	Biostatistics	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5

**Hours** **17-18**

**Third Year****Any Semester**

Students should request letters of reference for medical school applications in the third year.

**Hours** **0**

**Fall**

BIOL:2211	Genes, Genomes, and the Human Condition	3
BMB:3120	Biochemistry and Molecular Biology I	3
CHEM:2410	Organic Chemistry Laboratory	3
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5

**Hours** **16-17**

**Spring**

BIOL:3373	Human Population Genetics and Variation	3
BMB:3130	Biochemistry and Molecular Biology II	3
PSY:2130 or PSY:2930 or CPH:1800	Advanced Psychology for Pre-Medical Track or Abnormal Psychology: Health Professions or Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5

Exam: Take MCAT in spring or summer

**Hours** **13-14**

**Summer**

Admission Application: Apply to medical school

**Hours** **0**

**Fourth Year****Fall**

Major: elective lecture I <sup>g</sup>		3
Major: experiential elective or elective course <sup>g</sup>		3 - 4
GE CLAS Core: Historical Perspectives <sup>f</sup>		3
GE CLAS Core: International and Global Issues <sup>f</sup>		3

**Hours** **12-13**

**Spring**

Major: elective lecture II <sup>g</sup>		3
Major: investigative lab <sup>g</sup>		3 - 4
Major: experiential elective or elective course <sup>g</sup>		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>		3
GE CLAS Core: Values and Culture <sup>f</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

<b>Hours</b>	<b>15-17</b>
<b>Total Hours</b>	<b>119-128</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d MICR:2157 and MICR:2158 should be taken in the same semester.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Students complete a total of 15-16 s.h. of elective coursework from approved lists of courses; see General Catalog.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Chemistry

## Chair

- Leonard R. MacGillivray

**Undergraduate major:** chemistry (B.A., B.S.)

**Undergraduate minor:** chemistry

**Graduate degrees:** M.S. in chemistry; Ph.D. in chemistry

**Faculty:** <https://chem.uiowa.edu/people>

**Website:** <https://chem.uiowa.edu/>

The Department of Chemistry is committed to providing its undergraduate students with the skills needed to comprehend and confront the scientific challenges of the new century. The department's strong and vibrant undergraduate chemistry program is an environment where students can develop and ultimately find success in their chosen career paths.

The graduate programs in chemistry train scholars to lead efforts in chemistry research and teaching. One of the primary goals is to train students to become independent scientists. The department offers coursework to provide the foundational knowledge that enhances student efforts in the laboratory.

## Student Organizations

A number of organizations are open to undergraduate students for support and enrichment.

Students may join the University of Iowa undergraduate student chapter of the American Chemical Society (ACS). Chapter activities include dinner meetings with guest speakers, field trips to local industries, participation in local and national meetings of the ACS, and participation in chemistry outreach programs. Students in the ACS student chapter develop valuable leadership, organization, and speaking skills during their college experience and throughout their careers.

The department has a chapter of Alpha Chi Sigma, a coed chemistry fraternity. The Alpha Theta Chapter is open to students in chemistry, biochemistry, chemical engineering, and related fields. Alpha Chi Sigma sponsors many social and professional events throughout the year.

The department endorses the National Organization for the Professional Advancement of Black Chemists and Chemical Engineers (NOBCChE), which is committed to discovery, transmittal, and application of knowledge in science and engineering and to increasing the participation of underrepresented populations in these fields. NOBCChE sponsors diverse programs designed to foster professional development and to encourage students to pursue careers in science and technical fields.

The department also supports the activities of Women in Science and Engineering (WiSE), whose aim is to increase women's participation and advancement as students, faculty members, and professional staff; promote a supportive study and work environment for women; integrate women's ideas, strengths, and approaches into research, teaching, and service; and inform the public of educational and career opportunities for women in scientific and technical fields. WiSE sponsors a living learning community in a University residence hall for first-year female students majoring in science or engineering, the Student-to-Student Support in Science mentoring program, a service learning program, and the WiSE Discourse and Dining series.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Chemistry (Bachelor of Arts) [p. 225]
- Major in Chemistry (Bachelor of Science) [p. 229]

#### Minor

- Minor in Chemistry [p. 233]

### Graduate Programs of Study

#### Majors

- Master of Science in Chemistry [p. 234]
- Doctor of Philosophy in Chemistry [p. 235]

## Facilities

The Department of Chemistry's main office, support facilities, and faculty offices are located in the Chemistry Building, as is laboratory and classroom space dedicated to teaching and research activities. Several faculty members have offices and laboratories in the Iowa Advanced Technology Laboratories across the street from the Chemistry Building. Extensive resources are readily accessible such as nuclear magnetic resonance (NMR), mass spectrometry, and X-ray analysis facilities, advanced computational resources, and complete machine, electronics, and glass shops. See the Department of Chemistry website for information about facilities and advanced instrumentation available for instruction and research.

The Chemistry Center serves all students who take chemistry courses as well as the department's instructors. The center offers assistance with registration, returns examinations and homework assignments, schedules alternative exams, and provides information about all lower-level chemistry courses. Information about student organizations and departmental scholarships and awards also is available at the Chemistry Center.

## Courses

### Chemistry Courses

Students planning to take more than one year of chemistry should take CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II.

Students who require only one year of chemistry with no laboratory component may take CHEM:1070 General Chemistry I and CHEM:1080 General Chemistry II.

Students who have not had high school chemistry or do not have strong math and/or chemistry preparation should consider taking CHEM:1070 General Chemistry I before CHEM:1110 Principles of Chemistry I; academic advisors and the Chemistry Diagnostic Test can help students determine which of these courses to take first.

- CHEM:0500 Review of Chemistry Fundamentals** 0 s.h.  
Self-paced course to prepare for and improve success in CHEM:1110; students acquire an appropriate mathematics background and a sound understanding of some fundamentals of chemistry; use of ALEKS to test individual chemistry knowledge and then computerized adaptive learning software to fill gaps in knowledge.
- CHEM:1000 First-Year Seminar** 1-2 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- CHEM:1050 Chemistry of Our World** 3 s.h.  
Nonmathematical exploration of selected areas of technology; basic science background, current technological applications, implications for society; for non-science majors. GE: Natural Sciences without Lab.
- CHEM:1060 Technology and Society Laboratory** 1 s.h.  
Laboratory for CHEM:1050; demonstrations, student experiments. GE: Natural Sciences Lab only.
- CHEM:1070 General Chemistry I** 3 s.h.  
Atomic structure, chemical bonds, mole relations, stoichiometry, states of matter, acids and bases, reaction rates, electrochemistry, nuclear chemistry. GE: Natural Sciences without Lab.
- CHEM:1080 General Chemistry II** 3 s.h.  
Organic chemistry and biochemistry. GE: Natural Sciences without Lab.
- CHEM:1090 Supplemental Chemistry Lab** 1 s.h.  
Lab techniques, elementary synthesis, measurement, analysis, case-study lectures and experiments; safety glasses, appropriate dress, compliance with laboratory safety protocols required.
- CHEM:1100 Chemistry in Industry and the Economy** 3 s.h.  
Atomic structure, chemical bonding, acid and bases, polymers, pharmaceuticals, DNA, proteins, and basic economics. GE: Natural Sciences without Lab.
- CHEM:1110 Principles of Chemistry I** 4 s.h.  
Chemical bonding and chemical reactions; atomic and molecular structure, chemical equations, stoichiometry, gases, liquids, thermodynamics of phase changes, solutions, equilibrium, acids, bases, pH, elementary organic chemistry; the solid state, including modern materials; lecture, discussion, laboratory. Prerequisites: ALEKS score of 55 or higher or MPT Level 3 score of 9 or higher or MATH:1005 with a minimum grade of C- or MATH:1010 with a minimum grade of C- or MATH:1020 with a minimum grade of C- or MATH:1340 with a minimum grade of C- or MATH:1380 with a minimum grade of C- or MATH:1440 with a minimum grade of C- or MATH:1460 with a minimum grade of C- or MATH:1550 with a minimum grade of C- or MATH:1850 with a minimum grade of C-. Recommendations: Chemistry Diagnostic Test score of 16. GE: Natural Sciences with Lab.
- CHEM:1120 Principles of Chemistry II** 4 s.h.  
Continuation of CHEM:1110; colligative properties of solutions, chemical thermodynamics, electrochemistry, chemical kinetics, chemical bonding, aspects of industrial chemistry, nuclear chemistry; lecture, discussion, laboratory. Prerequisites: CHEM:1110 with a minimum grade of C-. GE: Natural Sciences with Lab.
- CHEM:1160 Principles of Chemistry Lab** 2 s.h.  
Laboratory techniques. GE: Natural Sciences Lab only.
- CHEM:2021 Fundamentals of Chemical Measurements** 3 s.h.  
Introduction to experimental and data analysis techniques used in performing quantitative chemical measurements; topics include titrations, spectrophotometry, potentiometry, chromatography, and statistical techniques for use in data processing and interpretation; laboratory. Prerequisites: CHEM:1120 with a minimum grade of C-. Requirements: chemistry major.
- CHEM:2210 Organic Chemistry I** 3 s.h.  
Carbon-containing compounds; structure, stereochemistry, physical properties, reactivity, reaction mechanisms, synthesis; emphasis on alkanes, alkenes, alkynes, ethers, alcohols, and alkyl halides. Prerequisites: CHEM:1120 with a minimum grade of C-.
- CHEM:2220 Organic Chemistry II** 3 s.h.  
Continuation of CHEM:2210; use of spectroscopic techniques to determine chemical structures; chemistry of carbonyl compounds, amines, aromatics, amino acids, carbohydrates, nucleosides. Prerequisites: CHEM:2210 with a minimum grade of C- or CHEM:2230 with a minimum grade of C-.
- CHEM:2230 Organic Chemistry I for Majors** 3 s.h.  
Carbon-containing compounds; structure, stereochemistry, physical properties, reactivity, reaction mechanisms, synthesis; emphasis on alkanes, alkenes, alkynes, alcohols, alkyl halides, aromatics. Prerequisites: CHEM:1120 with a minimum grade of C-. Recommendations: chemistry, biochemistry, or chemical engineering major.
- CHEM:2240 Organic Chemistry II for Majors** 3 s.h.  
Continuation of CHEM:2230; use of spectroscopic techniques to determine chemical structures; chemistry of carbonyl compounds, amines, ethers, amino acids, carbohydrates, and nucleosides. Prerequisites: CHEM:2210 with a minimum grade of C- or CHEM:2230 with a minimum grade of C-. Recommendations: chemistry, biochemistry, or chemical engineering major.
- CHEM:2410 Organic Chemistry Laboratory** 3 s.h.  
Preparation, purification, identification, analysis of chemical compounds, principally organic compounds. Prerequisites: CHEM:1120 with a minimum grade of C- and (CHEM:2210 with a minimum grade of C- or CHEM:2230 with a minimum grade of C-). Corequisites: CHEM:2220 or CHEM:2240.
- CHEM:2420 Organic Chemistry Laboratory for Majors** 3 s.h.  
Preparation, purification, identification, analysis of chemical compounds, principally organic compounds. Prerequisites: CHEM:1120 with a minimum grade of C- and (CHEM:2210 with a minimum grade of C- or CHEM:2230 with a minimum grade of C-). Corequisites: CHEM:2220 or CHEM:2240. Recommendations: chemistry, biochemistry, or chemical engineering major.
- CHEM:3110 Analytical Chemistry I** 3 s.h.  
Modern theory and practice; emphasis on chemical equilibria (acid-base chemistry, solubility, complexation) and electroanalytical chemistry (potentiometry, voltammetry, coulometry). Prerequisites: CHEM:1120 with a minimum grade of C-.
- CHEM:3120 Analytical Chemistry II** 3 s.h.  
Modern theory and practice; emphasis on atomic and molecular spectroscopy, mass spectrometry, chemical separations. Prerequisites: CHEM:1120 with a minimum grade of C-.

- CHEM:3250 Inorganic Chemistry** 3 s.h.  
Modern principles; emphasis on descriptive chemistry of the main group and transition elements, ionic and covalent chemical bonding theories, symmetry, inorganic stereochemistry. Prerequisites: CHEM:2210 with a minimum grade of C- or CHEM:2230 with a minimum grade of C-. Corequisites: CHEM:2220 or CHEM:2240.
- CHEM:3430 Analytical Measurements** 3 s.h.  
Modern theory and practice of laboratory methods; emphasis on experimental techniques and data analysis in spectroscopy, chromatography, electrochemistry. Prerequisites: CHEM:2021 with a minimum grade of C- and (CHEM:3110 with a minimum grade of C- or CHEM:3120 with a minimum grade of C-). Recommendations: (PHYS:1511 or PHYS:1611) and (PHYS:1512 or PHYS:1612).
- CHEM:3440 Physical Measurements** 3 s.h.  
Laboratory experience using advanced instrumental and computational methods to generate and analyze data relevant to modern physical chemistry. Prerequisites: CHEM:2021 with a minimum grade of C- and (CHEM:4431 with a minimum grade of C- or CHEM:4432 with a minimum grade of C-).
- CHEM:3530 Inorganic Chemistry Laboratory** 3 s.h.  
Preparation and characterization of a variety of inorganic, organometallic, and coordination compounds of the main group and transition elements; emphasis on synthetic techniques, methods for characterization of inorganic species. Prerequisites: CHEM:3250 with a minimum grade of C- and (CHEM:2410 with a minimum grade of C- or CHEM:2420 with a minimum grade of C-) and CHEM:2021 with a minimum grade of C-.
- CHEM:3560 Advanced Methods in Chemical Research: Special Topics** 1-3 s.h.  
Introduction to advanced research methods.
- CHEM:3994 Undergraduate Research** 1-4 s.h.
- CHEM:4000 Scientists and Writers** 1 s.h.  
Science communication and collaborative skills that are highly sought after by employers in STEM firms including pharmaceutical firms, biotech start-ups, and many others; these same skills essential for reporting on, writing about, or translating science in any area; studio-style format. Same as JMC:4000, WRIT:4002.
- CHEM:4171 Advanced Analytical Chemistry** 3 s.h.  
Emphasis on fundamental aspects of electrochemistry, atomic and molecular spectroscopy, chemical separations.
- CHEM:4261 Selected Topics in Chemistry** 1-3 s.h.
- CHEM:4270 Advanced Inorganic Chemistry** 3 s.h.  
Modern principles, including crystal field/ligand field/molecular orbital theory, inorganic reaction mechanisms, coordination chemistry, bioinorganic chemistry, main group and transition metal organometallic chemistry, solid-state inorganic chemistry. Prerequisites: CHEM:3250 with a minimum grade of C-.
- CHEM:4372 Advanced Organic Chemistry** 3 s.h.  
Basic concepts from perspectives of structure, mechanism, synthesis, stereochemistry. Prerequisites: CHEM:2220 with a minimum grade of C- or CHEM:2240 with a minimum grade of C-.
- CHEM:4430 Principles of Physical Chemistry** 3 s.h.  
Kinetics, transport properties, elementary thermodynamics, and selected topics in quantum mechanics and spectroscopy; emphasis on application of chemistry to areas of science including health and biosciences, environmental sciences, and related areas. Prerequisites: CHEM:1120 with a minimum grade of C- and (MATH:1460 with a minimum grade of C- or MATH:1550 with a minimum grade of C- or MATH:1850 with a minimum grade of C-). Recommendations: (PHYS:1511 or PHYS:1611) and (PHYS:1512 or PHYS:1612).
- CHEM:4431 Physical Chemistry I** 3 s.h.  
Chemical thermodynamics and its application to chemical equilibrium, phase changes and chemical equilibria; ideal and real gases; kinetic theory; surface absorption and electrochemistry; thermodynamics. Prerequisites: CHEM:1120 with a minimum grade of C- and (MATH:1560 with a minimum grade of C- or MATH:1860 with a minimum grade of C-).
- CHEM:4432 Physical Chemistry II** 3 s.h.  
Quantum mechanics and its application to atomic and molecular structure; determination of structure and bonding by various spectroscopic methods; chemical kinetics. Prerequisites: CHEM:1120 with a minimum grade of C- and (MATH:1560 with a minimum grade of C- or MATH:1860 with a minimum grade of C-). Recommendations: PHYS:1512 or PHYS:1612.
- CHEM:4450 Synthesis and Measurement** 3 s.h.  
Laboratory investigations integrating synthesis and measurement techniques from inorganic, analytical, and physical chemistry; emphasis on modern applications of chemistry in biology, medicine, environmental science, catalysis, and materials science. Prerequisites: (CHEM:4432 with a minimum grade of C- or CHEM:4430 with a minimum grade of C- or CHEM:4431 with a minimum grade of C-) and (CHEM:2420 with a minimum grade of C- or CHEM:2410 with a minimum grade of C-) and (CHEM:3120 with a minimum grade of C- or CHEM:3110 with a minimum grade of C-) and CHEM:3250 with a minimum grade of C- and CHEM:2021 with a minimum grade of C-.
- CHEM:4480 Introduction to Molecular Modeling** 3 s.h.  
Theory and application of *ab initio* quantum mechanics, semiempirical molecular orbital theory, and molecular mechanics force fields to chemical research problems; underlying theory of these methods (with emphasis on *ab initio* theory) and their practical application to chemical problems; computational chemistry projects using modeling software. Prerequisites: CHEM:2220 with a minimum grade of C- or CHEM:2240 with a minimum grade of C-. Recommendations: CHEM:4432.
- CHEM:4760 Radiochemistry: Energy, Medicine, and the Environment** 3 s.h.  
Fundamental theoretical concepts of radiochemistry and their application in energy, medicine, and environmental sectors. Prerequisites: CHEM:2210 with a minimum grade of C- or CHEM:2230 with a minimum grade of C-.
- CHEM:4850 Upstream Biotechnology Processes** 2 s.h.  
Introduction to fermentation, fermenter preparation, cell growth and medium requirements, inoculation, sampling, process termination, separation of cells, fermentation case study, enzyme activity, and biocatalysis. Same as PHAR:4850.

- CHEM:4873 Atmospheric and Environmental Chemistry** 3 s.h.  
Fundamental chemical processes of importance in the atmosphere, soil, and water, with emphasis on kinetics and photochemistry of homogeneous and heterogeneous reactions, atmospheric structure and dynamics, global geochemical cycling, chemistry-climate relationships, environmental remediation strategies; experimental methods in field and laboratory studies.
- CHEM:4875 Introduction to Polymer Chemistry** 2-3 s.h.  
Synthesis, structures, characterization, properties, and applications of polymers. Prerequisites: CHEM:4431 or CHEM:4432.
- CHEM:5091 Graduate Chemistry Orientation** 2-3 s.h.  
Pedagogy, safety, and research issues relevant to advanced chemistry careers.
- CHEM:5107 Electrochemistry** 2-3 s.h.  
Fundamental aspects, including mass transport and electron transfer, electrochemical methodology (e.g., voltammetry and potentiometry), determination of homogeneous and heterogeneous reaction mechanisms. Recommendations: CHEM:3110, CHEM:3120, and CHEM:4171.
- CHEM:5108 Spectroscopy** 3 s.h.  
Principles of atomic and molecular absorption and emission spectroscopy in ultraviolet, visible, and infrared regions of the spectrum, including fluorescence, phosphorescence, Raman spectroscopy; applications to analytical problems, with emphasis on modern instrumentation and methodology. Recommendations: CHEM:3110, CHEM:3120, and CHEM:4171.
- CHEM:5109 Separations** 3 s.h.  
Analytical separations; basic theory, practical applications, instrumentation, modern techniques (extractions, gas and liquid chromatography, capillary electrophoresis), and detection (mass spectrometry). Recommendations: CHEM:3110, CHEM:3120, and CHEM:4171.
- CHEM:5110 Chemical Sensors** 2 s.h.  
Theory, practical limitations, analytical utility based on immobilized reagents with electrochemical, thermal, optical transduction mechanisms. Recommendations: CHEM:3110 and CHEM:3120, or CHEM:4171.
- CHEM:5114 Chemical Systems Modeling** 3 s.h.  
Basic processes and techniques; these methods applied to systems relevant to students' own research. Recommendations: CHEM:3110 or CHEM:3120 or CHEM:4171.
- CHEM:5115 Biophotonics** 3 s.h.  
Structure, dynamics of biomolecules and their optical spectroscopy; ultrasensitive fluorescence spectroscopy, vibrational spectroscopy, optical activity and circular dichroism, time-resolved spectroscopy. Recommendations: CHEM:3110, CHEM:3120, and CHEM:4171.
- CHEM:5118 Nanomaterials** 3 s.h.  
Basic principles associated with nanoscience and nanotechnology; fabrication and synthesis, size dependent properties, characterization, applications of materials at nanometer length scales, recent technological breakthroughs in the field. Requirements: graduate standing or advanced undergraduate standing in engineering and science. Recommendations: knowledge of basic chemistry.
- CHEM:5120 Electrochemistry of Polymer Films** 1 s.h.  
Use of electrochemical methods to characterize polymer and thin films; transport through polymer films and composites, electrochemistry of polymer films. Requirements: physical chemistry course.
- CHEM:5150 Chemometrics** 3 s.h.  
Mathematical, statistical, and signal processing methods for analytical chemistry; hypothesis testing, experimental design, model building, optimization, digital filtering. Recommendations: CHEM:4171.
- CHEM:5190 Seminar: Analytical Chemistry** 0-1 s.h.
- CHEM:5199 Special Topics in Analytical Chemistry** arr.  
Content varies.
- CHEM:5202 Coordination Chemistry and Spectroscopy** 1,3 s.h.  
Structure and bonding of d-block metal complexes, theory and application of relevant spectroscopic methods, inorganic reaction mechanisms, transition metals in catalysis. Recommendations: CHEM:4270.
- CHEM:5203 Organometallic Chemistry** 3 s.h.  
Emphasis on organometallic compounds of transition metal elements. Corequisites: CHEM:4270.
- CHEM:5204 Physical Methods in Inorganic Chemistry** 2 s.h.  
Application of physical methods to problems; recent developments; emphasis on magnetic resonance spectroscopy. Recommendations: CHEM:4270.
- CHEM:5205 Bioinorganic Chemistry** 2-3 s.h.  
The role of metal ions in biology from an inorganic chemical perspective; emphasis on structure and mechanism for transition metal-containing metallo-enzymes.
- CHEM:5206 Solid-State and Materials Chemistry** 3 s.h.  
Introduction to the chemical concepts of solid-state chemistry; focus on synthesis and characterization of various inorganic materials; structure/property relationships, real-world examples. Recommendations: CHEM:4270.
- CHEM:5212 Mass Spectrometry** 3 s.h.  
Examination of mass spectrometry in terms of basic theory, instrumentation, qualitative and quantitative analysis, and its application to the environmental and biological sciences. Recommendations: CHEM:3110 or CHEM:3120.
- CHEM:5290 Seminar: Inorganic and Chemical Education Research** 0-1 s.h.
- CHEM:5299 Special Topics in Inorganic Chemistry** 1-3 s.h.  
Recommendations: CHEM:4270.
- CHEM:5321 Spectroscopic Methods in Organic Chemistry** 3-4 s.h.  
Methods and techniques of structure determination for organic compounds. Recommendations: CHEM:4372.
- CHEM:5326 Organic Reactions** 3 s.h.  
Survey of organic reactions used in contemporary organic synthesis; emphasis on C-C bond forming reactions, functional group interconversions, oxidations and reductions; mechanistic details of reaction types; innovations in catalytic and asymmetric organic reactions. Recommendations: CHEM:4372.
- CHEM:5328 Mechanisms of Organic Reactions** 3 s.h.  
Application of basic mechanistic concepts.
- CHEM:5329 Advanced Organic Synthesis** 1-3 s.h.  
Preparation of complex organic compounds. Recommendations: CHEM:4372.
- CHEM:5390 Seminar: Organic Chemistry** 0-1 s.h.
- CHEM:5399 Organic Chemistry Special Topics** 1,3 s.h.  
Recommendations: CHEM:4372.

- CHEM:5431 Statistical Thermodynamics I** 3 s.h.  
Fundamentals of classical thermodynamics and equilibria; ensembles; noninteracting systems; theory of phase transitions; Monte-Carlo methods; classical fluids; nonequilibrium systems. Recommendations: CHEM:4431.
- CHEM:5433 Quantum and Computational Chemistry** 3 s.h.  
Fundamental principles of quantum chemistry; angular momentum; approximation methods; theory of atomic and molecular electronic structure; applications of computational quantum mechanics to chemical systems. Corequisites: CHEM:4432, if not taken as a prerequisite.
- CHEM:5434 Molecular Spectroscopy** 3 s.h.  
Quantum mechanical theory of molecular spectroscopy; time-dependent perturbation theory, selection rules, lineshapes; selected applications in microwave, vibrational (infrared and Raman), electronic, optical, and magnetic resonance spectroscopy. Recommendations: CHEM:5433.
- CHEM:5435 Chemical Kinetics** 3 s.h.  
Potential energy surfaces, transition state theory, diffusion limited rates, linear free energy relationships, isotope effects, solvent effects, RRKM theory; connection between experiment and various theories in the gas and solution phases; emphasis on assignment of experimental error to derived quantities. Recommendations: CHEM:4432.
- CHEM:5436 Electronic Structure and Informatics in Chemistry** 3 s.h.  
Basic principles of molecular electronic structure theory; molecular structure and reactivity; molecular orbital theory; density functional theory; introduction to informatics and data science; how calculations can be used to enhance experimental research projects. Recommendations: CHEM:4432. Same as IGPI:5436.
- CHEM:5438 Surface Chemistry and Heterogeneous Processes** 3 s.h.  
Fundamental and applied aspects of surface chemical processes; theories of molecular adsorption/desorption and surface complexation; kinetics; surface analysis and instrumentation; applications of surface chemistry in heterogeneous catalysis, heterogeneous environmental/atmospheric processes, and materials chemistry. Recommendations: CHEM:4431.
- CHEM:5490 Seminar: Physical and Environmental Chemistry** 0-1 s.h.
- CHEM:5499 Physical Chemistry Topics** 1-3 s.h.  
Advanced topics relevant to modern physical chemistry. Recommendations: CHEM:4432 and MATH:1860.
- CHEM:5599 Special Topics in Chemistry Education** 3 s.h.  
Special topics related to chemistry education; topics vary.
- CHEM:5875 Perspectives in Biocatalysis** 1-3 s.h.  
Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BMB:5875, CBE:5875, CEE:5875, MICR:5875, PHAR:5875.
- CHEM:5890 Research Frontiers in Chemistry** 1 s.h.
- CHEM:5990 Chemistry Colloquium** 0-1 s.h.  
Presentation and discussion of research by invited presenters.
- CHEM:6990 Research Seminar** 0-1 s.h.  
Presentation and discussion of thesis research for advanced degrees.
- CHEM:7270 Ethics in Chemical Sciences** 1 s.h.  
Scholarly integrity for being a responsible chemist on graduate-level research; introduction to infrastructure of scientific scholarship with emphasis on interacting with peers, funding agencies, industrial entities; responsible conduct in research in the context of creation of knowledge, dissemination of scientific findings, intellectual property, and conflict of interest; workshops to study cases in chemical research to illustrate the principles of scholarly integrity.
- CHEM:7604 Ethics in Chemical Sciences for Postdocs** 0 s.h.  
Introduction to infrastructure of scientific scholarship; emphasis on interacting with peers, funding agencies, industrial entities; scholarly integrity for being a responsible chemist on graduate-level research; responsible conduct in research in context of creation of knowledge, dissemination of scientific findings, intellectual property, conflict of interest; workshop cases in chemical research that illustrate principles of scholarly integrity.
- CHEM:7999 Research in Chemistry** arr.  
Thesis work for advanced degrees.



# Chemistry, B.A.

## Learning Outcomes

The Department of Chemistry is committed to maintaining excellence in teaching and mentoring, and to providing the maximum educational benefit to each chemistry graduate. The desired outcomes will prepare students for success in graduate or professional school, industry or government employment, and a wide variety of career choices.

The graduate with a bachelor's degree in chemistry will be able to use the knowledge and skills obtained in the program to demonstrate the following.

### Knowledge and Understanding of Chemistry

Graduates will be able to demonstrate:

- mastery of major concepts, theoretical principles, and experimental findings in chemistry;
- an understanding of the relationship between molecular structure and physical/chemical properties;
- an understanding of the relationship between the microscopic, macroscopic, and symbolic descriptions of matter and the changes it undergoes; and
- an understanding of the conditions that affect stability and factors that control rates of change.

### Laboratory Skills

Graduates will be able to:

- assess chemical and procedural hazards involved in laboratory work;
- use strategies to minimize the risks associated with laboratory work;
- maintain a clearly organized laboratory notebook;
- use a variety of synthetic techniques;
- use instrumentation and laboratory techniques to separate, purify, identify, quantify, and characterize chemical species; and
- use computers as tools for data acquisition, management, and analysis.

### Scientific Thinking

Graduates will be able to:

- pose scientific questions with a clear hypothesis;
- plan and carry out scientific investigations;
- analyze data in order to make inferences about chemical and physical behavior and properties, and construct scientific arguments to support conclusions;
- use scientific theory and/or interpretations of experimental results to explain chemical phenomena;
- use mathematics and computational thinking to understand and predict chemical behavior;
- identify and quantify uncertainties in measurements and limitations in methods; and
- use graphs, diagrams, and other models to communicate chemical information.

### Chemical Information Skills

Graduates will be able to:

- use modern library search tools to locate and retrieve chemical information;
- read, analyze, and critically evaluate journal articles; and
- reference and cite chemical literature appropriately using designated citation styles.

### Professional Skills

Graduates will be able to:

- report scientific findings in oral presentations in a clear and organized fashion using appropriate visual tools;
- report on experimental work and scientific findings in written reports;
- communicate results of scientific work to nontechnical audiences;
- work collaboratively with peers to plan and conduct experiments, interpret chemical information, and solve problems; and
- engage in responsible and ethical scientific conduct.

### Requirements

The Bachelor of Arts with a major in chemistry requires a minimum of 120 s.h., including 53-54 s.h. of work for the major (20 s.h. in foundation chemistry courses, 12 s.h. in advanced chemistry, and 21-22 s.h. in supporting coursework). Students must earn at least 11 s.h. in advanced chemistry courses at the University of Iowa. They must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The B.A. degree is a good choice for students interested in medical or other professional schools, or those interested in a teaching career (see "Teacher Licensure" below). The program provides students with the flexibility to earn a degree in chemistry while they also complete related courses required for medical school, such as biology and biochemistry. Compared to the B.S. degree, the B.A. has modified mathematics requirements that include a one-semester physical chemistry course, an analytical chemistry course, and a single, integrated capstone laboratory that incorporates analytical, inorganic, and physical chemistry experiments.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Advanced chemistry courses are built on the chemistry foundation courses. Most advanced courses are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year.

Students may not use a course to fulfill more than one requirement.

The B.A. with a major in chemistry requires the following coursework.

Code	Title	Hours
	Chemistry Foundation Courses	20
	Advanced Chemistry Courses	12
	Mathematics Courses	7-8
	Introductory Physics Courses	8

Science Electives	6
<b>Total Hours</b>	<b>53-54</b>

## Chemistry Foundation Courses

Students complete the following foundation courses.

Code	Title	Hours
All of these:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2021	Fundamentals of Chemical Measurements	3
One of these sequences:		
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
CHEM:2230 & CHEM:2240	Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred)	6
One of these:		
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:2420	Organic Chemistry Laboratory for Majors (preferred)	3

## Advanced Chemistry

Code	Title	Hours
One of these:		
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II (preferred)	3
All of these:		
CHEM:3250	Inorganic Chemistry	3
CHEM:4430	Principles of Physical Chemistry	3
CHEM:4450	Synthesis and Measurement	3

## Mathematics

Code	Title	Hours
One of these:		
MATH:1460	Calculus for the Biological Sciences (preferred)	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
One of these:		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:1860	Calculus II	4
STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics (preferred)	3

## Introductory Physics

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II (preferred)	8

PHYS:1611- PHYS:1612	Introductory Physics I-II	8
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## Science Electives

Some of these courses may be used to fulfill other requirements for the major, as listed above; students who have used a course from this list to fulfill another requirement for the major may not use that course as an elective. Students should consult their advisor to gain approval for a course that is not on the list. Undergraduate Research (CHEM:3994) may not be used to satisfy the science electives requirement.

Code	Title	Hours
A total of 6 s.h. from these:		
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:3430	Analytical Measurements	3
CHEM:3440	Physical Measurements	3
CHEM:3530	Inorganic Chemistry Laboratory	3
CHEM:4171	Advanced Analytical Chemistry	3
CHEM:4270	Advanced Inorganic Chemistry	3
CHEM:4372	Advanced Organic Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3
CHEM:4480	Introduction to Molecular Modeling	3
CHEM:4760	Radiochemistry: Energy, Medicine, and the Environment	3
CHEM:4873	Atmospheric and Environmental Chemistry	3
CHEM:4875	Introduction to Polymer Chemistry	2-3
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3
CEE:4150/CBE:4420	Environmental Chemistry	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.A./M.A.T. (Science Education Subprogram)

Students who are interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates majoring in biology, chemistry, environmental sciences, or physics, the combined program enables students to earn a B.A. and M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 19 s.h. of qualifying credit toward both degrees. For more information, see "Combined Program" under Science Education [p. 1524] in the Master of Arts in Teaching (College of Education) section of the Catalog. Interested students should consult an advisor.

## Honors

### Honors in the Major

Majors are able to graduate with departmental honors. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, as required by the College of Liberal Arts and Sciences; additionally, students must maintain a 3.33 cumulative g.p.a. in the major, a g.p.a. set by the Department of Chemistry.

Students also must complete an undergraduate research project acceptable to their research advisor and must write an honors thesis based on their research. Students should register for CHEM:3994 Undergraduate Research or HONR:3994 Honors Research Practicum to earn credit for their research. They are encouraged but not required to present their research at local and regional meetings and to publish their results in professional journals.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the chemistry major.

## Financial Support

### Scholarships and Awards

A number of awards and scholarships are available to chemistry majors, including the American Institute of Chemists Award, the Undergraduate Award in Analytical Chemistry, the Chemistry Alumni Awards (one each for a sophomore, a junior, and a senior), the Merck Index Award, and the Viksnins, Harris & Padys PLLP Award.

Chemistry majors also may apply for the Donald J. and Margaret Burton Scholarship, Ken Sando Scholarship, Shoemaker-Strickler Scholarship, E. David Cater Scholarship, and Russell K. Simms Scholarship.

For more information, visit Undergraduate Scholarships and Awards on the Department of Chemistry website.

## Career Advancement

The undergraduate major in chemistry provides a strong foundation for success in graduate and professional study and for positions in academic or industrial chemistry.

Students with a chemistry degree can pursue careers or graduate study in a wide range of fields. Learn more about career options for chemistry majors on the American Chemical Society website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Most advanced courses are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year. Typical chemistry course schedules and a regression list are available at Undergraduate Program in Chemistry on the Department of Chemistry website.

**Before the third semester begins:** math through MATH:1460 Calculus for the Biological Sciences or calculus I; CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II, or equivalent coursework.

**Before the fifth semester begins:** CHEM:2021 Fundamentals of Chemical Measurements; organic chemistry I, II, and lab; and biostatistics or calculus II.

**Before the seventh semester begins:** two more courses in the major; physics I and II; and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** CHEM:4430 Principles of Physical Chemistry and one more course in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Chemistry, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>

**First Year****Fall**

CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
MATH:1020	Elementary Functions <sup>c</sup>	4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>

**Spring**

CHEM:1120	Principles of Chemistry II	4
MATH:1850	Calculus I	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15-16</b>

**Second Year****Fall**

CHEM:2021	Fundamentals of Chemical Measurements	3
CHEM:2230	Organic Chemistry I for Majors <sup>g</sup>	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-18</b>

**Spring**

CHEM:2240	Organic Chemistry II for Majors <sup>h</sup>	3
CHEM:2420	Organic Chemistry Laboratory for Majors <sup>h</sup>	3
STAT:3510	Biostatistics	3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>

**Third Year****Fall**

CHEM:3110	Analytical Chemistry I <sup>i</sup>	3
	or CHEM:3120 or Analytical Chemistry II	
PHYS:1511	College Physics I	4
GE CLAS Core: Values and Culture <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>17-18</b>

**Spring**

CHEM:3250	Inorganic Chemistry <sup>h</sup>	3
PHYS:1512	College Physics II	4
Major: science elective course <sup>j</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16</b>

**Fourth Year****Fall**

CHEM:4430	Principles of Physical Chemistry <sup>g</sup>	3
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Major: science elective course <sup>j</sup>	3
GE CLAS Core: International and Global Issues <sup>d</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3

**Hours****15****Spring**

CHEM:4450	Synthesis and Measurement <sup>h</sup>	3
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours****15****Total Hours****126-132**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in chemistry courses requires completion of a placement exam.

c Enrollment in math courses requires completion of a placement exam.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

i Typically CHEM:3110 is offered in fall semesters only and CHEM:3120 is offered spring semesters only. Check MyUI for course availability since offerings are subject to change.

j Students are required to complete 6 s.h. of science electives chosen from a list of approved courses. Students who have used a course to fulfill another requirement for the major may not use that course as a science elective.

k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Chemistry, B.S.

## Learning Outcomes

The Department of Chemistry is committed to maintaining excellence in teaching and mentoring, and to providing the maximum educational benefit to each chemistry graduate. The desired outcomes will prepare students for success in graduate or professional school, industry or government employment, and a wide variety of career choices.

The graduate with a bachelor's degree in chemistry will be able to use the knowledge and skills obtained in the program to demonstrate the following.

### Knowledge and Understanding of Chemistry

Graduates will be able to demonstrate:

- mastery of major concepts, theoretical principles, and experimental findings in chemistry;
- an understanding of the relationship between molecular structure and physical/chemical properties;
- an understanding of the relationship between the microscopic, macroscopic, and symbolic descriptions of matter and the changes it undergoes; and
- an understanding of the conditions that affect stability and factors that control rates of change.

### Laboratory Skills

Graduates will be able to:

- assess chemical and procedural hazards involved in laboratory work;
- use strategies to minimize the risks associated with laboratory work;
- maintain a clearly organized laboratory notebook;
- use a variety of synthetic techniques;
- use instrumentation and laboratory techniques to separate, purify, identify, quantify, and characterize chemical species; and
- use computers as tools for data acquisition, management, and analysis.

### Scientific Thinking

Graduates will be able to:

- pose scientific questions with a clear hypothesis;
- plan and carry out scientific investigations;
- analyze data in order to make inferences about chemical and physical behavior and properties, and construct scientific arguments to support conclusions;
- use scientific theory and/or interpretations of experimental results to explain chemical phenomena;
- use mathematics and computational thinking to understand and predict chemical behavior;
- identify and quantify uncertainties in measurements and limitations in methods; and
- use graphs, diagrams, and other models to communicate chemical information.

### Chemical Information Skills

Graduates will be able to:

- use modern library search tools to locate and retrieve chemical information;
- read, analyze, and critically evaluate journal articles; and
- reference and cite chemical literature appropriately using designated citation styles.

### Professional Skills

Graduates will be able to:

- report scientific findings in oral presentations in a clear and organized fashion using appropriate visual tools;
- report on experimental work and scientific findings in written reports;
- communicate results of scientific work to nontechnical audiences;
- work collaboratively with peers to plan and conduct experiments, interpret chemical information, and solve problems; and
- engage in responsible and ethical scientific conduct.

## Requirements

The Bachelor of Science with a major in chemistry requires a minimum of 120 s.h., including 69 s.h. of work for the major (20 s.h. in foundation chemistry courses, 27 s.h. in advanced chemistry, and 22 s.h. in supporting coursework). Students must earn at least 20 s.h. in advanced chemistry courses at the University of Iowa. They must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The B.S. degree with a major in chemistry is certified by the American Chemical Society (ACS) when a biochemistry course is included. An ACS-approved program offers a broad-based and rigorous chemistry education that provides students with the intellectual, experimental, and communication skills to become effective scientific professionals in chemical and other related fields. The program also provides all the prerequisites for graduate work in chemistry or biochemistry and in other biomedical areas with a molecular focus.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Advanced chemistry courses are built on the chemistry foundation courses. Most advanced courses are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year.

Students may not use a course to fulfill more than one requirement.

The B.S. with a major in chemistry requires the following coursework.

Code	Title	Hours
	Chemistry Foundation Courses	20
	Advanced Chemistry Courses	27
	Mathematics Courses	8
	Introductory Physics Courses	8
	Science Electives and Research Courses	6
<b>Total Hours</b>		<b>69</b>

## Chemistry Foundation Courses

Students complete the following foundation courses.

Code	Title	Hours
All of these:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2021	Fundamentals of Chemical Measurements	3
One of these sequences:		
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
CHEM:2230 & CHEM:2240	Organic Chemistry I for Majors - Organic Chemistry II for Majors (preferred)	6
One of these:		
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:2420	Organic Chemistry Laboratory for Majors (preferred)	3

## Advanced Chemistry

Code	Title	Hours
All of these:		
CHEM:3110 & CHEM:3120	Analytical Chemistry I-II	6
CHEM:3250	Inorganic Chemistry	3
CHEM:3430	Analytical Measurements	3
CHEM:3440	Physical Measurements	3
CHEM:3530	Inorganic Chemistry Laboratory	3
CHEM:4270	Advanced Inorganic Chemistry	3
CHEM:4431- CHEM:4432	Physical Chemistry I-II	6

## Mathematics

Code	Title	Hours
One of these sequences:		
MATH:1550 & MATH:1560	Engineering Mathematics I: Single Variable Calculus - Engineering Mathematics II: Multivariable Calculus	8
MATH:1850 & MATH:1860	Calculus I-II (preferred)	8

## Introductory Physics

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II (preferred)	8

## Science Electives and Research

Code	Title	Hours
A total of 6 s.h. from these:		
CHEM:3994	Undergraduate Research	1-4
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3

BMB:3130	Biochemistry and Molecular Biology II	3
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Advanced science elective courses

## ACS Certification Requirement

Students who want an ACS certified degree complete one of these optional courses (also listed above under "Science Electives and Research").

Code	Title	Hours
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Majors are able to graduate with departmental honors. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, as required by the College of Liberal Arts and Sciences; additionally, students must maintain a 3.33 cumulative g.p.a. in the major, a g.p.a. set by the Department of Chemistry.

Students also must complete an undergraduate research project acceptable to their research advisor and must write an honors thesis based on their research. Students should register for CHEM:3994 Undergraduate Research or HONR:3994 Honors Research Practicum to earn credit for their research. They are encouraged but not required to present their research at local and regional meetings and to publish their results in professional journals.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

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### Scholarships and Awards

A number of awards and scholarships are available to chemistry majors, including the American Institute of Chemists Award, the Undergraduate Award in Analytical Chemistry, the Chemistry Alumni Awards (one each for a sophomore, a junior, and a senior), the Merck Index Award, and the Viksnins, Harris & Padys PLLP Award.

Chemistry majors also may apply for the Donald J. and Margaret Burton Scholarship, Ken Sando Scholarship, Shoemaker-Strickler Scholarship, E. David Cater Scholarship, and Russell K. Simms Scholarship.

For more information, visit Undergraduate Scholarships and Awards on the Department of Chemistry website.

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The undergraduate major in chemistry provides a strong foundation for success in graduate and professional study and for positions in academic or industrial chemistry.

Students with a chemistry degree can pursue careers or graduate study in a wide range of fields. Learn more about career options for chemistry majors on the American Chemical Society website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Courses in the chemistry major have prerequisites, so they must be taken in the correct order. Most advanced courses are taught only once a year. Students should consult their academic advisors and plan their course schedules carefully. They should take CHEM:2021 Fundamentals of Chemical Measurements during the first semester of the second year. Typical chemistry course schedules and a regression list are available at Undergraduate Program in Chemistry on the Department of Chemistry website.

**Before the third semester begins:** math through calculus I; CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II, or equivalent coursework.

**Before the fifth semester begins:** CHEM:2021 Fundamentals of Chemical Measurements; inorganic chemistry; organic chemistry I, II, and lab; calculus II; and physics I and II.

**Before the seventh semester begins:** six more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** three more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Chemistry, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
MATH:1850	Calculus I <sup>c</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
CHEM:1120	Principles of Chemistry II	4
MATH:1860	Calculus II	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
CHEM:2021	Fundamentals of Chemical Measurements <sup>f</sup>	3
CHEM:2230	Organic Chemistry I for Majors <sup>g</sup>	3
PHYS:1611	Introductory Physics I	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
CHEM:2240	Organic Chemistry II for Majors <sup>h</sup>	3
CHEM:2420	Organic Chemistry Laboratory for Majors <sup>h</sup>	3
CHEM:3250	Inorganic Chemistry <sup>h</sup>	3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Students are strongly encouraged to be active participants in research within the Department of Chemistry. It is recommended that students begin research by their third year.		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CHEM:3530	Inorganic Chemistry Laboratory <sup>g</sup>	3
CHEM:4270	Advanced Inorganic Chemistry <sup>g</sup>	3
CHEM:4431	Physical Chemistry I	3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>

**Spring**

CHEM:4432	Physical Chemistry II	3
PHYS:1612	Introductory Physics II	3 - 4
Major: science elective or research <sup>i</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3

Elective course <sup>j</sup>		3
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<b>Hours</b>	<b>15-16</b>
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**Fourth Year****Fall**

CHEM:3110	Analytical Chemistry I <sup>g</sup>	3
CHEM:3440	Physical Measurements <sup>g</sup>	3
BMB:3110	Biochemistry <sup>i, k</sup>	3
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>j</sup>		2 - 3

<b>Hours</b>	<b>14-15</b>
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**Spring**

CHEM:3120	Analytical Chemistry II	3
CHEM:3430	Analytical Measurements <sup>h</sup>	3
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

<b>Hours</b>	<b>15</b>
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<b>Total Hours</b>	<b>121-129</b>
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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in chemistry courses requires completion of a placement exam.

c Enrollment in math courses requires completion of a placement exam.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Students should take CHEM:2021 during the first semester of the second year.

g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

i Students are required to complete 6 s.h. in science electives and research toward the major; refer to the General Catalog for list of approved courses.

j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

k Students who want an ACS certified degree must complete one of these optional courses: BMB:3110 or BMB:3120.

l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Chemistry, Minor

## Requirements

The undergraduate minor in chemistry requires a minimum of 15 s.h. in chemistry courses (prefix CHEM), including 12 s.h. in courses numbered 2210 or above taken in the Department of Chemistry at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The following courses do not count toward the minor.

<b>Code</b>	<b>Title</b>	<b>Hours</b>
CHEM:3560	Advanced Methods in Chemical Research: Special Topics	1-3
CHEM:3994	Undergraduate Research	1-4
CHEM:4000	Scientists and Writers	1
CHEM:4261	Selected Topics in Chemistry	1-3

# Chemistry, M.S.

## Learning Outcomes

Students will:

- independently learn new chemical principles and techniques beyond those typical of undergraduate academic training;
- identify original and worthwhile chemical problems stated as research questions and hypotheses;
- design and execute experiments as part of independent chemistry research investigations;
- critically evaluate their data, results, and conclusions and those of others in the chemistry community;
- identify potential problems in the responsible conduct of research and identify strategies for managing those problems;
- articulate standards for laboratory safety in chemical research, assess potential hazards they may encounter in novel chemistry research, and develop effective strategies to mitigate those risks; and
- communicate chemical knowledge, new models, and research results both orally and in writing for both technical and nontechnical audiences.

## Requirements

The Master of Science program in chemistry requires a minimum of 30 s.h. of graduate credit. The degree is offered with or without thesis. M.S. requirements include proficiency examinations and core courses as necessary in biochemistry; analytical, inorganic, organic, and/or physical chemistry; and additional advanced coursework. Students must have a cumulative g.p.a. of at least 2.75 or higher to complete the M.S. degree.

## Admission

Applicants for graduate admission should have a bachelor's degree with a major in chemistry or a related field, preferably with a g.p.a. of 3.00 or higher. For application information, contact the Department of Chemistry or visit its website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

Students with a chemistry degree can pursue careers in a wide range of fields. Learn more about career options for chemistry majors on the American Chemical Society website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Chemistry, Ph.D.

## Learning Outcomes

Students will:

- independently learn new chemical principles and techniques beyond those typical of undergraduate academic training;
- identify original and worthwhile chemical problems stated as research questions and hypotheses;
- design and execute experiments as part of independent chemistry research investigations;
- critically evaluate their data, results, and conclusions and those of others in the chemistry community;
- identify potential problems in the responsible conduct of research and identify strategies for managing those problems;
- articulate standards for laboratory safety in chemical research, assess potential hazards they may encounter in novel chemistry research, and develop effective strategies to mitigate those risks; and
- communicate chemical knowledge, new models, and research results both orally and in writing for both technical and nontechnical audiences.

## Requirements

The Doctor of Philosophy program in chemistry requires a minimum of 72 s.h. of graduate credit. Degree requirements include proficiency examinations and core courses as necessary, a minimum of 11 s.h. of advanced coursework, and research.

Students who meet the course requirements with a cumulative g.p.a. of 3.00 or higher are admitted to the oral comprehensive examination upon presentation and preliminary approval of their written research proposal and research progress report; they must take the oral comprehensive examination no later than the end of their second year of enrollment.

Upon completing Ph.D. research, candidates prepare the dissertation. The final examination consists of an oral defense of the thesis, at which time the candidates present at least one published or accepted paper in a peer-reviewed journal based on the publishable portion of the thesis.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in chemistry in a combined degree program offered by the Carver College of Medicine and the Graduate College. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Applicants for graduate admission should have a bachelor's degree with a major in chemistry or a related field, preferably with a g.p.a. of 3.00 or higher. Most admitted graduate

students receive financial support. For application information, contact the Department of Chemistry or visit its website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

Students with a chemistry degree can pursue careers in a wide range of fields. Learn more about career options for chemistry majors on the American Chemical Society website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Cinematic Arts

## Chair

- Michael J. Cowan

**Undergraduate majors:** cinema (B.A.); screenwriting arts (B.A.)

**Undergraduate minor:** cinema

**Graduate degrees:** M.A. in film studies; M.F.A. in film and video production; Ph.D. in film studies

**Faculty:** <https://cinematicarts.uiowa.edu/people>

**Website:** <https://cinematicarts.uiowa.edu/>

The Department of Cinematic Arts provides students with opportunities to explore and gain insight into cinema as a subject of international and interdisciplinary study as well as creative practice. The curriculum emphasizes film and related media in their historical and cultural contexts as well as film and video production in a variety of modes.

The screenwriting arts major instructs students in the practical skills and knowledge needed to become successful members of the screenwriting industry, in addition to the history and theories related to screenwriting.

The department's faculty offer expertise in film and video production; film history and theory, with emphasis on international film cultures; and the history, theory, and production of documentary media. Students conduct projects using state-of-the-art equipment and software that is updated regularly.

The department offers two majors awarded with a B.A. degree, an undergraduate minor, and three graduate degree programs (M.A., M.F.A., and Ph.D.). It also offers courses for all interested students under the Literary, Visual, and Performing Arts area of the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

## Resources

The Department of Cinematic Arts maintains up-to-date film and video equipment and facilities that allow students to acquire professional skills in a range of technical and creative areas, including cinematography, editing, sound design, screenwriting, and animation. The program also draws upon the extensive media holdings, and scholarly and archival resources relevant to the study of cinema held by the University of Iowa Libraries. The department regularly sponsors events, including film screenings, festivals, symposia, and presentations by notable visiting scholars and artists, that extend the study of film beyond the classroom and regular curriculum. Collaborations with Iowa City's independent cinema, FilmScene, and the Bijou, the University of Iowa's long-running student film society, also enhance local opportunities for students to view films outside of the classroom and mainstream venues.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Cinema (Bachelor of Arts) [p. 240]
- Major in Screenwriting Arts (Bachelor of Arts) [p. 243]

#### Minor

- Minor in Cinema [p. 247]

### Graduate Programs of Study

#### Majors

- Master of Arts in Film Studies [p. 248]
- Master of Fine Arts in Film and Video Production [p. 249]
- Doctor of Philosophy in Film Studies [p. 251]

## Courses

### Cinematic Arts Courses

#### **CINE:1000 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

#### **CINE:1100 The Art of Smartphone Filmmaking** 3 s.h.

Introduction to filmmaking principles; how to shoot and edit short videos utilizing smartphone technology; methods to produce high-quality work without professional equipment. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

#### **CINE:1150 Introduction to Screenwriting for Nonmajors** 3 s.h.

Introduction to basic storytelling strategies and principles, writing film treatments, adapting prose to professional screenplay format, story structure for features and short films, workshop original screenplays, critique student work, and analyze professional screenplays. GE: Engineering Be Creative.

#### **CINE:1185 Internship** 1-3 s.h.

Opportunity to apply skills; faculty supervision, on or off campus. Requirements: cinema major.

#### **CINE:1195 Video Games and Identity** 3 s.h.

Structural and historical problems of representation and inclusion in video games (as text, industry, and culture) along lines of race, gender, sexuality, age, class, and ability; introduction to game studies as a discipline; guidance in learning college-level reading and writing. GE: Diversity and Inclusion.

#### **CINE:1300 Foundations of Screenwriting** 3 s.h.

Ideation and creative research, foundational elements of stories, creation and development of characters and story lines, dialogue writing, screenplay format, analysis of storytelling in professional screenplays, writing and workshopping student's work.

#### **CINE:1560 Cinematic Arts Ambassador Seminar** 1 s.h.

Ambassadors provide information about the Department of Cinematic Arts to incoming and visiting students, University community, and broader community; conduct tours; meet with students and parents; review curriculum; provide information on opportunities; coordinate events; and update materials for prospective and incoming students. Requirements: cinema major.

#### **CINE:1601 Introduction to Film Analysis** 3 s.h.

Formal analysis of film; narrative cinema and approaches to narrative structure; authorship and genre issues, other major topics.

- CINE:1602 Introduction to Film Studies** 3 s.h.  
Film history, theory, criticism; issues of form, technologies, and cultural functions of cinema; screenings of narrative, documentary, experimental films from varied periods and nations. GE: Literary, Visual, and Performing Arts.
- CINE:1610 Contemporary Cinema** 3 s.h.  
Current cinema; key genres, movements, filmmakers, technological changes; recent cultural contexts, industrial and economic factors, changes in the film viewing experience. GE: Literary, Visual, and Performing Arts.
- CINE:1625 Race, Gender, and Sexuality on Screen** 3 s.h.  
Introduction to key issues and debates regarding the representation of gender, race, and sexuality in cinema. GE: Diversity and Inclusion.
- CINE:1834 Modes of Film and Video Production** 4 s.h.  
Introduction to filmmaking; how to shoot and edit short works of cinematic art; exposure to various working methods including nonfiction, fiction, and experimental modes of video production. Prerequisites: CINE:1601 with a minimum grade of C. Corequisites: for CINE:1834—CINE:1601, if not taken as a prerequisite. GE: Engineering Be Creative. Same as THTR:1834.
- CINE:2195 Individual Study** arr.
- CINE:2600 Writing Film Reviews and Criticism** 3 s.h.  
Evaluation and analysis of film, from journalistic reviews to academic scholarship; principles and theoretical positions.
- CINE:2615 Introduction to Film Theory** 3 s.h.  
Classical film theory—formalist and realist theories, authorship, genre; contemporary film theory—semiotics, feminism, psychoanalysis, ideological criticism, postmodernism, queer theory. Prerequisites: CINE:1601 with a minimum grade of C and CINE:1834 with a minimum grade of C.
- CINE:2620 U.S. Film** 3 s.h.  
American film industry; social and artistic perspectives.
- CINE:2623 Introduction to Documentary Film** 3 s.h.  
Introduction to key issues and topics in the history and practice of nonfiction filmmaking.
- CINE:2627 Film Club** 1 s.h.  
Theme-based film program comprising a weekly film screening followed by a guided group discussion intended to inspire debate and film literacy.
- CINE:2800 Digital Arts: An Introduction** 3 s.h.  
Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CS:2800, DANC:2800, DIGA:2800, MUS:2800, THTR:2800.
- CINE:2863 Film/Video Production: Film Festival** 3 s.h.  
How to run a film festival; management and orchestration of annual Iowa City International Documentary Festival. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2864 Film/Video Production: Alternative Forms** 3 s.h.  
Alternative or innovative video/film practices and technologies; varied topics. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2866 Film/Video Production: Nonfiction** 3 s.h.  
Individual and small group work to create video projects using nonfiction filmmaking techniques, from camera and lighting to postproduction. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2868 Film/Video Production: Fiction** 3 s.h.  
Individual and small group work to create video projects using fiction filmmaking techniques, from camera and lighting to postproduction. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:2869 Introduction to Intermedia** 3 s.h.  
Interdisciplinary focus; emphasis on conceptual, installation, video, time-based media, performance art. Prerequisites: (ARTS:1510 and ARTS:1520) or CINE:1834. Requirements: for CINE:2869—grade of C or higher in CINE:1834. Same as INTM:2710.
- CINE:3050 Practicum: Teaching Assistant** 1 s.h.  
Training in a range of skills crucial to media education and teaching while expanding breadth and depth of student's film knowledge; practice-based practicum. Recommendations: junior or senior standing, and cinema B.A. major.
- CINE:3080 Film/Video Production: The Business of Filmmaking** 3 s.h.  
Introduction to business-related arts production techniques and strategies; budgeting and basic accounting skills, grant writing, project conceptualization and planning, film producing and location scouting, distribution models, film festival submission, project summation. Prerequisites: CINE:1601 with a minimum grade of C and CINE:1834 with a minimum grade of C.
- CINE:3195 Undergraduate Seminar** 3 s.h.  
Focus on a significant text or critical problem. Prerequisites: CINE:1601 with a minimum grade of C and CINE:1834 with a minimum grade of C. Requirements: cinema major, and junior or senior standing.
- CINE:3310 Screenwriting Studies** 3 s.h.  
Readings and research projects in history, theory, and analysis of screenwriting; preparation to complete screenplays in other courses; topics may include study of storytelling in sample scripts, literary adaptation, screenwriting in early and classical Hollywood, independent and global art cinema. Prerequisites: CINE:1300 with a minimum grade of C and CINE:1601 with a minimum grade of C and CINE:1834 with a minimum grade of C.
- CINE:3315 Topics in Screenwriting** 3 s.h.  
Diverse specialized topics related to the art, craft, history, and business of screenwriting for film, television, and new media platforms. Prerequisites: CINE:1300 with a minimum grade of C and CINE:1601 with a minimum grade of C and CINE:1834 with a minimum grade of C.
- CINE:3361 Screenwriting: Short Form** 3 s.h.  
Introduction to basic principles of screenwriting; develop, write, and workshop screenplays for short film/video projects including fiction, nonfiction, and experimental work. Prerequisites: CINE:1300 with a minimum grade of C and CINE:1601 with a minimum grade of C and CINE:1834 with a minimum grade of C.

- CINE:3367 Screenwriting: Long Form** 3 s.h.  
Introduction to basic principles of screenwriting; develop, write, and workshop screenplays for longer form film/video projects including fiction, nonfiction, and experimental work. Prerequisites: CINE:1300 with a minimum grade of C and CINE:1601 with a minimum grade of C and CINE:1834 with a minimum grade of C.
- CINE:3750 Topics in Cinema and Culture** 3 s.h.  
One or more national cinemas in relation to social, historical, and cultural contexts. Prerequisites: CINE:1601 with a minimum grade of C.
- CINE:3865 Film/Video Production: Material of 16mm Filmmaking** 3 s.h.  
Individual work to create projects using 16mm filmmaking techniques including camera operation, editing, lighting for film, found footage, and camera-less filmmaking; introduction to hand processing; production course. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:3876 Video for Performance** 3 s.h.  
Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:2890 or THTR:5890 or CINE:1834. GE: Engineering Be Creative. Same as DANC:3876, DIGA:3876, INTM:3876, THTR:3876.
- CINE:3878 Film and Media Practicum** 1 s.h.  
Research and production-oriented film and media practicum; individual and small-group work on a single film, video, or media production as determined by instructor; independent library and web-based research, group presentations, readings. Requirements: junior or senior standing.
- CINE:4198 Honors Project I** 3 s.h.  
Requirements: standards met for honors in the major for the B.A. in cinema.
- CINE:4199 Honors Project II** 3 s.h.  
Completion of honors project, working with a designated cinematic arts faculty member; content varies depending on specific projects proposed by the student, approved by the faculty member, in consultation with the director of undergraduate studies and any additional cinematic arts faculty members relevant to the project. Prerequisites: CINE:4198. Requirements: standards met for honors in the major for the B.A. in cinema.
- CINE:4377 Advanced Screenwriting I** 4 s.h.  
Developing, writing, and workshopping screenplays for short film/video projects including fiction, nonfiction, and experimental work; introduction to preproduction activities; exercises and journal assignments. Prerequisites: CINE:3361 with a minimum grade of C or CINE:3367 with a minimum grade of C.
- CINE:4378 Advanced Screenwriting II** 4 s.h.  
Students write a feature screenplay (105-115 pages) within the industry standard contract guidelines for independent and studio projects; completion of outline, beat sheet, treatment, and first draft; one rewrite. Prerequisites: CINE:4377 with a minimum grade of C.
- CINE:4610 Studies in Film and Music** 3 s.h.  
Critical approaches to historical and contemporary interrelationships between film and music; soundtracks and film scores; popular song and cinema. Prerequisites: CINE:1601 with a minimum grade of C. Same as MUS:4610.
- CINE:4618 Topics in World Cinemas** 3 s.h.  
Issues in international film history and film theory. Prerequisites: CINE:1601 with a minimum grade of C.
- CINE:4620 Topics in Film Form, Style, and Theory** 3 s.h.  
Special issues and topics relevant to film form, style, and/or theory. Prerequisites: CINE:1601 with a minimum grade of C.
- CINE:4705 Chicano Cinema** 3 s.h.  
History of Chicano independent and industry film and television production since the Chicano political and cultural movement began in the 1960s. Taught in English. Requirements: one Spanish literature or culture course numbered SPAN:3200 or above, or one film studies course numbered above CINE:2100. Same as LATS:4805, SPAN:4805.
- CINE:4821 Film/Video Production: Selected Topics** 4 s.h.  
Exploration of a particular genre, issue, or process; varied topics; individual work on several video projects. Prerequisites: CINE:2864 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or CINE:3865 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:4843 with a minimum grade of C or CINE:4845 with a minimum grade of C or CINE:4862 with a minimum grade of C.
- CINE:4825 Digital Production: Animation** 4 s.h.  
Intermediate 3D modeling, motion graphics; student projects culminating in CDR or video presentation. Prerequisites: CINE:1834 with a minimum grade of C.
- CINE:4841 Film/Video Production: Sound Design** 4 s.h.  
Exploration of sound design for film and video, from recording to editing and mixing; individual work on several audio and video projects. Prerequisites: CINE:2864 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or CINE:3865 with a minimum grade of C or CINE:4821 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:4843 with a minimum grade of C or CINE:4845 with a minimum grade of C or CINE:4862 with a minimum grade of C or CINE:4864 with a minimum grade of C.
- CINE:4843 Film/Video Production: Image Design** 4 s.h.  
Lighting strategies and techniques, camera work, composition, and postproduction; individual work on several video projects. Prerequisites: CINE:2863 with a minimum grade of C or CINE:2864 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or CINE:3865 with a minimum grade of C or CINE:3876 with a minimum grade of C.
- CINE:4845 Film/Video Production: Editing** 4 s.h.  
Development of editing techniques and strategies; editing for impact, mood, story; individual work on several video projects. Prerequisites: CINE:2864 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or CINE:3865 with a minimum grade of C or CINE:3876 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:4843 with a minimum grade of C or CINE:4862 with a minimum grade of C.

**CINE:4862 Film/Video Production: Advanced Video4 s.h.**

Expanded narrative or nonfiction/documentary topics; individual work on several video projects. Prerequisites: CINE:2864 with a minimum grade of C or CINE:2866 with a minimum grade of C or CINE:2868 with a minimum grade of C or THTR:3876 with a minimum grade of C or CINE:4821 with a minimum grade of C or CINE:4841 with a minimum grade of C or CINE:4843 with a minimum grade of C or CINE:4845 with a minimum grade of C.

**CINE:4864 Film Production: Advanced 16mm 4 s.h.**

Processes and approaches to short 16mm film; advanced cameras; sync-sound techniques; optical printing; individual work on a single project or several short projects. Prerequisites: CINE:3865 with a minimum grade of C. Requirements: for graduate students—CINE:3865 or recently shot film. Recommendations: for graduate students—CINE:3865 strongly encouraged.

**CINE:4890 Media Production Workshop 4 s.h.**

Development, production, and realization of a self-directed project; methods and projects may include film, video, screenwriting, or hybrid forms. Prerequisites: THTR:3876 with a minimum grade of B- or CINE:4821 with a minimum grade of B- or CINE:4841 with a minimum grade of B- or CINE:4843 with a minimum grade of B- or CINE:4845 with a minimum grade of B- or CINE:4862 with a minimum grade of B- or CINE:4864 with a minimum grade of B-.

**CINE:5500 Success in Graduate Studies 1-3 s.h.**

Introduction to graduate studies in film and media-related areas to maximize student success through a series of workshops devoted to research and writing, professionalization, and information sessions with key graduate-related offices and resources on campus.

**CINE:5673 Advanced Film Theory 3 s.h.**

A major figure, issue, or approach in film theory.

**CINE:5675 Advanced Film History 3 s.h.**

A major period or topic in film history; issues in film historiography, research.

**CINE:5890 Colloquium in Film and Video Production 4 s.h.**

Projects and critical studies; focus on varied topics including process and theoretical issues; workshop, readings, production. Recommendations: previous experience with video production; prior cinema courses or filmmaking experience helpful, but not required.

**CINE:5900 M.A. Thesis in Film Studies 3 s.h.**

Students research and write their M.A. thesis essay under close supervision of an advisor; for M.A. in film studies students in third and fourth semesters.

**CINE:6992 Individual Study arr.**

Opportunity for prearranged independent study with faculty. Requirements: M.A., M.F.A., or Ph.D. candidate in cinematic arts.

**CINE:7615 Film Studies Seminar 3 s.h.**

A major figure, issue, or approach in film theory.

**CINE:7700 Ph.D. Comprehensive Exam Preparation 3 s.h.**

Students plan and study for their fourth semester comprehensive exams under close supervision of an advisor; for Ph.D. in film studies students in their third semester.

**CINE:7992 Thesis arr.**

# Cinema, B.A.

The major in cinema prepares students as engaged participants in the ever-changing media environment by offering them the conceptual and practical tools for analyzing and creating films informed by a dialogue between film studies and film production. Students build a comprehensive knowledge of motion pictures across topics ranging from studies courses focused on major film movements, directors, and critical debates in the history and theory of cinema, and production courses focused on narrative, documentary, and experimental films, using 16mm and digital technologies.

## Learning Outcomes

Cinema graduates will be able to:

- develop a broad proficiency in cinematic creativity (in areas such as editing, cinematography, screenwriting, sound design, animation) as well as the business of filmmaking, while emphasizing their own expressive vision;
- display an understanding of preproduction, production, and postproduction in the filmmaking process; succinctly describe, pitch, and reflect on their own filmmaking practice; benefit from having assessed and evaluated their own and their peers' films in workshops that emphasize constructive critique;
- speak confidently, read critically, and research and write persuasively about the history and theory of cinema as a multifaceted medium with artistic, educational, and cultural implications;
- recognize and critically evaluate the variety of film styles and practices from historical and contemporary, as well as international perspectives;
- demonstrate the mutually beneficial skills developed across film production and film studies courses by making films informed by film studies and by writing essays informed by filmmaking;
- display critical thinking about the relationship between form and content in moving images;
- be in a position to apply this knowledge and skills to a range of 21st-century careers permeated by media production, whether in the film and culture industries, media, arts, and marketing professions, or higher education and other related areas; and
- understand and use cinema as a powerful tool for learning about the world and creating positive change as an engaged global citizen.

## Requirements

The Bachelor of Arts with a major in cinema requires a minimum of 120 s.h., including 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. A maximum of 56 s.h. may be taken in Department of Cinematic Arts courses (prefix CINE). A maximum of 9 s.h. of transfer credit may be counted toward the cinema major. Students may count a maximum of 6 s.h. of coursework from another major, minor, or certificate toward the major in cinema.

The major in cinema is an individualized, interdisciplinary study of film and the production of creative work in film, video, and interactive multimedia. It is designed to promote

cultural and artistic awareness, to increase speaking and writing skills, and to develop capacities for systematic reasoning and effective production in cinema arts.

All students are expected to gain a perspective on the study and the production of film, video, or digital media while becoming acquainted with the historical, critical, and theoretical issues of the area. In conjunction with an appropriate overall curriculum, the major in cinema can offer effective preparation for continuing study or creative work in the humanities, arts, and cinema; provide a solid foundation for careers in film, video, television, and digital production; and lead to careers in arts administration, advertising, and business.

Cinema students may earn a screenwriting arts major if the requirements for each major are met. Both majors require CINE:1601 Introduction to Film Analysis (3 s.h.) and CINE:1834 Modes of Film and Video Production (4 s.h.). Those two courses are required for both majors and are prerequisites for other key courses in the major. Students must earn a grade of C or higher in each of these courses to advance in the major. Students completing both the cinema and screenwriting arts majors may only double count CINE:1601 (3 s.h.) and CINE:1834 (4 s.h.) for a total of 7 s.h. A cinema and screenwriting arts double major requires at least 68 s.h. of coursework in the majors.

The course CINE:1834 Modes of Film and Video Production is the only production course required for the cinema major. Students may use more advanced production courses to complete the major, but admission to these courses is limited and depends on the student's achievement in prerequisite production courses.

The B.A. with a major in cinema requires the following coursework.

Code	Title	Hours
Required Courses		13
Elective Courses		20
<b>Total Hours</b>		<b>33</b>

## Required Courses

Code	Title	Hours
All of these:		
CINE:1601	Introduction to Film Analysis (with a grade of C or higher)	3
CINE:1834	Modes of Film and Video Production (with a grade of C or higher)	4
CINE:2615	Introduction to Film Theory	3
CINE:3195	Undergraduate Seminar	3

## Elective Courses

An additional 20 s.h. in elective cinematic arts (prefix CINE) coursework is required. From the 20 s.h., students must select at least 6 s.h. in advanced film studies courses. Courses CINE:1100 The Art of Smartphone Filmmaking, CINE:1150 Introduction to Screenwriting for Nonmajors, CINE:1195 Video Games and Identity, CINE:1560 Cinematic Arts Ambassador Seminar, and CINE:1602 Introduction to Film Studies will not count toward the 20 s.h. of required elective credit.

## Advanced Film Studies Courses

Advanced film studies courses may be selected from the following.



Code	Title	Hours
At least 6 s.h. from these:		
CINE:3195	Undergraduate Seminar (students receive advanced film studies credit only if they take this course a second time; the first enrollment is applied toward the capstone requirement)	3
CINE:3750	Topics in Cinema and Culture	3
CINE:4610	Studies in Film and Music	3
CINE:4618	Topics in World Cinemas	3
CINE:4620	Topics in Film Form, Style, and Theory	3
CINE:4705	Chicano Cinema	3

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative g.p.a. of at least 3.33 in all UI coursework and a cumulative g.p.a. of at least 3.50 in all cinematic arts coursework.

Once a student has earned 75 s.h., the student submits a written proposal for a honors thesis, screenwriting, or production project. The proposal must be approved by the faculty member who heads the student's honors thesis/project committee; the committee must be composed of at least two faculty members from the Department of Cinematic Arts. For more specific honors thesis/project requirements in the cinema major, including required courses, contact the Department of Cinematic Arts or visit the department's Honors in Cinematic Arts website.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the cinema major.

## Career Advancement

Because the film and television industries include a wide array of jobs, the cinema degree is not a direct track to any one specific career, but it does provide a solid foundation for entry into this field.

University of Iowa graduates have found work on sets in Hollywood and New York as location managers, editors, camera assistants, writers, producer's assistants, location managers, casting agents, and more. Graduates also have found work in San Francisco, Chicago, Milwaukee, Seattle, and many other cities, with jobs in distribution, programming, documentary research, and education, among others. The U.S. Bureau of Labor Statistics notes in the Occupational Outlook Handbook that occupations for film and video editors and camera operators are expected to grow by 18 percent over the next decade, which is much higher than average

job growth. Related jobs in broadcast and sound engineering are expected to grow by nine percent, and film archivists and curatorial jobs are expected to grow 11 percent, both much higher than average.

In addition to student-run clubs offering professional experience, such as Student Video Production (SVP), panels with faculty members, current students, and alumni now in the industry, and a wealth of internship opportunities, cinema students have the option to enroll in CINE:3080 Film/Video Production: The Business of Filmmaking, a course devoted to careers in cinema.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Students must take CINE:1601 Introduction to Film Analysis before or with CINE:1834 Modes of Film and Video Production; both courses require grades of C or higher.

**Before the fifth semester begins:** at least two courses in the major, including CINE:1601 Introduction to Film Analysis and CINE:1834 Modes of Film and Video Production; students must earn grades of C or higher in both courses.

**Before the seventh semester begins:** at least five more courses in the major (total of seven), including CINE:2615 Introduction to Film Theory, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least three more courses in the major preferably including CINE:3195 Undergraduate Seminar.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Cinema, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CINE:1601	Introduction to Film Analysis	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>b, c</sup>		3

GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>	4 - 5
CSI:1600 Success at Iowa	2

**Hours 15-17**

### Spring

CINE:1834 Modes of Film and Video Production	4
RHET:1030 Rhetoric or ENGL:1200 or The Interpretation of Literature	3 - 4

GE CLAS Core: Values and Culture<sup>c</sup> 3

GE CLAS Core: World Languages Second Level Proficiency or elective course<sup>d</sup> 4 - 5

Elective course<sup>e</sup> 2

**Hours 16-18**

### Second Year

#### Fall

Major or elective course<sup>e, f</sup> 3

GE CLAS Core: Literary, Visual, and Performing Arts<sup>c, g</sup> 3

GE CLAS Core: Quantitative or Formal Reasoning<sup>c</sup> 3

GE CLAS Core: World Languages Second Level Proficiency or elective course<sup>d</sup> 4 - 5

Elective course<sup>e</sup> 3

**Hours 16-17**

### Spring

CINE:2615 Introduction to Film Theory 3

Elective course<sup>e</sup> 3

GE CLAS Core: Natural Sciences with Lab<sup>c</sup> 4

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>d</sup> 4 - 5

Elective course<sup>e</sup> 2

**Hours 16-17**

### Third Year

#### Fall

Major: cinema course<sup>f</sup> 3 - 4

Major: cinema course (advanced film studies)<sup>f</sup> 3

Elective course<sup>e</sup> 3

GE CLAS Core: Natural Sciences without Lab<sup>c</sup> 3

GE CLAS Core: Historical Perspectives<sup>c</sup> 3

**Hours 15-16**

### Spring

Major: cinema course<sup>f</sup> 3 - 4

Major: cinema course (advanced film studies)<sup>f</sup> 3

GE CLAS Core: Social Sciences<sup>c</sup> 3

Elective course<sup>e</sup> 3

Elective course<sup>e</sup> 3

**Hours 15-16**

### Fourth Year

#### Fall

CINE:3195 Undergraduate Seminar 3

Major: cinema course<sup>f</sup> 3 - 4

Elective course<sup>e</sup> 3

Elective course<sup>e</sup> 3

GE CLAS Core: International and Global Issues<sup>c</sup> 3

**Hours 15-16**

### Spring

Major: cinema course<sup>f</sup> (elective course if cinema hours are complete)<sup>f</sup> 3 - 4

Major: cinema course<sup>f</sup> (elective course if cinema hours are complete)<sup>f</sup> 3

Elective course<sup>e</sup> 3

Elective course<sup>e</sup> 3

Elective course<sup>e</sup> 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>h</sup>

**Hours 15-16**

**Total Hours 123-133**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b CINE:1625 fulfills the GE CLAS Core Diversity and Inclusion requirement and also counts as semester hours towards the Cinema requirements.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f CINE:1100, CINE:1150, CINE:1195, CINE:1560, and CINE:1602 will not count toward the 20 s.h. of required elective cinematic arts credit.

g Options include CINE:1610.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Screenwriting Arts, B.A.

The major in screenwriting arts draws on the long and historic creative writing tradition at the University of Iowa by expanding undergraduate offerings to include a program in screenwriting. Students are instructed on practical skills and knowledge needed to become successful members of the screenwriting industry, but they also learn about the history and theories related to screenwriting, encouraging writing and the production of cinema to rise to the level of art.

## Learning Outcomes

Screenwriting arts students achieve nine learning outcomes within three major areas:

### Obtaining Foundational Understanding and Skills

- Finding and forming ideas.
- Learning research methods to enhance creativity.
- Understanding the history and genres of narrative forms and styles.
- Learning the history of world cinema and film language.

### Executing, Developing, and Completing Screenplay Projects

- Step-by-step screenwriting models.
- Editing, workshopping, and revising screenwriting drafts.

### Practical Skills and Screen Industry Knowledge

- Oral communication skills.
- Filmmaking processes including sound, cinematography, editing, and directing.
- Business and industrial dimensions through networking and building communities.

## Requirements

The Bachelor of Arts with a major in screenwriting arts requires a minimum of 120 s.h., including 42 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They must earn a minimum of 30 s.h. for the major at the University of Iowa, with at least 15 s.h. in cinematic arts courses (prefix CINE) taken at the University of Iowa. A maximum of 56 s.h. may be taken in Department of Cinematic Arts courses (prefix CINE).

Students may earn a minor in cinema. They must complete at least 12 s.h. in courses offered by the Department of Cinematic Arts that are not required for the screenwriting arts major. A maximum of 3 s.h. may count for both the cinema minor and the screenwriting arts major.

Screenwriting arts students may earn a cinema major if the requirements for each major are met. Both majors require CINE:1601 Introduction to Film Analysis (3 s.h.) and CINE:1834 Modes of Film and Video Production (4 s.h.). Those two courses are required for both majors and are prerequisites for other key courses in the major. Students must earn a grade of C or higher in each of these courses to advance in the major. Students completing both the screenwriting arts and cinema majors may only double count CINE:1601 (3 s.h.) and CINE:1834 (4 s.h.) for a total of 7 s.h. A screenwriting arts and

cinema double major requires at least 68 s.h. of coursework in the majors.

**Internship Opportunities:** The major does not require an internship, but an internship (CINE:1185 Internship) is an elective course option (see "Elective Courses" below). The Department of Cinematic Arts strongly encourages students to participate in internships and related activities.

The B.A. with a major in screenwriting arts requires the following coursework.

Code	Title	Hours
Foundation Courses		13
Core Courses		20
Elective Courses		9
<b>Total Hours</b>		<b>42</b>

## Foundation Courses

Code	Title	Hours
All of these:		
CINE:1300	Foundations of Screenwriting (with a grade of C or higher)	3
CINE:1601	Introduction to Film Analysis (with a grade of C or higher)	3
CINE:1834	Modes of Film and Video Production (with a grade of C or higher)	4
One of these:		
CW:2870	Fiction Writing	3
THTR:2301	Playwriting I	3

## Core Courses

Code	Title	Hours
All of these:		
CINE:3310	Screenwriting Studies	3
CINE:3361	Screenwriting: Short Form	3
CINE:3367	Screenwriting: Long Form	3
CINE:4377	Advanced Screenwriting I	4
CINE:4378	Advanced Screenwriting II	4
One of these:		
CINE:2600	Writing Film Reviews and Criticism	3
CINE:2615	Introduction to Film Theory	3
CINE:2868	Film/Video Production: Fiction	3

## Elective Courses

Students must complete a minimum of 9 s.h. from the following list of electives that includes related courses on writing fiction, nonfiction, poetry, or other genres, and on production, acting, and directing. Many of these courses are repeatable for credit, allowing students to focus on a single genre or production experience, if they choose to. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for that course. Students should confer with their advisor before they choose elective coursework.

## Cinematic Arts

Code	Title	Hours
CINE:1185	Internship	1-3
CINE:2615	Introduction to Film Theory	3
CINE:2620	U.S. Film	3
CINE:2623	Introduction to Documentary Film	3
CINE:2868	Film/Video Production: Fiction	3
CINE:3080	Film/Video Production: The Business of Filmmaking	3
CINE:3195	Undergraduate Seminar	3
CINE:3315	Topics in Screenwriting	3
CINE:3750	Topics in Cinema and Culture	3
CINE:4198	Honors Project I	3
CINE:4199	Honors Project II	3
CINE:4618	Topics in World Cinemas	3
CINE:4620	Topics in Film Form, Style, and Theory	3
CINE:4845	Film/Video Production: Editing	4
CINE:4890	Media Production Workshop	4

## Classics

Code	Title	Hours
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3

## Communication Studies

Code	Title	Hours
COMM:2065	Television Criticism	3
COMM:2069/ AFAM:2070	Black Television Culture	3
COMM:2077	Writing and Producing Television	3

## Creative Writing (Iowa Writers' Workshop)

Code	Title	Hours
CW:2100	Creative Writing	3
CW:2870	Fiction Writing (if not used as a foundation course)	3
CW:2875	Poetry Writing	3
CW:3003	Writing and Reading Science Fiction	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3

## English

Code	Title	Hours
ENGL:4720	Advanced Creative Writing: Special Topic	3
ENGL:4721	Advanced Writers' Seminar: Fiction	3
ENGL:4722	Advanced Writers' Seminar: Poetry	3

ENGL:4723	Advanced Writers' Seminar: Nonfiction	3
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## Theatre Arts

Code	Title	Hours
THTR:2301	Playwriting I (if not used as a foundation course)	3
THTR:3301	Playwriting II	3
THTR:3310	Undergraduate Playwriting Workshop	1-3
THTR:3320	Writing for Film	3
THTR:4180	Directing I	3
THTR:6310	Special Topics in Playwriting	3

## World Languages, Literatures and Cultures

Code	Title	Hours
WLLC:3208/ ASIA:3208/ TRNS:3208	Classical Chinese Literature Through Translation	3

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative g.p.a. of at least 3.33 in all UI coursework and a cumulative g.p.a. of at least 3.50 in all cinematic arts coursework.

Once a student has earned 75 s.h., the student submits a written proposal for a honors thesis, screenwriting, or production project. The proposal must be approved by the faculty member who heads the student's honors thesis/project committee; the committee must be composed of at least two faculty members from the Department of Cinematic Arts. For more specific honors thesis/project requirements, including required courses, contact the Department of Cinematic Arts or visit the department's Honors in Cinematic Arts website.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the screenwriting arts major.

## Career Advancement

Screenwriting arts majors find employment as writers in the entertainment field, including filmmaking as well as television, marketing, advertising, public relations, and other related areas that specialize in communication through words and images. The U.S. Bureau of Labor Statistics notes in the Occupational Outlook Handbook that occupations for writers are expected to grow by eight percent over the next decade. Related occupations such as public relations will grow at around 10 percent as well as positions in advertising, promotions, and marketing. Students who study screenwriting

will possess the knowledge and skills needed for entry into these related positions.

Screenwriting arts students benefit from the University of Iowa's status as a renowned writing university. In addition to panels with faculty members, current students, and alumni working in the industry that the Department of Cinematic Arts helps organize, as well as a wealth of internship opportunities at the University of Iowa and surrounding areas, students enroll in CINE:3310 Screenwriting Studies, which addresses career opportunities for screenwriters (e.g., labs, workshops, fellowships) and have the option to enroll in CINE:3080 Film/Video Production: The Business of Filmmaking, a course devoted to careers in cinema.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** at least five courses in the major, including CINE:1300 Foundations of Screenwriting (with a grade of C or higher), CINE:1601 Introduction to Film Analysis (with a grade of C or higher), CINE:1834 Modes of Film and Video Production (with a grade of C or higher), CW:2870 Fiction Writing or THTR:2301 Playwriting I, and one required elective course.

**Before the seventh semester begins:** at least four more courses in the major (total of nine), including CINE:2600 Writing Film Reviews and Criticism or CINE:2615 Introduction to Film Theory or CINE:2868 Film/Video Production: Fiction, CINE:3310 Screenwriting Studies, CINE:3361 Screenwriting: Short Form, and CINE:3367 Screenwriting: Long Form.

**Before the eighth semester begins:** at least three more courses in the major, including CINE:4377 Advanced Screenwriting I and one required elective course.

**During the eighth semester:** enrollment in all remaining coursework in the major, including CINE:4378 Advanced Screenwriting II, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Screenwriting Arts, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CINE:1300	Foundations of Screenwriting	3
CINE:1601	Introduction to Film Analysis	3

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>b</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>

#### Spring

CINE:1834	Modes of Film and Video Production	4
THTR:2301 or CW:2870	Playwriting I <sup>c</sup> or Fiction Writing	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>b</sup>		4 - 5
<b>Hours</b>		<b>14-16</b>

#### Second Year

##### Fall

CINE:2615 or CINE:2600 or CINE:2868	Introduction to Film Theory or Writing Film Reviews and Criticism or Film/Video Production: Fiction	3
Major: screenwriting elective <sup>d</sup>		3
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>b</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>

##### Spring

Major: screenwriting elective <sup>d</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: Values and Culture <sup>e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>b</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>16-17</b>

#### Third Year

##### Fall

CINE:3361	Screenwriting: Short Form	3
CINE:3310	Screenwriting Studies <sup>d</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

##### Spring

CINE:3367	Screenwriting: Long Form	3
CINE:3310	Screenwriting Studies <sup>d</sup>	3
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

#### Fourth Year

##### Fall

CINE:4377	Advanced Screenwriting I	4
GE CLAS Core: International and Global Issues <sup>e</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e, g</sup>		3
Elective course <sup>f</sup>		3

Elective course <sup>f</sup>	3
<b>Hours</b>	<b>16</b>
<b>Spring</b>	
CINE:4378      Advanced Screenwriting II	4
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)	
<b>Hours</b>	<b>13</b>
<b>Total Hours</b>	<b>120-126</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Note: THTR:2301 satisfies the Literary, Visual, and Performing Arts GE requirement.
- d Students must complete at least 9 s.h. of related coursework on writing fiction, nonfiction, poetry, or other genres, and on production, acting, and directing; see the General Catalog for list of approved courses.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Required if CW:2870 was taken as the foundation course elective rather than THTR:2301.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Cinema, Minor

## Requirements

The undergraduate minor in cinema requires a minimum of 15 s.h. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. They may count 3 s.h. in approved transfer credit toward the minor. Coursework in the minor may not be taken pass/nonpass.

A maximum of 3 s.h. may be counted toward the cinema minor and the screenwriting arts major.

## Required Courses

Code	Title	Hours
All of these:		
CINE:1601	Introduction to Film Analysis (with a grade of C or higher)	3
Additional coursework numbered CINE:1625 or above		12

# Film Studies, M.A.

## Learning Outcomes

Students will:

- build requisite skills for Ph.D.-level study, including academic research and writing, public presentations, publishing, and grant applications;
- identify and apply concepts of film and media theory in scholarship as well as pedagogical practice;
- identify and apply methods of film historiography, including evaluating and working with archival materials;
- develop a broad understanding of the discipline's history, current status, and potential futures;
- acquire knowledge of cinema's historical periods, global variations, and diverse forms; and
- acquire a diverse set of professionalization skills in order to explore film and media-related career possibilities within and beyond academia.

## Requirements

The Master of Arts program in film studies requires a minimum of 36 s.h. of graduate credit, of which 24 s.h. must be earned at the University of Iowa. Students must earn a minimum program g.p.a. of 3.25.

The 36 s.h. are typically acquired by taking 12 graduate-level courses that span two years. The program's focus is on advanced film theory and film history in an international context, with required distributions of coursework in U.S. cinema, world cinemas, and at least one of the following areas: film production, documentary film, animation, or experimental film.

Students meet formal degree requirements through coursework, a written M.A. thesis essay produced in the second year, and followed by an oral examination.

The M.A. with a major in film studies requires the following.

## Core Requirements

Code	Title	Hours
All of these:		
CINE:5500	Success in Graduate Studies (consult advisor about semester hour enrollment)	1-3
CINE:5673	Advanced Film Theory	3
CINE:5675	Advanced Film History	3
CINE:5900	M.A. Thesis in Film Studies	3

## Distribution Requirements

Code	Title	Hours
Students earn 3 s.h. in each of the following three areas:		
	U.S. cinema	3
	World cinemas	3
	Production, documentary, animation, or experimental film	3

## Language Study

Up to 6 s.h. in languages and literatures courses numbered 3000 or above in an area other than English may be counted toward the degree.

## Electives

Students are expected to enroll in the two graduate courses offered by the Department of Cinematic Arts each semester. Remaining elective hours may be taken in courses selected from other departments; students should consult their advisor.

More information on the program is available on the Department of Cinematic Arts website.

## Admission

A faculty committee chaired by the head of film studies evaluates applications to the M.A. program. Application materials should include undergraduate and/or graduate transcripts, a personal statement, a writing sample, three letters of recommendation, test scores, and samples of creative work when relevant. Admission decisions are based on the full range of an applicant's accomplishments and evidence that the applicant will fit the elements of the program and will thrive in the department.

Previous experience in the area of film studies is desirable but not required. Applicants usually enter the M.A. program with a B.A. in film studies or an M.A. in an unrelated field.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. Information about the application process is available on the Department of Cinematic Arts website and the Graduate Admissions website.

## Career Advancement

The Master of Arts degree typically prepares students for continued, advanced graduate work in film studies at the University of Iowa or elsewhere. However, students also have used their M.A. training in film theory and history to seek careers in other areas, including film criticism or positions at film archives or film festivals, or within various facets of the film industry.

The Graduate College is prepared to help graduates explore careers related to or that build upon their training. In conjunction with the Graduate College, the Department of Cinematic Arts also is committed to helping graduate students explore a range of alternative careers that take advantage of their specific training. In addition, the Pomerantz Career Center offers multiple resources to help students find internships and jobs.



# Film and Video Production, M.F.A.

## Learning Outcomes

Students will:

- develop an artistic vision that will inform an emerging practice of film and video production, and begin to develop a portfolio;
- learn the advanced technical aspects of production from cinematography and editing to sound design;
- acquire a broad range of knowledge in film and media theories and histories;
- develop skills and experience in academic research and critical writing; and
- develop professionally, including showing work at festivals, applying for grants and residencies, acquiring requisite skills for academic employment, and learning the skills for successful job applications.

## Requirements

The Master of Fine Arts program in film and video production requires 59 s.h. of graduate credit, 24 of which must be earned at the University of Iowa. Students must earn a minimum program g.p.a. of 3.00.

Graduate credit is typically acquired through advanced production courses, graduate colloquia, and advising-centered thesis courses taken over three years. With a focus on expanded documentary, experimental, hybrid, and narrative media forms, the curriculum combines creative and scholarly coursework with the aim of producing a body of innovative, artistic work in film, digital media, multimedia installation, and/or animation. Degree requirements include advanced coursework in film/media theory or history, annual public presentations and critiques, the development of an artist statement, a thesis paper, and a creative thesis project.

Students may not enroll in cinematic arts courses numbered below CINE:5000 with the exception of the following courses that count toward their degree (as listed below): CINE:4821, CINE:4841, CINE:4843, CINE:4845, CINE:4862, CINE:4864, and CINE:4890. These courses also count toward the degree if they are taken as electives: CINE:3865 Film/Video Production: Material of 16mm Filmmaking, CINE:4377 Advanced Screenwriting I, CINE:4378 Advanced Screenwriting II. Candidates may enroll in courses numbered below 5000 from areas outside of cinematic arts but those courses do not count toward their degree.

Students may take CINE:4890 Media Production Workshop and CINE:5890 Colloquium in Film and Video Production as electives in their third year while they complete their thesis requirement.

The M.F.A. with a major in film and video production requires the following coursework.

## Required Courses

This coursework must be taken before thesis clearance.

Code	Title	Hours
Both of these:		
CINE:4890	Media Production Workshop	4

CINE:5890	Colloquium in Film and Video Production (taken twice for 4 s.h. each)	8
12 s.h. in advanced production courses from these:		
CINE:4821	Film/Video Production: Selected Topics	4
CINE:4841	Film/Video Production: Sound Design	4
CINE:4843	Film/Video Production: Image Design	4
CINE:4845	Film/Video Production: Editing	4
CINE:4862	Film/Video Production: Advanced Video	4
CINE:4864	Film Production: Advanced 16mm	4
All of these:		
Two mid-level graduate courses in film theory/history		6
Two courses from related areas outside the Department of Cinematic Arts		6
Additional upper-level electives		5

## Required Courses After Thesis Clearance

Code	Title	Hours
All of these:		
CINE:7992	Thesis	12
Additional upper-level electives		6

Students should consult their advisor for specific information related to M.F.A. requirements.

## Admission

A faculty committee chaired by the head of film and video production evaluates applications to the M.F.A. program. Application materials should include undergraduate and/or graduate transcripts, a personal statement, three letters of recommendation, samples of creative work, test scores, and writing samples when relevant. Admission decisions are based on the full range of an applicant's accomplishments and evidence that the applicant will thrive in the department's program. Previous academic experience in moving image production is desirable but not required.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. Information about the application process is available on the Department of Cinematic Arts website and the Graduate Admissions website.

## Career Advancement

The film and video production program has a remarkable job placement record, with graduates located in faculty positions at major research universities and prestigious liberal arts colleges throughout the world. Through their creative work and published research, graduates are visible and productive contributors to film and video production and related disciplines.

Within the program, faculty mentor students toward professional careers by supervising their development as both

innovative moving-image makers and scholars. Regular one-on-one advising sessions, group critiques, workshops on topics such as film festival submissions, job interviews, and related topics prepare students for academic and artistic careers. Students also are regularly advised on applying for grants and awards to facilitate their advanced research, whether conducted in Iowa or elsewhere.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Film and Video Production, M.F.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
59 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CINE:5890	Colloquium in Film and Video Production <sup>c, d</sup>	4
Advanced production course <sup>e</sup>		4
Mid-level graduate course in film theory/history <sup>e</sup>		3
Elective course (CINE:5500 Success in Graduate Studies recommended) <sup>e</sup>		2
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
CINE:4890	Media Production Workshop <sup>f</sup>	4
Advanced production course <sup>e</sup>		4
Course from related area outside of Cinematic Arts <sup>e</sup>		3
<b>Hours</b>		<b>11</b>
<b>Second Year</b>		
<b>Fall</b>		
CINE:5890	Colloquium in Film and Video Production <sup>d</sup>	4
Advanced production course <sup>e</sup>		4
Mid-level graduate course in film theory/history <sup>e</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
Course from related area outside of Cinematic Arts <sup>e</sup>		3
Elective course <sup>e</sup>		3
Independent study or elective course (optional) <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Fall</b>		
CINE:7992	Thesis	6

Elective course (after thesis clearance) <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
CINE:7992	Thesis	6
Elective course (after thesis clearance) <sup>e</sup>		3
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>62</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.

c Take twice for total of 8 s.h.

d Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

e Work with faculty advisor to determine appropriate coursework and sequence.

f Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

g Completion of all degree requirements including MFA thesis project.

# Film Studies, Ph.D.

## Learning Outcomes

Students will:

- solidify skills for work in the discipline, including researching and writing a book-length study, public presentations, publishing, grant applications, etc.;
- gain confidence and fluency working with concepts of film and media theory and learn to synthesize, adapt, contextualize, and critique theoretical approaches;
- acquire and mobilize advanced primary research skills and deepen ability to work with models and methods of film historiography, and to articulate historical sources with theoretical approaches;
- acquire and mobilize advanced understanding of the discipline's history and current status;
- acquire and mobilize advanced discipline-level knowledge in historical periods, global variations, diverse forms, and learn to take a position in the future development of film and media studies;
- learn the fundamental skills for undergraduate-level teaching in film and media studies; and
- deepen professionalization skills in order to explore film and media-related career possibilities within and beyond academia (for example, in media and arts organizations, publishing, teaching, archives, film programming and festivals).

## Requirements

The Doctor of Philosophy program in film studies requires a minimum of 72 s.h. of graduate credit, of which 39 s.h. must be earned at the University of Iowa after a student has received their M.A. degree. Semester hours are earned through coursework, and eventually work focused on the completion of a dissertation. Students must earn a minimum program g.p.a. of 3.25.

The program's coursework is broadly concentrated in film history and film theory, with specific courses offered on a wide range of topics. With the regular consultation and guidance of a faculty advisor and committee, students formulate and pursue a plan of study during their first year in the program, prepare and conduct a written and oral comprehensive examination typically in their second or third year, write and present a dissertation prospectus to a carefully selected committee, and complete a dissertation in an area of advanced, original research that is defended orally in a meeting with the student's committee prior to final deposit. A detailed summary of the requirements for the Ph.D. in film studies is available on the Department of Cinematic Arts website.

The Ph.D. with a major in film studies requires the following coursework.

## Core Requirements

Code	Title	Hours
All of these (must be taken at the University of Iowa):		
CINE:5500	Success in Graduate Studies (consult advisor)	1-3
CINE:5673	Advanced Film Theory (taken twice for 3 s.h. each)	6

CINE:5675	Advanced Film History (taken twice for 3 s.h. each)	6
CINE:7615	Film Studies Seminar	3
CINE:7700	Ph.D. Comprehensive Exam Preparation	3
CINE:7992	Thesis	4

Seminar course numbered 7000 or above

## Distribution Requirements

Code	Title	Hours
2 s.h. in each of these three areas:		
	Production, documentary, animation, or experimental film	2
	U.S. cinemas	2
	World cinemas	2

Students also are required to participate in one year of supervised teaching or in independent research. They should consult their advisor for additional requirements.

## Admission

A faculty committee chaired by the head of film studies evaluates applications to the Ph.D. program. Application materials should include undergraduate and/or graduate transcripts, a personal statement, a writing sample, three letters of recommendation, test scores, and samples of creative work when relevant. Admission decisions are based on the full range of an applicant's accomplishments and evidence that the applicant will fit the elements of the program and thrive in the department.

Previous experience in the area of film studies is desirable but not required. Applicants usually enter the program with a B.A. in film studies, an M.A. in film studies from the University of Iowa, or an M.A. in an unrelated field.

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. Information about the application process is available on the Department of Cinematic Arts website and the Graduate Admissions website.

## Career Advancement

The Ph.D. program in film studies has an impressive job placement record, with graduates located in faculty positions at major research universities and prestigious liberal arts colleges throughout the world. Graduates are, through their published research, visible and productive contributors to film studies and related disciplines, and many have served in leadership positions within professional organizations such as the Society for Cinema and Media Studies.

Within the program, faculty mentor students toward professional careers by supervising their development as both effective teachers and scholars. Regular workshops offered on topics such as journal and conference submissions, job interviews, and related topics help prepare students for careers within and beyond academia. Students also are regularly advised on applying for grants and awards to facilitate their advanced research, whether conducted in Iowa or elsewhere.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Classics

## Chair

- Craig A. Gibson

**Undergraduate majors:** ancient civilization (B.A.); classical languages (B.A.)

**Undergraduate minors:** ancient civilization; classical languages; Greek; health and the human condition; Latin

**Postbaccalaureate certificate:** classics

**Graduate degrees:** M.A. in classics; M.A. in Greek; M.A. in Latin; Ph.D. in classics

**Faculty:** <https://classics.uiowa.edu/people>

**Website:** <https://classics.uiowa.edu/>

Classics is the study of ancient languages, literatures, and cultures of the Mediterranean basin from approximately 2000 B.C.E. to 800 C.E. It embraces three civilizations—the Minoan-Mycenaean, Greek, and Roman; two languages—Greek and Latin; and a geographical area including Europe, North Africa, Egypt, and the Near East. The Department of Classics provides a basis for understanding and interpreting the contribution of the ancient world to life in the present and the future.

The department offers a substantial selection of courses taught in English at the undergraduate and graduate levels; several are approved for the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Undergraduates in all majors may satisfy the World Languages requirement of the GE CLAS Core with courses in Greek or Latin; see "Language for GE CLAS Core" below. The department's First-Year Seminar introduces entering undergraduates to classics.

The Department of Classics also administers the interdisciplinary minor in health and the human condition for undergraduates.

## Language for GE CLAS Core

The Department of Classics offers course sequences in Greek and Latin that students in all majors may use to fulfill the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students who have had previous coursework or other experience with Greek or Latin should take the appropriate language placement test, which helps determine the level at which a student should begin Greek or Latin language study at the University of Iowa.

## Greek

Students who wish to fulfill the GE CLAS Core World Languages requirement with Greek should complete the following sequence.

Code	Title	Hours
CLSG:1001	Classical and New Testament Greek I	5
CLSG:1002	Classical and New Testament Greek II	5
CLSG:2001	Second-Year Greek I	3
CLSG:2002	Second-Year Greek II	3

## Latin

Students who wish to fulfill the GE CLAS Core World Languages requirement with Latin should complete the following sequence.

Code	Title	Hours
CLSL:1001	Elementary Latin I	5
CLSL:1002	Elementary Latin II	5
CLSL:2001	World of Cicero	3
CLSL:2002	Golden Age of Roman Poetry	3

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Ancient Civilization (Bachelor of Arts) [p. 260]
- Major in Classical Languages (Bachelor of Arts) [p. 265]

#### Minors

- Minor in Ancient Civilization [p. 268]
- Minor in Classical Languages [p. 269]
- Minor in Greek [p. 270]
- Minor in Health and the Human Condition [p. 272]
- Minor in Latin [p. 273]

### Postbaccalaureate Program of Study

#### Certificate

- Certificate in Classics [p. 275]

### Graduate Programs of Study

#### Majors

- Master of Arts in Classics [p. 276]
- Master of Arts in Greek [p. 277]
- Master of Arts in Latin [p. 278]
- Doctor of Philosophy in Classics [p. 279]

## Facilities

University of Iowa Libraries' Main Library and the Art Library house extensive collections of classical texts and uninterrupted runs of classical periodicals from 1850 that facilitate research in the major areas of Greek and Roman civilization. The Department of Classics has a varied collection of slides on classical subjects and a small library of reference works, texts, and issues of classical and archaeological journals. The department's classical museum contains a small collection of coins, vases, and facsimiles in bronze from Mycenae, Pompeii, and Herculaneum.

The University is a supporting institution of the American School of Classical Studies at Athens, the American Academy in Rome, and the Intercollegiate Center for Classical Studies in Rome. Consult the director of undergraduate studies for more information.

The department offers students the opportunity to participate in an archaeological dig during the summer. Contact the Department of Classics in mid-February for details.

## Courses

- Classics: Ancient Civilizations Courses [p. 253]
- Greek Courses [p. 257]
- Latin Courses [p. 258]

## Classics: Ancient Civilizations Courses

All readings for these courses are in English; previous knowledge of Greek or Latin is not required.

### **CLSA:1000 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

### **CLSA:1010 Hero, God, Mortal: Literature of Greece** 3 s.h.

Ancient Greek literature and culture as it responded to Homer; may include genre (e.g., epic to tragedy), religion, changing concept of hero, interaction with Mediterranean cultures, myth versus history. GE: Literary, Visual, and Performing Arts.

### **CLSA:1020 Love and Glory: The Literature of Rome** 3 s.h.

Main themes and works of ancient Roman literature; works reflecting conflict of personal desire and public self in Rome. GE: Literary, Visual, and Performing Arts.

### **CLSA:1040 World Literature in Translation I** 3 s.h.

Reading and analysis of major literary texts from writing's origins to 1700 in the Mediterranean, Asia, and Africa; interrelationship of literature and history. Taught in English. GE: Literary, Visual, and Performing Arts. Same as CL:1240, TRNS:1240.

### **CLSA:1045 Classics and Young Adult Fantasy Fiction** 3 s.h.

Survey of young adult fantasy fiction influenced by classical (Greek and Roman) stories, plots, characters, names, events, and places.

### **CLSA:1181 Ancient Medicine** 3 s.h.

Thematic examination of theories and practices of Greco-Roman physicians, which in turn became the medical tradition of medieval Islamic world and European medicine until mid-19th century; historical medical terms, theories, and practices. GE: Historical Perspectives. Same as GHS:1181.

### **CLSA:1200 Interpretation of Ancient Literature** 3 s.h.

Development of skills in literary interpretation through study of ancient Greek and Roman literature in translation; students read dramatic and nondramatic poetry, fictional and nonfictional prose, non-Greco-Roman literature of ancient Mediterranean, and classical reception; 8th century B.C.E. to 4th century C.E. GE: Interpretation of Literature.

### **CLSA:1323 Life in the Biblical World** 3 s.h.

Examination of world depicted in Old and New Testaments of the Bible; archaeological evidence, ancient art, historical accounts, geography, and Bible text used to examine background of biblical text, shedding light on different aspects of daily life in antiquity from different points of view from Late Bronze Age through Roman period. Same as RELS:1323.

### **CLSA:1340 Magic in the Ancient World** 3 s.h.

Ancient Greek and Roman writings on magic, including ancient spells and charms. GE: Values and Culture.

### **CLSA:1380 Ancient Science** 3 s.h.

Survey of Greek and Roman scientific practices from Homer to Constantine.

### **CLSA:1400 Biblical Archaeology** 1,3 s.h.

Introduction to the science of archaeology and the archaeology of the lands of the Bible to understand historical, cultural, economic, linguistic, and religious backgrounds of the Bible and biblical periods. Same as RELS:1400.

### **CLSA:1455 The Bible in Antiquity II: The New Testament** 3 s.h.

Historical and systems analysis of the New Testament's creation as part of the Roman Empire.

### **CLSA:1740 Writing Strategies: Word Origins and Word Choice** 3 s.h.

Study of words, their meanings, and their origins combined with writing; words and word histories; role of English language in the world. GE: Literary, Visual, and Performing Arts. Same as WRIT:1740.

### **CLSA:1805 Legends and Heroes of Ancient Rome** 1 s.h.

Introduction to narratives of Roman heroes from Livy, Ovid, and Plutarch; background information for further study in classics.

### **CLSA:1809 Ancient World on the Modern Screen** 3 s.h.

Cinematic depictions of the classical world compared with scholarly views; selected films and primary ancient sources of the same period.

### **CLSA:1830 Greek Civilization** 3 s.h.

History, literature, art, architecture, religion, social life ca. 3000 B.C.E. to second century B.C.E. GE: Historical Perspectives.

### **CLSA:1840 Roman Civilization** 3 s.h.

History, literature, politics, religion, social structure from eighth century B.C.E. to second century C.E. GE: Historical Perspectives.

### **CLSA:1875 Ancient Sports and Leisure** 3 s.h.

Sports, games, and hobbies in the ancient world, primarily Greece and Rome, 1500 B.C.E. to 500 C.E.; ancient Olympic games, Roman festival games; anthropology of sport. GE: Values and Culture.

### **CLSA:1910 Ancient and Modern Worlds: Common Problems** 3 s.h.

Exploration of how many modern world problems can profitably be compared to problems arising in the ancient Mediterranean world and from ancient peoples' responses to those problems.

### **CLSA:2016 Classical Mythology** 3 s.h.

Introduction to ancient Greek and Roman myths with focus on using these sources as interpretations of culture and human psyche; emphasis on flexibility of myth and its importance for understanding ancient history, art, literature, religion, and philosophy. GE: Literary, Visual, and Performing Arts; Values and Culture.

**CLSA:2018 Odysseus: The Image of a Trickster Hero in Literature and Film** 3 s.h.

How the figure of Odysseus has long intrigued the West as glorified seeker of truth or damned treacherous deceiver; representations of hero by authors that include Greek tragedians, Virgil, Dante, Alfred Lord Tennyson, Margaret Atwood, and others with a point of departure from Homer's Odysseus; survey of Odysseus's depictions throughout the centuries to understand the fascination his character held, and continues to hold, over classical and modern writers; selected adaptations of Odysseus' adventures in art and contemporary cinema to understand the exuberance of the mythical hero.

**CLSA:2048 The Invention of Writing: From Cuneiform to Computers** 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CL:2248, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

**CLSA:2127 Global Manuscript Cultures** 3 s.h.

Manuscripts and global manuscript cultures from a comparative, interdisciplinary perspective; history of the book in the East and West; diverse material supports, physical formats, and written layouts of manuscripts of the 1st to 19th centuries, including social and cultural contexts; manuscript traditions of particular cultural spheres (Europe, the Middle East and North Africa, India, East Asia) and historical processes of diffusion, remediation, and obsolescence. Taught in English. GE: Historical Perspectives. Same as ASIA:2127, JPNS:2127.

**CLSA:2144 Engineering and Technology in the Ancient World** 3 s.h.

Technologies developed and used in the ancient world—primarily in Greece and Rome, also in Egypt and the Ancient Near East; agriculture and food preparation; construction and architecture; technologies related to warfare. Same as HIST:2444.

**CLSA:2151 Roman Law, Order, and Crime** 3 s.h.

Case-based introduction to Roman law; principles of Roman law ranging from standards of evidence to trial procedures to various topics in civil and criminal law, including family law and the law of delict. Same as HIST:2431.

**CLSA:2178 Training the Citizen: Philosophy as a Civic Virtue** 3 s.h.

Practices of self-care from a variety of ancient Greco-Roman authors; practice of philosophy; opportunity to publicly engage with elementary students as mentors; readings and writing assignments focus on primary questions (What do ancient philosophers mean by "caring for yourself"? What are the purposes of philosophical self-care?); why it is more accurate to call ancient philosophy a way of life than a study; why Greek and Roman religious beliefs are inseparable from philosophy; what metaphors dominate and guide philosophical inquiry.

**CLSA:2226 Ancient Art from the Great Pyramids of Egypt to the Colosseum in Rome** 3 s.h.

Art and architecture of the Mediterranean world (ca. 3500 B.C.E.) to death of Constantine (337 C.E.); Egyptian, Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, religion. GE: Historical Perspectives. Same as ARTH:2320.

**CLSA:2330 Egyptian and Ancient Near Eastern Art** 3 s.h.

Art and architecture of Egypt and the Near East (ca. 3500 B.C.E.) to advent of Islam; Egyptian, Sumerian, Assyrian, Babylonian, and Persian cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, and religion. Same as ARTH:2330.

**CLSA:2340 The Power of Art in Greece and Rome** 3 s.h.

Art and architecture of Greece and Rome (ca. 3000 B.C.E.) to death of Constantine (337 C.E.); Cycladic, Minoan, Mycenaean, Greek, Etruscan, and Roman cultures; artistic responses to life and death; impact of breakthroughs in technology and engineering on visual culture; role of art in empire building; interrelationships of art, politics, and religion. Same as ARTH:2340.

**CLSA:2444 Cities of the Bible** 2 s.h.

Survey of the history and archaeology of key biblical cities and the contributions they made to the formation of the Bible. Same as RELS:2444.

**CLSA:2461 Middle East and Mediterranean: Alexander to Suleiman** 3 s.h.

GE: Historical Perspectives. Same as HIST:2461, RELS:2361.

**CLSA:2482 Ancient Mediterranean Religions** 3 s.h.

Introduction to major religious traditions of ancient Mediterranean world; Mesopotamia, the Levant (Hebrew Bible), Egypt, Greece, and Rome; central aspects of mythology, ritual, and archaeology, individually and in comparative perspective; ancient Judaism and Christianity considered in their various cultural contexts; basic concepts for understanding cultural exchange; fundamental theories in the study of religion. GE: Values and Culture. Same as RELS:2182.

**CLSA:2489 Jerusalem: The Holy City** 3 s.h.

Religious, political, and cultural history of Jerusalem over three millennia as a symbolic focus of three faiths—Judaism, Christianity, and Islam; integration of several digital learning technologies, including digital reconstructions and Google Earth tours of Jerusalem. Same as RELS:2289.

**CLSA:2552 Atheism, Agnosticism, and Religion** 3 s.h.

History and analysis of religious skepticism in Western culture from the classical period through modern times. Same as RELS:2552.

**CLSA:2620 Politics, Sex, and the Bible** 3 s.h.

Examination and analysis of the role of the Bible in contemporary culture; how different groups can read the exact same passages, yet reach different conclusions about how they and others should live. Recommendations: basic familiarity with the Bible or religion. GE: Diversity and Inclusion. Same as RELS:2620.

- CLSA:2651 Gender and Sexuality in the Ancient World** 3 s.h.  
Survey of gender and sexuality issues in the social, political, and religious life of ancient Greece and Rome; evidence from literature, the visual arts, archaeology. Requirements: completion of GE CLAS Core Rhetoric and sophomore standing. GE: Values and Culture. Same as GWSS:2651.
- CLSA:2800 Race and Ethnicity in the Ancient Mediterranean World** 3 s.h.  
Exploration of the history of race and ethnicity in the ancient world; how people were defined, stereotyped, and outcast by Greeks and Roman culture. GE: Diversity and Inclusion.
- CLSA:2910 Egyptian Hieroglyphs** 3 s.h.  
Introduction to study of Egyptian hieroglyphs and ancient Egyptian language and culture; basic signs and their sound equivalents; more than four hundred signs which constitute written Egyptian of the Middle Kingdom; students read and construe inscriptions that might be encountered in the Egyptian exhibits of museums.
- CLSA:2913 Power, Class, and Gender** 3 s.h.  
Introduction to ancient Greek and Roman approaches to leadership, specifically political, military, and household; identification of Greek and Roman theories and practices of leadership to strengthen understanding of leadership; examination of self-leadership through reflection on Greco-Roman ideals of self-control, justice, and ethics; aspects of group leadership, such as the balance between social hierarchy and teamwork as well as group decision making.
- CLSA:3016 Myth Makers of the Classical World** 3 s.h.  
Continuation of CLSA:2016; emphasis on minor Greek and Roman sources and understanding ancient authors' and artists' motivations for depicting myths; students adapt ancient myths to modern world through writing exercises. Prerequisites: CLSA:2016.
- CLSA:3020 Mental Health in the Ancient World** 3 s.h.  
Exploration of approaches to mental health in ancient Mediterranean world including Mesopotamia, the Levant, Greece, and Rome; examination of nosology, etiology, therapy, and ethics of mental health from ancient medical, philosophical, religious, and literary perspectives; mental health in cultural contexts. Same as GHS:3021.
- CLSA:3105 Contraception Across Time and Cultures** 3 s.h.  
Methods and history of contraception; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Taught in English. Same as GHS:3105, GRMN:3105, GWSS:3105, WLLC:3105.
- CLSA:3148 Barbarians and the Fall of Rome** 3 s.h.  
Did barbarian hordes cause the decline and fall of the Roman Empire? In the span of just a few hundred years, the Roman Empire of the Mediterranean world was transformed in terms of culture, religion, and the peoples that inhabited it, but we can't place all the blame for the so-called fall of Rome on the Huns, Visigoths, Vandals, and other migrating peoples; students explore textual, visual, and archaeological evidence for the spread of these "barbarian" cultures, the sacking of Rome, and the late antique transition to the Middle Ages from 200-800 C.E. Same as HIST:3448.
- CLSA:3227 Classical Greek Art** 3 s.h.  
Art and architecture of classical Greece (ca. 480-323 B.C.); monuments of this period—from Parthenon in Athens to Aphrodite of Knidos—often viewed as embodiments of the highest achievements in Western art and culture; classical Greek art within social, political, religious, and historical contexts; role in ancient Greek society and its impact in the 21st century. Same as ARTH:3330.
- CLSA:3232 Art of Early Rome: Patrons and Politics** 3 s.h.  
Examination of architecture, sculpture, and painting in central Italy from c. 800 B.C. to the end of the Roman Republic in 27 B.C.; art in the service of social ideology and political propaganda; funerary art and its relationship to the living; artistic interactions between Etruria, Greece, and Rome. Same as ARTH:3350.
- CLSA:3233 Art of the Ancient Roman Empire** 3 s.h.  
Major developments in architecture, sculpture, and painting from the ascension of Augustus to sole ruler in 31 B.C. to the death of Constantine in A.D. 337; influence of individual emperors on the development of artistic forms; relationship between public and private art; interdependency of Rome and the provinces. Same as ARTH:3360.
- CLSA:3234 Life and Death in Ancient Pompeii** 3 s.h.  
Art and architecture as documents of ancient life in Pompeii, a town that was destroyed during the eruption of Mount Vesuvius in 79 C.E.; topics include artistic choices and achievements of the city's inhabitants, roles played by men and women inside and outside the family, slavery, political organization and expression, and attitudes towards death. Same as ARTH:3370.
- CLSA:3235 Greek Archaeology and Ethnohistory** 3 s.h.  
Archaeology and ethnology of the Greek world, from end of Bronze Age to late Roman Empire; sociocultural processes that influence development and persistence of Greek civilization. Same as ANTH:3276.
- CLSA:3240 Roman Archaeology** 3 s.h.  
Archaeology and ethnology of Roman civilization from Iron Age eighth-century occupation of the Palatine Hill to the end of the Roman Empire in the West, A.D. 476. Same as ANTH:3277.
- CLSA:3247 Banned from the Bible: Pseudepigrapha and Apocrypha** 3 s.h.  
Introduction to biblical Pseudepigrapha and Apocrypha; writings dating from third century B.C.E. to third century C.E. fictionally attributed to characters in the Hebrew Bible and New Testament, or written as though they originated in the First or Second Temple periods, not included in Jewish or major Christian canons of scripture; English translations of documents from this period; key themes and interpretative techniques common throughout biblical texts that provide tremendous insight into the worlds that produced the Hebrew Bible and New Testament. Same as RELS:3247.
- CLSA:3250 Greek Vase Painting** 3 s.h.  
Greek ceramics as documents of religious beliefs, mythology, and daily life 1000-300 B.C.E. Same as ARTH:3340.

**CLSA:3288 Shakespeare's Romans: The Ancient World Meets the Elizabethan Stage** **arr.**

London was a distant outpost of the Roman Empire, but the Romans had an outsized influence on Shakespeare's plays and poems; students explore those works and their sources in classical authors, including Ovid and Plutarch. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as ENGL:3288.

**CLSA:3401 Ancient Egypt and the Ancient Near East** **3 s.h.**

Survey of political, economic, religious, and social change in ancient Egypt from ca. 3000 B.C.E. until its conquest by Persia, and of the ancient Near East from ca. 3000 B.C.E. until Alexander the Great's conquests. Same as HIST:3401.

**CLSA:3404 The World of Ancient Greece** **3 s.h.**

Survey of Greece history from ca. 2000 B.C. to 300 B.C.; Minoan, Mycenaean, and Greek society and culture; contact between Greek mainland and eastern Mediterranean cultures; development of the polis; political developments throughout the period; readings include a variety of sources in translation as well as modern interpretations; methodological problems in studying ancient Greece including interpretation of ancient historiography and using evidence from art, archaeology, and literature; knowledge of ancient Greek not required. Same as HIST:3404.

**CLSA:3416 Greek Religion and Society** **3 s.h.**

From Bronze Age to the Hellenistic period, in context of Mediterranean culture; evidence such as choral hymn, inscribed prayers, magical curses inscribed on lead, architecture, sculpted offerings to the gods. Same as RELS:3716.

**CLSA:3443 Pagans and Christians: The Church from Jesus to Muhammad** **3 s.h.**

Introduction to history of early Christianity, from time of Jesus to rise of Islam; focus on major movements, intellectuals, institutions in this period; growth of Christianity in different geographical areas including the Middle East, Greece, Western Europe, Africa; Christian relations with Jews, pagans, Muslims; conversion; orthodoxy, heresy, making of biblical canon; martyrdom; women and gender roles; asceticism, monasticism, sexuality; church and state; theological controversy and schisms; cult of saints; the Holy Land and pilgrimage. Same as RELS:3243.

**CLSA:3445 Mythology of Otherworldly Journeys** **3 s.h.**

Examination of mythology of otherworldly journeys from earliest religions to Hellenistic period; historical context; comparison for common themes in their evolution over time; directed readings of mythological texts dealing with otherworldly journeys; ways in which past cultures confronted larger mysteries of life and death. Same as RELS:3245.

**CLSA:3514 Roman Religion and Society** **3 s.h.**

Roman religion of the Republic, from ca. 753 B.C.E. to 44 B.C.E.; highly organized priesthood of politically powerful men and women in religious colleges in Rome who moderated and interpreted city-wide religious practice; how Romans worshipped their gods; Roman theology—what Romans thought about the divine world—and their religious response to crises; evidence from festival calendar, temple architecture, religious art, poetry, inscriptions, plays, and various other texts.

**CLSA:3520 Religious Violence and Nationalism** **3 s.h.**

Study of religious ideologies that lead to violence in the name of nationality throughout history and in modern times. Same as RELS:3520.

**CLSA:3596 The Archaeology of Ancient Egypt** **3 s.h.**

Introduction to the archaeology of ancient Egypt from predynastic times to Roman Egypt, including monumental architecture; patterns of everyday life; social, economic, and demographic considerations; history of archaeology in Egypt. Same as ANTH:3275.

**CLSA:3742 Word Power: Building English Vocabulary** **3 s.h.**

Analysis of unfamiliar English words through knowledge of the history and meaning of word parts. Same as WRIT:3742.

**CLSA:3750 Medical and Technical Terminology** **2 s.h.**

Memorization of word stems and basic medical terms, practice on computer terminal; no formal classes.

**CLSA:3821 City of Athens: Bronze Age to Roman World** **3 s.h.**

Athens from Bronze Age to end of Roman period; topics include the city's role in development of political democracy and religion, as well as the art and archaeology of the city.

**CLSA:3836 Food in Ancient Mediterranean Society** **3 s.h.**

Practices and values influenced by consumption and production of food in ancient Mediterranean societies; varied topics, including methods of food production and distribution, hierarchies of status as associated with food, food and ethnic identity, food and health, food and religion; focus on classical Greek and Roman society, Egypt, the ancient Near East, and Persia. Recommendations: familiarity with Greek and Roman civilization and history. Same as ANTH:3204, HIST:3436.

**CLSA:3900 Special Topics in Classics** **1-3 s.h.**

Examination of a specific topic of interest related to classics.

**CLSA:3920 Video Games and the Ancient World** **3 s.h.**

Examination of ancient society, culture, and sources through in-class game play and discussion of video games.

**CLSA:3979 Undergraduate Translation Workshop** **3 s.h.**

Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Same as ENGL:3850, TRNS:3179.

**CLSA:3980 Teaching in the Classics** **1,3 s.h.**

Instructional approaches and issues in teaching ancient language and civilization at secondary and college levels. Prerequisites: CLSG:1002 or CLSL:1002.

**CLSA:3982 Graduation Portfolio** **0 s.h.**

Submission of final graduation portfolio required for classical languages and ancient civilization majors. Requirements: classical languages or ancient civilization major, and senior standing.

**CLSA:4085 Postbaccalaureate Seminar** **1 s.h.**

Current work of postbaccalaureate students; preparation of writing sample and portfolio. Requirements: postbaccalaureate certificate enrollment.

**CLSA:4090 Private Assignments** **arr.**

Readings in classical literature in translation.

**CLSA:4095 Honors Readings** **arr.**

Discussion, readings, research for a paper on ancient civilization. Requirements: ancient civilization major.

**CLSA:4106 Warfare in Ancient Mediterranean Society** **3 s.h.**

Same as HIST:4406.



- CLSA:4181 History of Western Medicine** 3 s.h.  
Development and systematization of medical thought and practice in European Middle Ages from late antiquity to Renaissance; transmission of ancient Greek and Arabic medieval thought into Latin; rise of hospitals; development of medical schools; influence of Christianity; special attention to university curricula (e.g., Articella, anatomy, semiotics, prognosis, therapeutics).
- CLSA:4400 The Roman Empire** 3 s.h.  
History of Roman Empire from assassination of Julius Caesar through 5th century A.D.; political, economic, cultural, and social developments from the transition to imperial power to the shift of power from west to east. Same as HIST:4400.
- CLSA:4403 Alexander the Great** 3 s.h.  
History of Alexander the Great and the generals who succeeded him in ruling the lands he conquered; military, political, and social history. Same as HIST:4403.
- CLSA:4452 The Dead Sea Scrolls** 3 s.h.  
Introduction to the Dead Sea Scrolls; reading of the scrolls in English translation; examination of Qumran site archaeology; survey of broader sociopolitical context of Second Temple Judaism (586 B.C.E. to 135 C.E.) out of which the scrolls emerged. Same as RELS:4352.
- CLSA:4501 Archaeological Methodology and Field Research** 3 s.h.  
Beginning skills in archaeological site surveying and excavation, lab work, record keeping, pottery identification and classification, data visualization; basic archaeological theory and field methods for excavation, record keeping, and pottery identification for students with no prior archaeological experience; advanced archaeological field methods for students with prior archaeological field experience.
- CLSA:4502 Archaeology and History of Judea** 3 s.h.  
History of the ancient province of Judea (modern Israel) from Early Bronze Age to Greco-Roman period.
- CLSA:4901 Biblical Hebrew I** 3-4 s.h.  
Same as RELS:4001.
- CLSA:4902 Biblical Hebrew II** 4 s.h.  
Same as RELS:4002.
- CLSA:5010 Proseminar in Classics** 1 s.h.  
Texts, techniques, and trends in classical scholarship; areas and subtopics of classical scholarship.
- CLSA:5151 Roman Law, Order, and Crime** 3 s.h.  
Case-based introduction to Roman law; principles of Roman law ranging from standards of evidence to trial procedures to various topics in civil and criminal law, including family law and the law of delict. Recommendations: some background in Roman history. Same as HIST:5431.
- CLSA:5900 Advanced Special Topics in Classics** 3 s.h.  
Advanced examination of a specific topic of interest related to classics.
- CLSA:5903 Biblical Aramaic** 4 s.h.  
This course introduces the basics of Biblical Aramaic grammar and syntax and provides an introduction to the Biblical lexicon. There will be extensive grammatical exercises, both in class and at home, as well as frequent opportunities to apply grammatical and lexical knowledge to the Biblical text. Recommendations: Biblical Hebrew recommended. Same as RELS:5001.
- CLSA:5904 Targumic Aramaic** 4 s.h.  
Language used by Targums—Aramaic translations of the Hebrew Bible—for use in the study of interpretative traditions of later Jewish groups. Same as RELS:5002.
- CLSA:6100 Seminar: Theory and Method** 3 s.h.  
Exploration of various theories and methods related to the field of classics.
- CLSA:6200 Graduate Seminar in Ancient Art** 3 s.h.  
Key themes and issues in ancient art. Same as ARTH:6300.
- CLSA:6910 Graduate Pedagogy** 1 s.h.  
Pedagogical theories on teaching classics in translation, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: graduate standing, and teaching assistant or instructor in classics courses taught in English.
- CLSA:7114 Slavery and Social Death: 1200 B.C.E. to 1865 C.E.** 3 s.h.  
Exploration of various slave systems in antiquity, the middle ages, and modernity in terms of their motivations, utilization, and broader social, economic, and political implications; use of literary sources and archaeological remains to investigate slave cultures in ancient Near East and Egypt, Jewish exploitation of enslaved persons, and use of chattel slavery in Greek, Roman, early Christian, and Islamic societies; antebellum U.S. slavery. Same as ANTH:7414, HIST:7414.
- ## Greek Courses
- Archaic Greece (CLSG:6011), Classical Greece (CLSG:6012), Hellenistic Greece (CLSG:6013), and Roman Greece (CLSG:6014) cover authors, genres, and topics of the major periods of Greek history. Specific topics are determined by the instructor's expertise and research interests. Ph.D. students are exposed to topics in all major periods at least once in four years of coursework.
- CLSG:1001 Classical and New Testament Greek I** 5 s.h.  
Introduction to ancient Greek; Greek readings from all periods, from Homer and classical Greek poetry and prose to Christian writings and beyond; focus on classical and New Testament works, Greek culture and thought; comprehension, vocabulary, structure of Greek words and sentences; first of two-semester sequence. GE: World Languages First Level Proficiency.
- CLSG:1002 Classical and New Testament Greek II** 5 s.h.  
Continuation of CLSG:1001; focus on classical and New Testament works, Greek culture and thought, comprehension, vocabulary, structure of Greek words and sentences; increased emphasis on original texts. Prerequisites: CLSG:1001. GE: World Languages Second Level Proficiency.
- CLSG:2001 Second-Year Greek I** 3 s.h.  
Focus on reading Greek prose authors, such as Xenophon and Plato. Prerequisites: CLSG:1002. GE: World Languages Third Level Proficiency.
- CLSG:2002 Second-Year Greek II** 3 s.h.  
Continuation of CLSG:2001; focus on reading and interpretation of Greek poetry. Prerequisites: CLSG:2001. GE: World Languages Fourth Level Proficiency.
- CLSG:3001 Archaic and Classical Periods I** 3 s.h.  
Readings in major Greek authors of the Archaic and Classical periods. Prerequisites: CLSG:2002.
- CLSG:3002 Archaic and Classical Periods II** 3 s.h.  
Continuation of CLSG:3001. Prerequisites: CLSG:2002.
- CLSG:3003 Classical and Hellenistic Periods I** 3 s.h.  
Readings in Greek literature of the Classical and Hellenistic periods. Prerequisites: CLSG:2002. Same as RELS:3003.

**CLSG:3004 Classical and Hellenistic Periods II** 3 s.h.  
Continuation of CLSG:3003. Prerequisites: CLSG:2002.

**CLSG:3200 Literary Translation Workshop in Ancient Greek and Latin** 3 s.h.  
Translation from Greek/Latin to English with emphasis on literary translation; issues in theory and practice of translation in the discipline; special features of ancient languages as a source language for translation. Taught in English. Same as CLSL:3200, TRNS:3205.

**CLSG:4076 Greek Composition** 1 s.h.  
Review of Greek morphology, syntax, sentence structure; composition of sentences, short passages in Greek. Prerequisites: CLSG:2002 or CLSG:3001 or CLSG:3002 or CLSG:3003 or CLSG:3004 or CLSG:5001.

**CLSG:4090 Private Assignments** 1-3 s.h.  
Directed reading and study with faculty member.

**CLSG:4095 Honors Readings** arr.  
Discussion, readings, research for a paper on Greek literature, history, or civilization. Requirements: classical languages major.

**CLSG:5001 Greek Survey I: Archaic to Classical Literature** 3 s.h.  
Introductory survey of Greek literature and language from Homer to end of the fifth century.

**CLSG:5002 Greek Survey II: Hellenistic to Late Antique Literature** 3 s.h.  
Introductory survey of Greek literature and language in and after the fourth century B.C.E.

**CLSG:6011 Archaic Greece** arr.  
Topics chosen from Homer, Hesiod, Homeric hymns or lyric poetry.

**CLSG:6012 Classical Greece** arr.  
Authors, genres, and topics from the fifth and fourth centuries B.C.E.

**CLSG:6013 Hellenistic Greece** arr.  
Authors, genres, and topics from the death of Alexander to the accession of Augustus.

**CLSG:6014 Roman Greece** arr.  
Greek authors of the Second Sophistic, including Plutarch, Lucian, and Philostratus; seminar.

**CLSG:6910 Graduate Pedagogy** 1 s.h.  
Pedagogical theories on teaching classical languages, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: graduate standing, and teaching assistant or instructor in Greek.

**CLSG:7080 Greek Thesis** arr.  
For Ph.D. students writing a dissertation. Requirements: Ph.D. candidacy.

**CLSG:7090 Advanced Reading** arr.  
Requirements: classics graduate standing.

## Latin Courses

Republican Rome (CLSL:6011), Augustan Rome (CLSL:6012), Tiberius to Trajan (CLSL:6013), and Later Empire (CLSL:6014) cover authors, genres, and topics of the major periods of Roman history. Specific topics are determined by the instructor's expertise and research interests. Ph.D. students are exposed to topics in all major periods at least once in four years of coursework.

**CLSL:1001 Elementary Latin I** 5 s.h.  
Focus on reading Latin and on Roman culture. GE: World Languages First Level Proficiency.

**CLSL:1002 Elementary Latin II** 5 s.h.  
Continuation of CLSL:1001. Prerequisites: CLSL:1001. GE: World Languages Second Level Proficiency.

**CLSL:2001 World of Cicero** 3 s.h.  
Focus on reading Latin prose authors, such as Caesar and Cicero. Prerequisites: CLSL:1002. GE: World Languages Third Level Proficiency.

**CLSL:2002 Golden Age of Roman Poetry** 3 s.h.  
Focus on reading and interpretation of Roman poets, such as Vergil and Catullus. Prerequisites: CLSL:1002. GE: World Languages Third Level Proficiency.

**CLSL:3001 Latin Literature of the Republic I** 3 s.h.  
Prose or poetry by major authors of the republic. Prerequisites: CLSL:2001 and CLSL:2002.

**CLSL:3002 Latin Literature of the Republic II** 3 s.h.  
Continuation of CLSL:3001. Prerequisites: CLSL:2001 and CLSL:2002.

**CLSL:3003 Latin Literature of the Empire I** 3 s.h.  
Prose or poetry by major authors of the empire. Prerequisites: CLSL:2001 and CLSL:2002.

**CLSL:3004 Latin Literature of the Empire II** 3 s.h.  
Continuation of CLSL:3003. Prerequisites: CLSL:2001 and CLSL:2002.

**CLSL:3200 Literary Translation Workshop in Ancient Greek and Latin** 3 s.h.  
Translation from Greek/Latin to English with emphasis on literary translation; issues in theory and practice of translation in the discipline; special features of ancient languages as a source language for translation. Taught in English. Same as CLSG:3200, TRNS:3205.

**CLSL:4076 Latin Composition** 1 s.h.  
Review of Latin morphology, syntax, sentence structure; composition of sentences, short passages in Latin. Prerequisites: CLSL:2002 or CLSL:3001 or CLSL:3002 or CLSL:3003 or CLSL:3004 or CLSL:5001.

**CLSL:4090 Private Assignments** 1-3 s.h.  
Directed reading and study with faculty member for advanced students.

**CLSL:4095 Honors Readings** 3 s.h.  
Discussions, readings, research for a paper on Roman literature, history, or civilization. Requirements: classical languages major.

**CLSL:5001 Latin Survey I: Republican Literature** 3 s.h.  
Introductory survey of Latin literature and language from the early Republic to the end of the first century B.C.E.

**CLSL:5002 Latin Survey II: Imperial to Late Antique Literature** 3 s.h.  
Introductory survey of Latin literature and language from the Augustan age through the second century C.E.

**CLSL:6011 Republican Rome** arr.  
Authors and topics from the beginnings of Roman literature to the death of Julius Caesar.

**CLSL:6012 Augustan Rome** arr.  
Authors and topics from the death of Caesar to the accession of Tiberius.

**CLSL:6013 Tiberius to Trajan** arr.  
Authors and topics from the first and second centuries C.E. Same as RELS:6040.

**CLSL:6014 Later Empire** **arr.**  
Authors and topics from the third through fifth centuries C.E.

**CLSL:6910 Graduate Pedagogy** **1 s.h.**  
Pedagogical theories on teaching classical languages, practical application of those theories; classroom management, grading, syllabus development; university, college, and department regulations. Requirements: teaching assistant or instructor in Latin.

**CLSL:7080 Latin Thesis** **arr.**  
For Ph.D. students writing a dissertation. Requirements: Ph.D. candidacy.

**CLSL:7090 Advanced Reading** **arr.**  
Requirements: classics graduate standing.

# Ancient Civilization, B.A.

The Bachelor of Arts in ancient civilization is a flexible program that allows students to study ancient Greece, Rome, the Near East, and Egypt from 3000 B.C.E. to 800 C.E. Ancient civilization majors work primarily in the English language, with their studies distributed among the areas of literature, history, religion, philosophy, art, and archaeology.

## Learning Outcomes

Students are expected to demonstrate:

- knowledge of major literary works and written sources from the ancient Mediterranean world (either in translation or their original language);
- familiarity with the physical world (both public and private) in which ancient Mediterranean people lived through the study of their art and archaeology;
- appreciation of the religious and ethical mindset of ancient peoples through a broad understanding of mythology, religion, and philosophy; and
- understanding of the impact that the political, intellectual, and social environments of the people from the ancient Mediterranean have on our own modern culture.

## Requirements

The Bachelor of Arts with a major in ancient civilization requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major concentrates on the ancient civilization of the Mediterranean world and draws on courses offered by various University departments. This is a flexible major that allows students to concentrate their study in areas such as religion, history, archaeology, Egypt, or the Near East.

The major is sponsored by the School of Art and Art History and the Departments of Classics, History, and Religious Studies.

Students choose courses in consultation with their advisors. They must earn at least 15 s.h. in courses, which may include classics in English courses numbered 3000 or above, the Greek language courses numbered 2000 or above, and the Latin language courses numbered 2000 and above. Transfer credit is evaluated individually.

In addition to completing required coursework, students maintain a required portfolio detailing their progress toward the major, which they must complete before graduation; see "Major Portfolio" below.

A maximum of 9 s.h. of coursework used to satisfy requirements for the B.A. in classical languages may be applied toward this major. A maximum of 3 s.h. of coursework used to satisfy requirements for another minor in the Department of Classics (classical languages, Latin, and/or Greek) may be applied toward this major.

A course used to satisfy a requirement in one area cannot be used to satisfy a requirement in another area.

The B.A. with a major in ancient civilization requires the following coursework.

Code	Title	Hours
	Ancient Art and Archaeology Courses	3
	Ancient History and Society Courses	3
	Ancient Language and Literature Courses	3
	Ancient Philosophy and Religion Courses	3
	Additional Courses	18
	Major Portfolio	0
<b>Total Hours</b>		<b>30</b>

## Ancient Art and Archaeology

More than 50 percent of each course is devoted to the study of ancient art or archaeology from the geographical limits identified as relevant by the Department of Classics. Sculpture, pottery, architecture, and/or physical remains of an ancient culture are covered in these courses.

Code	Title	Hours
At least 3 s.h. from these:		
CLSA:1400/ RELS:1400	Biblical Archaeology	1,3
CLSA:2127/ ASIA:2127/ JPNS:2127	Global Manuscript Cultures	3
CLSA:2144/ HIST:2444	Engineering and Technology in the Ancient World	3
CLSA:2444/ RELS:2444	Cities of the Bible	2
CLSA:2489/ RELS:2289	Jerusalem: The Holy City	3
CLSA:3235/ ANTH:3276	Greek Archaeology and Ethnohistory	3
CLSA:3240/ ANTH:3277	Roman Archaeology	3
CLSA:3596/ ANTH:3275	The Archaeology of Ancient Egypt	3
CLSA:3821	City of Athens: Bronze Age to Roman World	3
CLSA:4501	Archaeological Methodology and Field Research	3
CLSA:4502	Archaeology and History of Judea	3
ABRD:3165	Archaeological Field Work Abroad	arr.
ANTH:1201	World Archaeology	3
ANTH:3237/ HIST:3137/ MUSM:3237	Politics of the Archaeological Past	3
ANTH:3239	The Archaeology of the First Europeans	3
ANTH:3278	Archaeology of Ancient Cities	3
ARTH:1030	Themes in Global Art	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:2320/ CLSA:2226	Ancient Art from the Great Pyramids of Egypt to the Colosseum in Rome	3
ARTH:2330/ CLSA:2330	Egyptian and Ancient Near Eastern Art	3
ARTH:2340/ CLSA:2340	The Power of Art in Greece and Rome	3

ARTH:3010	Fakes, Frauds, and Forgeries: The Dark Side of Art History	3	HIST:2461/ CLSA:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
ARTH:3161	Themes in Ancient Art	3	HIST:3401/ CLSA:3401	Ancient Egypt and the Ancient Near East	3
ARTH:3320/ RELS:3704	Egyptian Art	3	HIST:3404/ CLSA:3404	The World of Ancient Greece	3
ARTH:3325	Kings, Gods, and Heroes: Art of the Ancient Near East	3	HIST:3448/ CLSA:3148	Barbarians and the Fall of Rome	3
ARTH:3330/ CLSA:3227	Classical Greek Art	3	HIST:4131	Origins of Western Science	3
ARTH:3340/ CLSA:3250	Greek Vase Painting	3	HIST:4400/ CLSA:4400	The Roman Empire	3
ARTH:3350/ CLSA:3232	Art of Early Rome: Patrons and Politics	3	HIST:4403/ CLSA:4403	Alexander the Great	3
ARTH:3360/ CLSA:3233	Art of the Ancient Roman Empire	3	HIST:4406/ CLSA:4106	Warfare in Ancient Mediterranean Society	3
ARTH:3370/ CLSA:3234	Life and Death in Ancient Pompeii	3	HIST:4407	The Hellenistic World and Rome	3
ARTH:3375/ RELS:3375	The Great Collision	3	HIST:4419/ MDVL:4419	Ancient and Medieval Science	3

## Ancient History and Society

More than 50 percent of each course is devoted to the chronological changes of a topic (not one that is purely art historical in nature, like sculpture or pottery) from the geographical limits identified as relevant by the Department of Classics. Each course places the topic in its proper historical context.

Code	Title	Hours
At least 3 s.h. from these:		
CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:1380	Ancient Science	3
CLSA:1830	Greek Civilization	3
CLSA:1840	Roman Civilization	3
CLSA:1875	Ancient Sports and Leisure	3
CLSA:2144/ HIST:2444	Engineering and Technology in the Ancient World	3
CLSA:2651/ GWSS:2651	Gender and Sexuality in the Ancient World	3
CLSA:2800	Race and Ethnicity in the Ancient Mediterranean World	3
CLSA:2913	Power, Class, and Gender	3
CLSA:3821	City of Athens: Bronze Age to Roman World	3
CLSA:3836/ ANTH:3204/ HIST:3436	Food in Ancient Mediterranean Society	3
CLSA:4181	History of Western Medicine	3
GHS:3105/ CLSA:3105/ GRMN:3105/ GWSS:3105/ WLLC:3105	Contraception Across Time and Cultures	3
HIST:1401	The West and the World: Ancient	3
HIST:2120/IS:2120	World History: Stone Age to Feudal Age	3
HIST:2431/ CLSA:2151	Roman Law, Order, and Crime	3

## Ancient Language and Literature Courses

More than 50 percent of each course is devoted to the study of literature in translation or ancient language translation skills from the geographical limits identified as relevant by the Department of Classics.

Code	Title	Hours
At least 3 s.h. from these:		
CLSA:1010	Hero, God, Mortal: Literature of Greece	3
CLSA:1020	Love and Glory: The Literature of Rome	3
CLSA:1200	Interpretation of Ancient Literature	3
CLSA:1740/ WRIT:1740	Writing Strategies: Word Origins and Word Choice	3
CLSA:1805	Legends and Heroes of Ancient Rome	1
CLSA:2016	Classical Mythology	3
CLSA:2910	Egyptian Hieroglyphs	3
CLSA:3016	Myth Makers of the Classical World	3
CLSA:3445/ RELS:3245	Mythology of Otherworldly Journeys	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CLSA:3750	Medical and Technical Terminology	2
CLSA:3980	Teaching in the Classics	1,3
CLSA:4901/ RELS:4001	Biblical Hebrew I	3-4
CLSA:4902/ RELS:4002	Biblical Hebrew II	4
CLSL:3200/ CLSG:3200/ TRNS:3205	Literary Translation Workshop in Ancient Greek and Latin	3
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5

ARAB:2030	Formal Spoken Arabic	2
ARAB:3011	Advanced Modern Standard Arabic I	3
CL:1240/ CLSA:1040/ TRNS:1240	World Literature in Translation I	3
CL:2248/ ANTH:2248/ ASIA:2248/ CLSA:2048/ COMM:2248/ GRMN:2248/ HIST:2148/IS:2248/ LING:2248/ TRNS:2248/ WLLC:2248	The Invention of Writing: From Cuneiform to Computers	3
ENGL:2206	Classical and Biblical Literature	3
ENGL:3288/ CLSA:3288	Shakespeare's Romans: The Ancient World Meets the Elizabethan Stage	arr.
TRNS:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3
Ancient Greek courses (prefix CLSG)		
Latin courses (prefix CLSL)		

## Ancient Philosophy and Religion

More than 50 percent of each course is devoted to the study of ancient religion, belief systems, or philosophy from the geographical limits identified as relevant by the Department of Classics.

Code	Title	Hours
At least 3 s.h. from these:		
CLSA:1340	Magic in the Ancient World	3
CLSA:1400/ RELS:1400	Biblical Archaeology	1,3
CLSA:2016	Classical Mythology	3
CLSA:2444/ RELS:2444	Cities of the Bible	2
CLSA:2482/ RELS:2182	Ancient Mediterranean Religions	3
CLSA:3247/ RELS:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3
CLSA:3416/ RELS:3716	Greek Religion and Society	3
CLSA:3443/ RELS:3243	Pagans and Christians: The Church from Jesus to Muhammad	3
CLSA:3445/ RELS:3245	Mythology of Otherworldly Journeys	3
CLSA:3514	Roman Religion and Society	3
CLSA:4502	Archaeology and History of Judea	3
ENGL:2206	Classical and Biblical Literature	3
HIST:2461/ CLSA:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
PHIL:2111	Ancient Philosophy	3
PHIL:4152	Plato	3

PHIL:4153	Aristotle	3
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3
RELS:1080	Introduction to the New Testament	3
RELS:2289/ CLSA:2489	Jerusalem: The Holy City	3
RELS:2552/ CLSA:2552	Atheism, Agnosticism, and Religion	3
RELS:3520/ CLSA:3520	Religious Violence and Nationalism	3
RELS:4352/ CLSA:4452	The Dead Sea Scrolls	3

## Additional Courses

Code	Title	Hours
At least 18 s.h. from these:		
CLSA:1809	Ancient World on the Modern Screen	3
CLSA:1910	Ancient and Modern Worlds: Common Problems	3
CLSA:3020/ GHS:3021	Mental Health in the Ancient World	3
CLSA:3920	Video Games and the Ancient World	3
RELS:2272	Gods and Superheroes: Mythologies for a Modern World	3
RELS:2912	The Bible in Film: Hollywood and Moses	3

Any courses listed under the areas above—Ancient Art and Archaeology, Ancient History and Society, Ancient Language and Literature, and Ancient Philosophy and Religion

Any course with the prefix CLSA, CLSG, or CLSL

## Major Portfolio

To comply with the Board of Regents, State of Iowa, policy on student outcomes assessment, the Department of Classics has established a method to assess the achievement level of students completing one of the department's majors. Students must maintain a portfolio that details their progress in attaining the objectives of their major. Students must register for and complete the following course.

Code	Title	Hours
CLSA:3982	Graduation Portfolio	0

Students submit the portfolio to their undergraduate advisor by midterm of the semester in which they intend to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and

deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a g.p.a. of at least 3.33 in their major. Additionally, a UI cumulative g.p.a. of at least 3.33 at the time of graduation is required by the College of Liberal Arts and Sciences.

Students must complete two consecutive courses in honors reading, earning 3 s.h. of credit for each course. Honors work may be done in a student's fourth year, or spring of the third year and fall of the fourth year. The readings and discussions must be on an ancient author or a field in ancient history or literature chosen by the student and the instructor. At the end of the second semester, the student presents a substantial research project, which is evaluated for honors by two members of the department.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the ancient civilization major.

## Career Advancement

Although the major is not preparation for graduate study in classics, it provides a sound basis for preparing individuals to teach at the secondary school and community college levels. It also provides a liberal arts and sciences foundation appropriate for further study in law and medicine. Others go on to complete advanced work in library and information science, museum studies, archaeology, or business. A large proportion of its students pursue advanced degrees.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** at least two courses in the major.

**Before the seventh semester begins:** at least six courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least eight courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Ancient Civilization, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Major: ancient language and literature course <sup>b, c</sup>		3
ENGL:1200	The Interpretation of Literature or RHET:1030 or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
GE CLAS Core: Values and Culture <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
Major: additional/reception course <sup>b, e</sup>		3
RHET:1030	Rhetoric or ENGL:1200 or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		4
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: ancient history and society course <sup>b, c</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: additional/reception course <sup>b, e</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: ancient art and archaeology course <sup>b, c</sup>		3
Major: additional/reception course <sup>b, e</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE CLAS Core: World Languages Third Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>

**Spring**

Major: ancient philosophy and religion course <sup>b, c</sup>	3
Major: additional/reception course <sup>b, e</sup>	3
GE CLAS Core: International and Global Issues <sup>d</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>	4 - 5
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>16-17</b>

**Fourth Year****Fall**

Major: additional/reception course <sup>b, e</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>15</b>

**Spring**

CLSA:3982 Graduation Portfolio <sup>h</sup>	0
Major: additional/reception course <sup>b, e</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>124-130</b>

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students must earn at least 15 s.h. in courses which may include classics in English (CLSA) courses numbered 3000 or above, Greek language (CLSG) courses numbered 2000 or above, and Latin language (CLSL) courses numbered 2000 and above.

c See General Catalog for list of approved courses

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e The major requires six additional courses from an approved list or from any of the required subject areas. See General Catalog for list of approved courses or contact advisor for more information.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h Students must maintain a portfolio that details their progress in attaining the objectives of their major. Students submit the portfolio to their undergraduate advisor by midterm of the semester in which they intend to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.



## Classical Languages, B.A.

The Bachelor of Arts in classical languages cultivates and hones students' skills in ancient Greek and/or Latin. Students may study a wide variety of linguistic and cultural aspects of the ancient civilizations of Greece, Rome, the Near East, and Egypt from 3000 B.C.E. to 800 C.E.

### Learning Outcomes

Students are expected to demonstrate the:

- ability to read the ancient Greek and/or Latin languages at an intermediate to advanced level;
- knowledge of major literary works and written sources of the ancient Mediterranean world;
- transferable linguistic and analytic skills by studying the ancient languages that stand behind the vocabulary and structure of English and the Romance languages; and
- understanding of the impact that the political, intellectual, and social environments of the people from the ancient Mediterranean have on our own modern culture.

### Requirements

The Bachelor of Arts with a major in classical languages requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer credit is evaluated individually.

The major trains students to read the ancient Greek and/or Latin languages and acquaints them with the major works of Greek and/or Roman literature. Classical languages students learn about the history of ancient Greece of the eighth through the fourth centuries B.C.E., where most of the modern Western notions of political, artistic, and social life are rooted. They also develop an understanding of the Roman Republic and Empire (3 B.C.E. through 5 C.E.), when Rome established its hegemony over the Mediterranean basin, laid the foundation of law for the Western World, and spread Greece's culture to the West, and of the fall of the Empire and the rise of Medieval civilization from the sixth through the ninth centuries C.E.

In addition to completing required coursework, students maintain a required portfolio detailing their progress toward the major, which they must complete before graduation; see "Major Portfolio" below.

A maximum of 9 s.h. of coursework used to satisfy requirements for the B.A. in ancient civilization may be applied toward this major. A maximum of 3 s.h. of coursework used to satisfy requirements for the minor in ancient civilization may be applied toward this major. Students cannot pursue a minor in Latin or Greek while simultaneously enrolled as a classical languages major.

The B.A. with a major in classical languages requires the following coursework.

Code	Title	Hours
	Required Courses	30
	Major Portfolio	0
	<b>Total Hours</b>	<b>30</b>

## Required Courses

Code	Title	Hours
All of these:		
	Intermediate or advanced Greek and/or Latin courses numbered CLSG:2001 through CLSG:4999 and CLSL:2001 through CLSL:4999	15
	Additional classics courses at any level with the prefix CLSA, CLSG, or CLSL, and any courses cross-listed with prefix CLSA, CLSL, or CLSG	15

The following advanced undergraduate Greek courses are offered every other year and may be repeated or taken in any sequence. They cover a broad range of prose and poetry in historical context.

Code	Title	Hours
All of these:		
CLSG:3001	Archaic and Classical Periods I	3
CLSG:3002	Archaic and Classical Periods II	3
CLSG:3003/ RELS:3003	Classical and Hellenistic Periods I	3
CLSG:3004	Classical and Hellenistic Periods II	3

The following advanced undergraduate Latin courses are offered every other year and may be repeated or taken in any sequence. They cover a range of Latin prose and poetry in historical context from the mid-republic to the third century C.E.

Code	Title	Hours
All of these:		
CLSL:3001	Latin Literature of the Republic I	3
CLSL:3002	Latin Literature of the Republic II	3
CLSL:3003	Latin Literature of the Empire I	3
CLSL:3004	Latin Literature of the Empire II	3

## Major Portfolio

To comply with the Board of Regents, State of Iowa, policy on student outcomes assessment, the Department of Classics has established a method to assess the achievement level of students completing one of the department's majors. Students must maintain a portfolio that details their progress in attaining the objectives of their major. Students must register for and complete the following course.

Code	Title	Hours
CLSA:3982	Graduation Portfolio	0

Students submit the portfolio to the undergraduate advisor by midterm of the semester in which they intend to graduate. Formal approval of the portfolio is required for graduation. Consult the undergraduate advisor for details.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a g.p.a. of at least 3.33 in their major. Additionally, a UI cumulative g.p.a. of at least 3.33 at the time of graduation is required by the College of Liberal Arts and Sciences.

Students also must complete two consecutive courses in honors reading, earning 3 s.h. of credit for each course. Honors work may be done in a student's fourth year, or spring of the third year and fall of the fourth year. The readings and discussions must be on an ancient author or a field in ancient history or literature chosen by the student and the instructor. At the end of the second semester, the student presents a substantial research project, which is evaluated for honors by two members of the department. Students who write an honors thesis in classical languages must be enrolled at the same time in the appropriate advanced language courses.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the classical languages major.

## Career Advancement

The University of Iowa's classics program is recognized for the excellent preparation it offers for graduate study in classics. A large proportion of its students pursue advanced degrees. They are admitted to the finest public and private university programs in the country, many with full financial support.

Students who major in classical languages and complete the College of Education's Teacher Education Program may be able to find secondary school teaching positions quickly, due to a nationwide shortage of Latin teachers.

Graduates have gone on to become secondary or university teachers, librarians, museum curators, and bankers. The study of Latin and Greek also prepares students for study of law and medicine; classics graduates regularly enter these fields. Others go on to complete advanced work in library and information science, museum studies, religious studies, history, archaeology, or business.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay

on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

### Classical Languages—Greek and Latin

**Before the third semester begins:** CLSG:1001 Classical and New Testament Greek I or CLSL:1001 Elementary Latin I.

**Before the fifth semester begins:** CLSG:1002 Classical and New Testament Greek II and CLSL:1002 Elementary Latin II.

**Before the seventh semester begins:** CLSG:2001 Second-Year Greek I, and CLSL:2001 World of Cicero or CLSL:2002 Golden Age of Roman Poetry or CLSG:2002 Second-Year Greek II, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 6 s.h. of advanced (3000-level and above) courses with the prefix CLSG or CLSL.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Classical Languages—Greek Only

**Before the third semester begins:** CLSG:1001 Classical and New Testament Greek I and CLSG:1002 Classical and New Testament Greek II.

**Before the fifth semester begins:** CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II.

**Before the seventh semester begins:** two advanced (3000-level and above) courses with prefix CLSG and at least one additional course with the prefix CLSA at any level.

**Before the eighth semester begins:** either one advanced (3000-level and above) courses with prefix CLSG or one additional course with the prefix CLSA; and at least 90 s.h. earned toward the degree.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Classical Languages—Latin Only

**Before the third semester begins:** CLSL:1001 Elementary Latin I and CLSL:1002 Elementary Latin II.

**Before the fifth semester begins:** CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry.

**Before the seventh semester begins:** two advanced (3000-level and above) courses with prefix CLSL and at least one additional course with the prefix CLSA at any level; and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** either one advanced (3000-level and above) courses with prefix CLSG or one additional course with the prefix CLSA.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Classical Languages, B.A.

### Greek and Latin

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CLSL:1001	Elementary Latin I <sup>b</sup>	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Social Sciences <sup>c</sup>		3
Elective course <sup>d</sup>		1
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
CLSL:1002	Elementary Latin II <sup>b</sup>	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
CLSG:1001	Classical and New Testament Greek I	5
CLSL:2001	World of Cicero <sup>e</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CLSG:1002	Classical and New Testament Greek II	5
CLSL:2002	Golden Age of Roman Poetry <sup>e</sup>	3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15</b>
<b>Third Year</b>		
<b>Fall</b>		
CLSG:2001	Second-Year Greek I <sup>e</sup>	3
Major: advanced Latin course <sup>e</sup>		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CLSG:2002	Second-Year Greek II <sup>e</sup>	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
Major: advanced Latin course <sup>e</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

### Fourth Year

#### Fall

Major: advanced Latin, Greek, or additional classics course <sup>e</sup>	3	
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>	4	
Elective course <sup>d</sup>	3	
Elective course <sup>d</sup>	3	
Elective course <sup>d</sup>	2	
<b>Hours</b>		<b>15</b>

#### Spring

CLSA:3982	Graduation Portfolio	0
Major: advanced Latin, Greek, or additional classics course <sup>e</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>f</sup>

<b>Hours</b>		<b>15</b>
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<b>Total Hours</b>		<b>119-121</b>
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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b A student may also begin with Greek the first year and Latin in the second year.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students are required to complete 15 s.h. in intermediate or advanced Greek and/or Latin courses (prefix CLSG or CLSL, numbered 2001-4999).

f Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Ancient Civilization, Minor

Because much of modern society is strongly influenced by the past, a minor in ancient civilization is ideal to combine with any major, especially for students focusing on majors in English/creative writing, religious studies, anthropology, history, political science, journalism and mass communication, and psychology, among others. Ancient civilization minors may work entirely in the English language, with their studies distributed in the areas of literature, history, religion, philosophy, art, and archaeology.

## Learning Outcomes

Students are expected to demonstrate:

- knowledge of a variety of literary works and written sources from the ancient Mediterranean world in translation, acquired through coursework in history, culture, mythology, religion, or philosophy;
- familiarity with the physical world (both public and private) in which ancient Mediterranean people lived through the study of their art and archaeology; and
- understanding of the impact that the political, intellectual, and social environments of the people from the ancient Mediterranean have on our own modern culture.

## Requirements

The undergraduate minor in ancient civilization requires a minimum of 15 s.h., including at least 9 s.h. in advanced courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

A maximum of 3 s.h. of work for another major, minor, or certificate in the Department of Classics and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

Department of Classics courses with the prefix CLSA, CLSG, and CLSL and courses cross-listed with the prefix CLSA count toward the minor. Courses considered advanced for the minor are: Greek courses numbered CLSG:2001 Second-Year Greek I or above, Latin courses numbered CLSL:2001 World of Cicero or above, and Classics courses numbered CLSA:3000 or above. Appropriate courses in art, religion, history, and philosophy may be counted toward the minor, if approved by the undergraduate advisor. Students who have taken high school Greek or Latin should consult the advisor.

# Classical Languages, Minor

A minor in classical languages is an excellent way to solidify skills in the modern English language, while expanding your interest in ancient Mediterranean cultures. Students gain a solid understanding of both ancient Greek and Latin.

## Learning Outcomes

Students are expected to demonstrate:

- ability to read the ancient Greek and Latin languages at an intermediate to advanced level;
- knowledge of major literary works and written sources of the ancient Mediterranean world; and
- transferable linguistic and analytic skills by studying the ancient languages that stand behind the vocabulary and structure of English and the Romance languages.

## Requirements

The undergraduate minor in classical languages requires a minimum of 19 s.h., including 6 s.h. in advanced courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The sequences CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II, CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry, and Department of Classics courses numbered 3000 or above are considered advanced for the minor.

A maximum of 3 s.h. of work for another major, minor, or certificate in the Department of Classics and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

Students who earn a minor in classical languages may not earn a minor in Latin or Greek.

## Required Courses

Code	Title	Hours
All of these:		
CLSG:1001	Classical and New Testament Greek I	5
CLSG:1002	Classical and New Testament Greek II	5
CLSG:2001	Second-Year Greek I	3
CLSL:2001 or CLSL:2002	World of Cicero Golden Age of Roman Poetry	3

## Electives

Code	Title	Hours
At least 3 s.h. from these:		
An ancient civilizations course numbered CLSA:1000-4999		
A Greek course numbered CLSG:1000-4999		
A Latin course numbered CLSL:1000-4999		

Students who have taken high school Greek or Latin should consult the advisor.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Classical Languages, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in classical languages requires a minimum of 19 s.h., including 6 s.h. in advanced courses taken at the University of Iowa.		
Students must maintain a GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.		
Coursework in the minor may not be taken pass/nonpass.		
A maximum of 3 s.h. of work for another major, minor, or certificate in the Department of Classics and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.		
Students who earn a minor in classical languages may not earn a minor in Latin or Greek.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CLSL:1001	Elementary Latin I <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
CLSL:1002	Elementary Latin II <sup>a</sup>	5
<b>Hours</b>		<b>5</b>
<b>Second Year</b>		
<b>Any Semester</b>		
CLSL:2002 or CLSL:2001	Golden Age of Roman Poetry or World of Cicero	3
<b>Hours</b>		<b>3</b>
<b>Fall</b>		
CLSG:1001	Classical and New Testament Greek I <sup>a</sup>	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
CLSG:1002	Classical and New Testament Greek II <sup>a</sup>	5
<b>Hours</b>		<b>5</b>
<b>Third Year</b>		
<b>Fall</b>		
CLSG:2001	Second-Year Greek I	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>26</b>

a Students who have taken high school Greek or Latin should consult the advisor.

b This course is a prerequisite for a required minor course.

## Greek, Minor

A minor in Greek is an excellent way to pursue the study of ancient Greek beyond the General Education World Languages courses and to explore an interest in reading famous authors and philosophers (Homer, Plato, and others) in their native language.

### Learning Outcomes

Students are expected to demonstrate:

- ability to read ancient Greek at an intermediate to advanced level;
- knowledge of major literary works and written sources from the ancient Greek world; and
- understanding of the impact that the political, intellectual, and social environments of the people from ancient Greece have on our own modern culture.

### Requirements

The undergraduate minor in Greek requires a minimum of 15 s.h. in Greek courses (prefix CLSG), including at least 12 s.h. in courses numbered CLSG:2000 and above taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

Students who earn a minor in Greek may not earn a major in classical languages; students who are interested in a minor in Latin should consider the minor in classical languages instead. Students who earn a minor in Greek may not earn a minor in classical languages.

The sequence CLSG:2001 Second-Year Greek I and CLSG:2002 Second-Year Greek II and Department of Classics courses numbered 3000 or above are considered advanced for the minor. Students may substitute a maximum of 3 s.h. for the CLSG requirement with one of the relevant advanced-level courses taught in English from the following.

Code	Title	Hours
CLSA:3235/ ANTH:3276	Greek Archaeology and Ethnohistory	3
CLSA:3247/ RELS:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3
CLSA:3416/ RELS:3716	Greek Religion and Society	3
CLSA:3443/ RELS:3243	Pagans and Christians: The Church from Jesus to Muhammad	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CLSA:3821	City of Athens: Bronze Age to Roman World	3
CLSA:3980	Teaching in the Classics	1,3
CLSA:4452/ RELS:4352	The Dead Sea Scrolls	3
ARTH:3330/ CLSA:3227	Classical Greek Art	3

ARTH:3340/ CLSA:3250	Greek Vase Painting	3
HIST:3404/ CLSA:3404	The World of Ancient Greece	3
HIST:4403/ CLSA:4403	Alexander the Great	3
PHIL:4152	Plato	3
PHIL:4153	Aristotle	3
TRNS:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3

Students who enter the University of Iowa with prior competence in introductory ancient Greek may substitute 3 s.h. of lower-level CLSG courses with CLSA:1010 Hero, God, Mortal: Literature of Greece. Students who have taken high school Greek should consult the advisor.

### Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Greek, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students must complete a minimum of 15 s.h. in Greek courses (prefix CLSG), including at least 12 s.h. in courses numbered 2000 and above taken at the University of Iowa. One advanced course in CLSA numbered 3000 or above may be counted toward the minor; see General Catalog for list of approved courses.		
A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the Greek minor.		
Coursework in the Greek minor may not be taken pass/nonpass.		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CLSG:1001	Classical and New Testament Greek I <sup>a, b</sup>	5
		<b>Hours</b>
		<b>5</b>
<b>Spring</b>		
CLSG:1002	Classical and New Testament Greek II <sup>a</sup>	5
		<b>Hours</b>
		<b>5</b>
<b>Second Year</b>		
<b>Fall</b>		
CLSG:2001	Second-Year Greek I <sup>a</sup>	3
		<b>Hours</b>
		<b>3</b>
<b>Spring</b>		
CLSG:2002	Second-Year Greek II <sup>a</sup>	3
		<b>Hours</b>
		<b>3</b>

**Third Year****Fall**

Minor: Greek elective (prefix CLSG) numbered 3000-4999 or relevant advanced-level course taught in English <sup>c</sup>	3
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<b>Hours</b>	<b>3</b>
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**Spring**

Minor: Greek elective (prefix CLSG) numbered 3000-4999	3
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<b>Hours</b>	<b>3</b>
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<b>Total Hours</b>	<b>22</b>
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a Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

b This course is a prerequisite for the required minor courses.

c Students may substitute a maximum of 3 s.h. for the CLSG requirement with one relevant advanced-level course taught in English. See General Catalog or contact academic advisor for course list.

# Health and the Human Condition, Minor

The minor in health and the human condition is an interdisciplinary minor broadly focused on the intersection of the humanities (philosophy, ethics, history, and religion) and health sciences. Students who earn the minor gain an understanding of the medical field through three unique lenses: ethics and values, historical perspectives, and diversity/global perspectives.

The minor is administered by the Department of Classics and draws on courses from several units in the College of Liberal Arts and Sciences, including the Departments of Anthropology, History, Philosophy, Religious Studies, and Health and Human Physiology as well as the Global Health Studies and Aging and Longevity Studies Programs.

## Learning Outcomes

Students are expected to demonstrate:

- comprehension of the history and philosophy behind modern medicine and the human body; and
- familiarity with multicultural and temporal perceptions of healing, aging, and approaches to medicine.

## Requirements

The undergraduate minor in health and the human condition requires a minimum of 15 s.h., including at least 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

A maximum of 3 s.h. of work for another University of Iowa major, minor, or certificate may be counted toward the minor.

The minor is interdisciplinary. It is administered by the Department of Classics and draws on courses from several units in the College of Liberal Arts and Sciences.

The minor in health and the human condition requires the following coursework.

## Ethics and Values

These courses focus on moral and ethical issues in the medical field and health care, such as bioethics, patient autonomy, and the role of the state.

Code	Title	Hours
At least 3 s.h. from these:		
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:2402	Introduction to Ethics	3
PHIL:2415/ GHS:2415	Bioethics	3
RELS:2260/ GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3

## Historical Approaches

These courses focus on the treatment and understanding of health and disease from the ancient world to the 20th

century in order to contextualize students' understanding of the medical field today.

Code	Title	Hours
At least 3 s.h. from these:		
CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:3020/ GHS:3021	Mental Health in the Ancient World	3
HIST:3508/ GHS:3508/LAS:3508	Disease and Health in Latin American History	3
HIST:3162/ GHS:3162	History of Global Health	3
HIST:4203	Disability in American History	3
RELS:3580/ ANTH:3113/ ASIA:3561/ GHS:3113	Religion and Healing	3

## Diversity and Global Perspectives

These courses invite students to consider the contemporary cross-cultural intersections of privilege and marginalization as related to health care. These include issues of gender, sexuality, race, disability, aging, colonialism, and social class.

Code	Title	Hours
At least 9 s.h. from these:		
ANTH:2164/ GHS:2164	Culture and Healing: An Introduction to Medical Anthropology	3
ANTH:2181/ ASP:2181/ GHS:2181	The Anthropology of Aging	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
ASP:3740/ MED:3740/ NURS:3740	End-of-Life Care for Adults and Families	3
GHS:4003	Case Studies in Global Health Inequities	3
GHS:3060	Studies in Complementary and Alternative Medicine	3
GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
RELS:3431/ ASIA:3431/ GWSS:3131	Gender and Sexuality in East Asia	3
SSW:3786/ ASP:3786	Death/Dying: Issues Across the Life Span	3-4
WLLC:3105/ CLSA:3105/ GHS:3105/ GRMN:3105/ GWSS:3105	Contraception Across Time and Cultures	3



## Latin, Minor

A minor in Latin is an excellent way to pursue the study of Latin beyond the General Education World Languages courses and to explore an interest in reading famous authors and philosophers (Ovid, Cicero, and others) in their native language.

### Learning Outcomes

Students are expected to demonstrate:

- ability to read Latin at an intermediate to advanced level;
- knowledge of major literary works and written sources from the Roman world; and
- understanding of the impact that the political, intellectual, and social environments of the people from ancient Rome have on our own modern culture.

### Requirements

The undergraduate minor in Latin requires a minimum of 15 s.h. in Latin courses (prefix CLSL), including at least 12 s.h. in advanced courses numbered CLSL:2000 and above taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the minor.

Students who earn the minor in Latin may not earn the B.A. in classical languages; students who are interested in a minor in Greek at the same time as this minor should consider the minor in classical languages instead. Students who earn a minor in Latin may not earn a minor in classical languages.

The sequence CLSL:2001 World of Cicero and CLSL:2002 Golden Age of Roman Poetry, and Department of Classics courses numbered 3000 or above are considered advanced for the minor. Students may substitute a maximum of 3 s.h. for the CLSL requirement with one of the relevant advanced-level courses taught in English from the following.

Code	Title	Hours
CLSA:3240/ ANTH:3277	Roman Archaeology	3
CLSA:3514	Roman Religion and Society	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CLSA:3980	Teaching in the Classics	1,3
ARTH:3350/ CLSA:3232	Art of Early Rome: Patrons and Politics	3
ARTH:3360/ CLSA:3233	Art of the Ancient Roman Empire	3
ARTH:3370/ CLSA:3234	Life and Death in Ancient Pompeii	3
ENGL:3288/ CLSA:3288	Shakespeare's Romans: The Ancient World Meets the Elizabethan Stage	arr.
HIST:3448/ CLSA:3148	Barbarians and the Fall of Rome	3
HIST:4400/ CLSA:4400	The Roman Empire	3

HIST:4406/ CLSA:4106	Warfare in Ancient Mediterranean Society	3
TRNS:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3

Students who enter the University with prior competence in introductory Latin may substitute 3 s.h. of lower-level CLSL courses with CLSA:1020 Love and Glory: The Literature of Rome. Students who have taken high school Latin should consult the advisor.

### Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Latin, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students must complete a minimum of 15 s.h. in Latin courses (prefix CLSL), including at least 12 s.h. in advanced courses numbered 2000 or above taken at the University of Iowa. One advanced course in CLSA numbered 3000 or above may be counted toward the minor; see General Catalog for list of approved courses.		
A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate and up to 3 s.h. of lower-level transfer credit may be counted toward the Latin minor.		
Coursework in the Latin minor may not be taken pass/nonpass.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CLSL:1001	Elementary Latin I <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
CLSL:1002	Elementary Latin II <sup>a</sup>	5
<b>Hours</b>		<b>5</b>
<b>Second Year</b>		
<b>Fall</b>		
CLSL:2001	World of Cicero	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
CLSL:2002	Golden Age of Roman Poetry	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: Latin elective (prefix CLSL) numbered 3000 or above or relevant classics course (prefix CLSA) <sup>c</sup>		3
<b>Hours</b>		<b>3</b>

**Spring**

Minor: Latin elective (prefix CLSL) numbered 3000 or above or relevant classics course (prefix CLSA) <sup>c</sup>	<b>3</b>
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<b>Hours</b>	<b>3</b>
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<b>Total Hours</b>	<b>22</b>
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- a Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 3rd semester level of the language will begin coursework at that level and will not be required to take semesters 1-2 of the language.
- b This course is a prerequisite for the required minor courses.
- c Students may substitute a maximum of 3 s.h for the CLSL requirement with one relevant advanced-level course taught in English. See General Catalog or contact academic advisor for course list.

# Classics, Postbaccalaureate Certificate

This program is designed for students who have a B.A. but do not have sufficient skills in Latin and/or Greek to continue on in graduate school, seminary, or other programs that require multiple years of both languages. Students in the postbaccalaureate program take classes at the University of Iowa in areas that are appropriate for their long-term goals. The program is typically one year in length, but students may continue if deemed appropriate by the faculty.

## Learning Outcomes

Students are expected to demonstrate:

- intermediate to advanced comprehension of classical languages such as ancient Greek and Latin, and
- improvement in writing and communication skills for graduate school applications or other advanced studies focusing on the ancient world.

## Requirements

The Postbaccalaureate Certificate in Classics requires 18 s.h. in Department of Classics courses numbered 2000 or above. Students must maintain a g.p.a. of at least 3.00 to remain in good standing and complete the program.

The program is designed for students who have a bachelor's degree and would like further study in Greek and Latin in order to be competitive for admission to a graduate program in classics. Entry to most graduate programs requires study of both Latin and Greek, normally a minimum of three years in one language and two years in the other. The certificate is designed to be completed in two semesters by students who enter with two years of Latin and one to two years of Greek, or vice versa.

At least 12 s.h. of the required credit must be earned in Greek and Latin language courses; the remaining 6 s.h. may be earned in approved advanced courses taught in English (prefix CLSA). Transfer credit is not accepted toward the certificate.

A suggested plan of study for a student who enters the program with two years of Latin and one year of Greek is as follows.

Code	Title	Hours
<b>Fall</b>		
CLSA:4085	Postbaccalaureate Seminar	1
CLSG:2001	Second-Year Greek I	3
CLSL:3001	Latin Literature of the Republic I	3
CLSL:4076	Latin Composition	1
One elective with prefix CLSA, CLSG, or CLSL numbered 3000 or above		3
<b>Spring</b>		
CLSG:2002	Second-Year Greek II	3
CLSL:3002	Latin Literature of the Republic II	3
CLSL:4076	Latin Composition	1
<b>Total Hours</b>		<b>18</b>

A suggested plan of study for a student who enters the program with two years of Latin and two years of Greek is as follows.

Code	Title	Hours
<b>Fall</b>		
CLSA:4085	Postbaccalaureate Seminar	1
CLSG:3001	Archaic and Classical Periods I	3
CLSG:4076	Greek Composition	1
or CLSL:4076	Latin Composition	
CLSL:3001	Latin Literature of the Republic I	3
One elective with prefix CLSA, CLSG, or CLSL numbered 3000 or above		3
<b>Spring</b>		
CLSG:3002	Archaic and Classical Periods II	3
CLSG:4076	Greek Composition	1
or CLSL:4076	Latin Composition	
CLSL:3002	Latin Literature of the Republic II	3
<b>Total Hours</b>		<b>18</b>

Students who complete the program successfully receive a certificate from the College of Liberal Arts and Sciences and a letter from the Department of Classics.

## Admission

Applicants must have a baccalaureate degree from an accredited college or university and a minimum of two years of language study (two years of Latin or two years of Greek, or one year of each). In unusual circumstances, students with less language preparation may be admitted.

Applicants who are not enrolled in a graduate or professional program may apply to the University of Iowa as undergraduate transfer students; they must state on their application that they are applying to the College of Liberal Arts and Sciences for admission to the classics postbaccalaureate certificate program. They must submit transcripts confirming preparation for certificate language study, a statement of purpose, scores on the Graduate Record Examination (GRE) General Test, a writing sample, and three letters of recommendation from faculty members at their baccalaureate institution.

## Classics, M.A.

The master's degree in classics is intended for students who wish to advance their understanding of ancient Mediterranean languages, literatures, and cultures. Although it is primarily intended for students who wish to teach classics—Greek, Latin, mythology, Mediterranean archaeology, ancient philosophy, and classical literature—at the high school level or continue on to a Ph.D. program, many students bring their advanced education to such careers as law, counseling, publishing, library science, grant writing, nonprofit organizations, and university administration.

### Learning Outcomes

Students are expected to demonstrate:

- understanding of advanced Greek and Latin vocabulary and grammar;
- broad knowledge of ancient Greek and Latin literature;
- comprehension of ancient Mediterranean states, geography, and history;
- synthesis of the interplay between economics and trade, politics, warfare, class, race, ethnicity, gender, and rhetoric; and
- application of ancient concepts to modern problems.

### Requirements

The Master of Arts program in classics requires a minimum of 30 s.h. in courses numbered 3000 or above. Students may count a maximum of 12 s.h. earned in courses numbered 3000-4999 toward the degree. They must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students must pass a sight examination in the language(s) studied and an examination on literature and history.

Courses taken to complete the Postbaccalaureate Certificate in Classics do not count toward the degree.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Academic Plans

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Classics, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.<sup>a</sup>

Students pursuing the master's degree in Classics who have had no Greek or Latin must include at least elementary Greek or Latin in their programs. Additionally, students must complete either Greek Composition or Advanced Latin Composition.<sup>b</sup>

Hours		0
<b>First Year</b>		
<b>Fall</b>		
CLSL:4076	Latin Composition	1
or CLSG:4076	or Greek Composition	
CLSG:5001	Greek Survey I: Archaic to Classical Literature	3
Departmental Seminar <sup>c</sup>		3
Departmental Seminar <sup>c</sup>		3
Hours		10
<b>Spring</b>		
Sight-reading exam in Greek and Latin		
CLSG:4076	Greek Composition	1
or CLSL:4076	or Latin Composition	
CLSG:5002	Greek Survey II: Hellenistic to Late Antique Literature	3
CLSA:5010	Proseminar in Classics	1
Departmental Seminar <sup>c</sup>		3
Hours		8
<b>Second Year</b>		
<b>Fall</b>		
CLSL:5001	Latin Survey I: Republican Literature	3
Departmental Seminar <sup>c</sup>		3
Hours		6
<b>Spring</b>		
CLSL:5002	Latin Survey II: Imperial to Late Antique Literature	3
Departmental Seminar <sup>c</sup>		3
Final Exam <sup>d</sup>		3
Hours		6
Total Hours		30

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b This requirement may be satisfied by examination. A sight-reading examination in both languages must be taken before the final written comprehensive examination.

c Choose from CLSG or CLSL courses numbered 6011-6014, or CLSA:6100.

d Written comprehensive examination on Greek and Latin (Roman) history and literature.

## Greek, M.A.

The master's degree program in Greek is intended for students who wish to teach Greek language, literature, and history at the high school level. It also is intended for those who wish to transfer to another institution for Ph.D. work.

### Learning Outcomes

Students are expected to demonstrate:

- understanding of advanced Greek vocabulary and grammar;
- broad knowledge of ancient Greek literature;
- comprehension of ancient Greek history, material culture, and cultural cohesion, differentiation, and development over time; and
- application of a knowledge of Greek language and culture to modern educational and civic issues.

### Requirements

The Master of Arts program in Greek requires a minimum of 30 s.h. in courses numbered 3000 or above. Students may count a maximum of 12 s.h. earned in courses numbered 3000-4999 toward the degree. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students must pass a sight examination in Greek and an examination on Greek literature and history.

Courses taken to complete the Postbaccalaureate Certificate in Classics do not count toward the degree.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Academic Plans

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Greek, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Students pursuing the master's degree in Greek who have had no Latin are expected to include it in their programs. Additionally, students must complete Greek Composition. <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CLSG:4076	Greek Composition	1

CLSG:5001	Greek Survey I: Archaic to Classical Literature	3
Departmental Seminar <sup>c</sup>		3
Departmental Seminar <sup>c</sup>		3
<b>Hours</b>		<b>10</b>

#### Spring

Sight-reading exam in Greek		
CLSG:4076	Greek Composition	1
CLSG:5002	Greek Survey II: Hellenistic to Late Antique Literature	3
CLSA:5010	Proseminar in Classics	1
Departmental Seminar <sup>c</sup>		3
<b>Hours</b>		<b>8</b>

#### Second Year

##### Fall

Departmental Seminar <sup>c</sup>		3
Departmental Seminar <sup>c</sup>		3
<b>Hours</b>		<b>6</b>

##### Spring

Departmental Seminar <sup>c</sup>		3
Departmental Seminar <sup>c</sup>		3
Final Exam <sup>d</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>30</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b This requirement may also be satisfied by examination. A sight-reading examination in the major language must be taken before the final written comprehensive examination.

c Choose from CLSA:6100, CLSG:6011, CLSG:6012, CLSG:6013, CLSG:6014.

d Written comprehensive examination on Greek history and literature.

## Latin, M.A.

The master's degree program in Latin is intended for students who wish to teach Latin language, literature, and Roman history at the high school level. It also is intended for those who wish to transfer to another institution for Ph.D. work.

### Learning Outcomes

Students are expected to demonstrate:

- understanding of advanced Latin vocabulary and grammar;
- broad knowledge of ancient Latin literature;
- comprehension of ancient Roman and Italian history, material culture, and cultural cohesion, differentiation, and development over time; and
- application of a knowledge of Latin language and Roman culture to modern educational and civic issues.

### Requirements

The Master of Arts program in Latin requires a minimum of 30 s.h. in courses numbered 3000 or above. Students may count a maximum of 12 s.h. earned in courses numbered 3000-4999 toward the degree. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students must pass a sight examination in Latin and an examination on Roman literature and history.

Courses taken to complete the Postbaccalaureate Certificate in Classics do not count toward the degree.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Latin, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Students pursuing the master's degree in Latin who have had no Greek are expected to include it in their programs. Additionally, students must complete Latin Composition. <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CLSL:4076	Latin Composition	1

CLSL:5001	Latin Survey I: Republican Literature	3
Departmental Seminar <sup>c</sup>		3
Departmental Seminar <sup>c</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
Sight-reading exam in Latin		
CLSL:4076	Latin Composition	1
CLSL:5002	Latin Survey II: Imperial to Late Antique Literature	3
CLSA:5010	Proseminar in Classics	1
Departmental Seminar <sup>c</sup>		3
<b>Hours</b>		<b>8</b>
<b>Second Year</b>		
<b>Fall</b>		
Departmental Seminar <sup>c</sup>		3
Departmental Seminar <sup>c</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
Departmental Seminar <sup>c</sup>		3
Departmental Seminar <sup>c</sup>		3
Final Exam <sup>d</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>30</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b This requirement may also be satisfied by examination. A sight-reading examination in the major language must be taken before the final written comprehensive examination.

c Choose from CLSA:6100, CLSL:6011, CLSL:6012, CLSL:6013, CLSL:6014.

d Written comprehensive examination on Latin history and literature.

## Classics, Ph.D.

The Ph.D. program in classics is intended for students who wish to pursue original research in the wide-ranging field of classics—Greek, Latin, Semitic languages, ancient Mediterranean religions and mythology, Mediterranean archaeology, ancient philosophy, and classical literature from Homer to Plato to the Bible to the Church fathers. Students also are trained to teach languages and literature at the university level. Many students bring their advanced education to such careers as law, counseling, publishing, library science, grant writing, nonprofit organizations, and university administration.

### Learning Outcomes

Students are expected to demonstrate many, if not all of the following:

- understanding of the vocabulary and grammar of the classical languages they have chosen to study (e.g., Greek, Latin, Hebrew, Aramaic, Syriac, Coptic) at an advanced level;
- broad knowledge of the ancient literature corresponding to their chosen languages of study;
- application of ancient concepts learned to modern problems;
- ability to conduct original research in various subjects within the field of classics;
- ability to conduct archaeological field research and teach it at the university level;
- facility with the writing skills necessary to publish articles and critical research volumes at the peer-review level, as well as popular articles in trade books, magazines, newspapers, and online publications; and
- facility with the public-speaking skills necessary to present research both in professional academic settings and in popular, public venues.

### Requirements

The Doctor of Philosophy program in classics requires a minimum of 72 s.h. of graduate credit, including the courses listed below (16 s.h.). Students may count no more than 12 s.h. earned in courses numbered 3000-4999 toward the degree. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students also must take precomprehensive and comprehensive examinations and write a dissertation.

Courses taken to complete the Postbaccalaureate Certificate in Classics do not count toward the degree.

### Required Courses

Code	Title	Hours
All of these:		
CLSG:4076	Greek Composition (taken twice in consecutive semesters)	2
CLSG:5001	Greek Survey I: Archaic to Classical Literature	3
CLSG:5002	Greek Survey II: Hellenistic to Late Antique Literature	3

CLSL:4076	Latin Composition (taken twice in consecutive semesters)	2
CLSL:5001	Latin Survey I: Republican Literature	3
CLSL:5002	Latin Survey II: Imperial to Late Antique Literature	3

The remaining coursework is made up of Department of Classics courses and other courses with approval of the graduate advisor.

### Ph.D. Examinations

Ph.D. students must take the foundations exam at the end of their first year. The remaining exams may be taken in any sequence during years two to four. Students must file a request for the fourth-year comprehensive exam at least three weeks before the date of the third and final field exam to be taken. Competence in reading two scholarly languages, such as French, German, or Italian, must be demonstrated by the end of the fourth year of study.

### Foundations Exam

The foundations exam is based on a set reading list of broad themes in ancient Mediterranean history, literature, and culture. It consists entirely of take-home and open-book essay questions, which students have two weeks to complete.

### Translation Exams

Students take two translation exams in either Greek, Latin, Hebrew/Aramaic, Coptic, or Syriac. Translation exams are scheduled on an individual basis, either one or two per semester, and are based on a set reading list. They are four hours each and taken in the department with dictionary access.

### Field Exams

Students take three field exams in either Greek literature, Latin literature, biblical studies, early Christianity, Mediterranean history, Mediterranean archaeology, or ancient world digital humanities. Field exams are scheduled on an individual basis, either one or two per semester, and are based on a set reading list. They consist entirely of take-home and open-book essay questions, which students have two weeks to complete.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Career Advancement

The University of Iowa's classics program is recognized for the excellent program it offers for graduate study in classics. A large proportion of its students pursue advanced degrees and most go on to teach at the college level.

### Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Classics, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits from an accredited institution allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Competence in reading two scholarly languages, such as French, German, or Italian must be demonstrated by the end of the fourth year of study. <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CLSG:4076	Greek Composition <sup>c</sup>	1
CLSG:5001	Greek Survey I: Archaic to Classical Literature	3
Departmental Seminar <sup>d</sup>		3
Departmental Seminar <sup>d</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
CLSG:4076	Greek Composition <sup>c</sup>	1
CLSG:5002	Greek Survey II: Hellenistic to Late Antique Literature	3
Departmental Seminar <sup>d</sup>		3
Departmental Seminar <sup>d</sup>		3
Foundations Exam <sup>e</sup>		
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Field Exams <sup>f</sup>		
Translation Exams <sup>g</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CLSL:4076	Latin Composition <sup>c</sup>	1
CLSL:5001	Latin Survey I: Republican Literature	3
Departmental Seminar <sup>d</sup>		3
Departmental Seminar <sup>d</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
CLSL:4076	Latin Composition <sup>c</sup>	1
CLSL:5002	Latin Survey II: Imperial to Late Antique Literature	3
Departmental Seminar <sup>d</sup>		3
Departmental Seminar <sup>d</sup>		3
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Field Exams <sup>f</sup>		
Translation Exams <sup>g</sup>		
<b>Hours</b>		<b>0</b>

<b>Fall</b>		
Departmental Seminar <sup>d</sup>		3
Departmental Seminar <sup>d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
Departmental Seminar <sup>d</sup>		3
Departmental Seminar <sup>d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
Field Exams <sup>f</sup>		
Translation Exams <sup>g</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Departmental Seminar <sup>d</sup>		3
Departmental Seminar <sup>d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
Departmental Seminar <sup>d</sup>		3
Departmental Seminar <sup>d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Fifth Year</b>		
<b>Fall</b>		
Prospectus Defense		
CLSG:7080 or CLSL:7080	Greek Thesis or Latin Thesis	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
CLSL:7080 or CLSG:7080	Latin Thesis or Greek Thesis	4
Final Exam <sup>h</sup>		
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Other modern languages may be substituted with the approval of the student's faculty advisor and the department chair.

c Taken twice in consecutive semesters.

d Choose from CLSG or CLSL courses numbered 6011-6014, or CLSA:6100.

e Taken at the end of the first year, the foundations exam is a set reading list of broad themes exams in ancient Mediterranean history, literature, and culture. It consists entirely of take-home and open-book essay questions, which students have two weeks to complete.

f Students take three field exams in either Greek literature, Latin literature, biblical studies, early Christianity, Mediterranean history, Mediterranean archaeology, or ancient world digital humanities. Field exams are scheduled on an individual basis, either one or two per semester, and are based on a set reading list. They consist entirely of take-home and open-book essay questions, which students have two weeks to complete.

g Students take two translation exams in either Greek, Latin, Hebrew/Aramaic, Coptic, or Syriac. Translation exams are scheduled on an individual basis, either one or two per semester, and are based on a set reading list. They are four



hours each and taken in the department with dictionary access.  
h Dissertation defense.

# Communication Sciences and Disorders

## Interim Chair

- Anu Subramanian

**Undergraduate major:** speech and hearing science (B.A.)

**Undergraduate minor:** communication sciences and disorders

**Graduate degrees:** M.A. in speech pathology and audiology; Au.D.; Ph.D. in speech and hearing science

**Faculty:** <https://csd.uiowa.edu/people>

**Website:** <https://csd.uiowa.edu>

The courses and degree programs of the Department of Communication Sciences and Disorders are designed to meet the needs of students preparing for careers in clinical service, college and university teaching, and research concerned with speech, language and/or hearing processes and disorders. The department also offers courses for students with vocational and professional goals in other fields—for example, engineering, psychology, education, speech, theatre arts, dentistry, and medicine—whose preparation may be enriched by the study of speech and hearing processes and their disorders.

Advanced degree holders in communication sciences and disorders provide clinical services for people with speech, hearing, or language problems in hospitals, community clinics, rehabilitation facilities, elementary and secondary schools, and private practice. They teach in colleges and universities and conduct research in laboratories concerned with communication processes and disorders.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Speech and Hearing Science (Bachelor of Arts) [p. 288]

#### Minor

- Minor in Communication Sciences and Disorders [p. 292]

### Graduate Programs of Study

#### Majors

- Master of Arts in Speech Pathology and Audiology [p. 293]
- Doctor of Audiology [p. 295]
- Doctor of Philosophy in Speech and Hearing Science [p. 297]

## Facilities

### Clinical Facilities

The clinical training program benefits greatly from Iowa City's standing as the most comprehensive health sciences center in Iowa and from the ready availability of health service facilities

for clinical training of students in speech-language pathology and audiology.

The University of Iowa Affiliated Speech and Hearing Services include the Wendell Johnson Speech and Hearing Clinic; the division of speech and hearing in University of Iowa Hospitals & Clinics (UIHC) Department of Otolaryngology—Head and Neck Surgery; UIHC Consolidated Speech and Swallowing Services, which provides services to the Departments of Neurology and Otolaryngology—Head and Neck Surgery; child psychiatry speech and hearing services in the Center for Disabilities and Development; and the audiology and speech pathology service in the VA Iowa City Health Care.

The Wendell Johnson Speech and Hearing Clinic serves the University and the general public. Included in its services are outpatient evaluation and rehabilitation programs for speech, voice, swallowing, hearing, language problems, and a full range of audiological services that include diagnostic and rehabilitative services. Intensive therapeutic summer programs for children and a variety of clinical programs provide students with supervised clinical experience with a wide variety of speech, hearing, and language disorders.

In addition to the clinical training in the Wendell Johnson Speech and Hearing Clinic, training also may be acquired in supervised clinical practice with elementary school children through various state education agencies and in supervised clinical practice in speech, language, and hearing services provided by University of Iowa Hospitals & Clinics Consolidated Speech and Swallowing Services, the Regional Child Health Specialty Clinics, Center for Disabilities and Development, and the VA Iowa City Health Care.

Public and private departments and programs in addition to those mentioned above often contribute to the cooperative professional training, research, and service programs.

### Research Facilities

The Wendell Johnson Speech and Hearing Center includes faculty offices, an anechoic chamber, research lab space for individual faculty members, classrooms, and shared lab space used for teaching. It also serves as the home for the Wendell Johnson Speech and Hearing Clinic. Research spaces are equipped with sound booths, computer labs, and a wide variety of equipment used for acoustic, physiologic, and perceptual studies of hearing, balance, speech, voice, language, and swallowing. The Wendell Johnson Speech and Hearing Clinic is a full-service training clinic that is equipped to serve individuals of all ages with speech, language, and hearing concerns. These facilities include multiple fully equipped audiometric testing suites and suites used for diagnosis and evaluation of individuals with speech, language, swallowing, hearing, and balance concerns. Video recording equipment is available, as are rooms designed specifically to allow for group instruction.

Collaboration with departments in the Carver College of Medicine, the Department of Psychological and Brain Sciences, and the University of Iowa DeLTA Center makes additional laboratory facilities available for research on problems in speech and hearing. The participation and cooperation of specialists from varied fields, including psychology, child development, education, engineering, statistics, and medicine, further broaden the scope of research activities in speech, language, and hearing.

## Courses

### Communication Sciences and Disorders Courses

- CSD:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- CSD:1015 Introduction to Speech and Hearing Processes and Disorders** 2 s.h.  
Introduction to communication sciences and disorders field; clinical and research works; wide range of readings; survey course with less emphasis on specific disorders.
- CSD:1200 Intellectual and Developmental Disabilities** 3 s.h.  
Introduction and overview of issues pertaining to children and adults with intellectual or developmental disabilities (IDD); focus on their communication needs, relationship with the broader community, and careers which serve this population; interaction with individuals with IDD, their family members, professionals; lifespan and health issues, genetics, diagnosis, literacy, historical perspectives, adaptive arts and theater, disabilities in the media, social life and sexuality, issues specifically relevant to aging, and controversial topics. GE: Diversity and Inclusion.
- CSD:1800 Aging Matters: Introduction to Gerontology** 3 s.h.  
Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, NURS:1800, SSW:1800, TR:1800.
- CSD:2110 Phonetics: Theory and Applications** 3 s.h.  
Basic concepts: articulatory and acoustic description of speech sound production, dialect variations, and language differences; development of phonetic transcription skills with emphasis on English phonetics and clinical applications to developing and disordered speech.
- CSD:2111 Basic Acoustics for Speech and Hearing** 3 s.h.  
Principles of sound, simple harmonic motion, sound pressure and intensity, decibels, complex waves, Fourier analysis, resonance and filters, distortion, transmission of sound. Requirements: completion of departmental math requirement (MATH:1440 or MATH:1460 or MATH:1850).
- CSD:2140 Manual Communication** 1 s.h.  
Training in use of sign systems in manual communication.
- CSD:3097 Honors Seminar** 2 s.h.  
Research topics and procedures in speech and hearing sciences; ongoing faculty research, research opportunities, possible research projects. Requirements: honors standing with intent to complete an honors thesis.
- CSD:3112 Anatomy and Physiology of Speech Production** 4 s.h.  
Normal anatomy and physiology of structures used to produce speech; principles and methods for instrumental study of speech production.
- CSD:3113 Introduction to Hearing Science** 4 s.h.  
Normal auditory process; anatomy and physiology of auditory system; subjective correlates of auditory stimuli.
- CSD:3116 Basic Neuroscience for Speech and Hearing** 3 s.h.  
Basic anatomy, physiology of central nervous system; emphasis on neural systems involved in normal and disordered communication. Offered fall semesters. Requirements: biology, zoology, or physiology course. Same as LING:3116.
- CSD:3117 Psychology of Language** 3 s.h.  
Introduction to scientific study of language use; language approached from a multidisciplinary perspective, integrating theories and methods of psycholinguistics, neuropsychology, and communication sciences and disorders. GE: Social Sciences. Same as LING:3117.
- CSD:3118 Language Acquisition** 1-3 s.h.  
Models of children's language acquisition; child language/communication development from infancy through school age, in context of current developmental research. Requirements: for CSD:3118—LING:3001 and PSY:1001; for LING:3118—LING:3001 or LING:3117. GE: Social Sciences. Same as LING:3118.
- CSD:3119 Interdisciplinary Science of Sound and Hearing** 3 s.h.  
Introduction to physics of sound, biology/psychology of hearing, and audio technology; theories and experimental methods; music, speech, and environmental sounds. Same as MUS:3055, PSY:3055.
- CSD:3185 Hearing Loss and Audiometry** 3 s.h.  
Introduction to profession of audiology; overview of hearing disorders, evaluation, and treatment; basic pure-tone and speech audiometry.
- CSD:3187 Early Literacy Instruction for Young Children** 3 s.h.  
Service-learning involving lecture, class discussion, and student participation in an early literacy program for preschoolers; concepts and skills necessary to conduct story time groups with young children that target development of print knowledge; application of learning by reading to small groups of preschool children. Recommendations: CSD:3118. Same as EDTL:3187.
- CSD:3993 Research Practicum** arr.  
Individual or small group participation in faculty research projects.
- CSD:4029 Experiential Learning in Audiology** 1 s.h.  
Students build a foundation of skills to develop in advanced degree program; for students interested in obtaining an Au.D. or learning more about audiology. Prerequisites: CSD:3185. Requirements: third- or fourth-year standing.
- CSD:4098 Honors Thesis** 1-3 s.h.  
Close work with a faculty mentor.
- CSD:4114 Introduction to Voice Disorders** 2 s.h.  
Basic foundations for management of voice disorders. Prerequisites: CSD:3112.
- CSD:4115 Structural Disorders** 2 s.h.  
Therapy approaches used to treat speech production and swallowing disorders associated with disorders that affect structure and physiology of the speech and swallowing mechanism; basic knowledge necessary for clinical practice by clinicians who do not specialize in management of patients with head and neck cancer, cleft palate, or neurological disorders.

- CSD:4120 Introduction to Clinical Methods and Observation** 3 s.h.  
Observation of the diagnosis and treatment of a wide range of speech, language, or hearing disorders in a variety of settings; basic understanding of evaluation process, goal setting, behavior management, pacing of therapy, shaping of behavior, tracking performance/learning, and professional and ethical behavior through observation of clinical interactions; completion of 25 hours of observation as required by the American Speech-Language-Hearing Association for obtaining national certification. Prerequisites: CSD:4145. Recommendations: senior or graduate standing in communication sciences and disorders.
- CSD:4130 Diversity, Equity, and Inclusion in Communication Sciences and Disorders** 1 s.h.  
Discussion of diversity, equity, and inclusion in communication sciences and disorders field; historical perspectives as related to current practices. Recommendations: graduate standing in speech language pathology, or junior or senior standing in speech language pathology or audiology.
- CSD:4145 Developmental Language Disorders** 3 s.h.  
Nature of developmental disorders; basic concepts including behavioral characteristics, developmental patterns, and etiology theories; assessment and intervention principles in semantics, morphology, and syntax.
- CSD:4148 Developmental Speech Disorders** 3 s.h.  
Review of typical phonological development in children; introduction to assessment and intervention practices for articulation and phonological disorders in children; may include apraxia, cerebral palsy, and cleft palate.
- CSD:4165 Communication Disorders and Aging** 1-2 s.h.  
Introduction to speech, language, and hearing processes and disorders among older adults; survey of characteristics of communication and communication breakdown, remediation, and strategies for improving communication with older adults with communication disorders; primarily for majors and other health care service providers. Same as ASP:4165.
- CSD:4183 Introduction to Stuttering** 2 s.h.  
Theoretical perspectives on the nature of stuttering including onset and development, basic phenomena, and beginning treatment principles.
- CSD:4186 Problems: Speech/Hearing Processes and Disorders** arr.  
Independent readings or research experience through mutual arrangement between student and faculty; goals and requirements determined by participating faculty member.
- CSD:4244 Rehabilitative Audiology** 3 s.h.  
Theory, procedures for assessment, and rehabilitation of speech, hearing, and language deficits of people with hearing impairment.
- CSD:5104 Language Disorders in School-Aged Children** 3 s.h.  
Emphasis on elementary grades; usually taken in conjunction with ECTL:4192, which provides approximately 70 hours of supervised clinical practice in elementary schools. Recommendations: primarily for communication sciences and disorders majors. Same as ECTL:5104.
- CSD:5135 Foundations of Clinical Practice I** 2 s.h.  
Basic concepts of clinical practice including models of diagnosis, fundamentals of clinical data collection and measurement, treatment planning, and professional writing. Corequisites: CSD:4145.
- CSD:5136 Foundations of Clinical Practice II** 1 s.h.  
Advanced concepts of clinical practice including professionalism, clinical decision making, developing client-clinician alliance, examining biases and prejudices in clinical practice, and developing empathy.
- CSD:5137 Foundations of Clinical Practice III** 1 s.h.  
Advanced principles of clinical practice including risk management, public policy, and models of third-party reimbursement; professional issues.
- CSD:5146 Neurogenic Disorders of Language** 3 s.h.  
Overview of communication disorders secondary to acquired brain damage in adults; focus on aphasia, communication disorders arising from dementia, right-hemisphere stroke, traumatic brain injuries; general principles of diagnosis and intervention.
- CSD:5203 Counseling in Communication Disorders** 1 s.h.  
Development of appropriate intervention plans that meet client/patient needs in collaboration with client/patient and relevant others; communicating effectively and recognizing needs, values, preferred mode of communication, and cultural linguistic background of client/patient, family, caregivers, relevant others; providing counseling to clients/patients, family, and caregivers regarding communication and swallowing disorders.
- CSD:5213 Voice Habilitation** 2 s.h.  
Application of methods of intervention in development, training, rehabilitation of vocal behavior; motor learning, efficacy of treatment strategies, factors affecting compliance with recommended therapy. Offered fall semesters. Prerequisites: CSD:3112 and CSD:4114. Same as MUS:5555.
- CSD:5219 Fundamentals of Laboratory Instrumentation** 2 s.h.  
Introduction to instrumentation commonly used in research in speech and hearing sciences; basic audiometric calibration.
- CSD:5222 Gross Anatomy of Speech/Voice Production** 2 s.h.  
Anatomy of speech and hearing mechanisms; instruction in dissection techniques; laboratory.
- CSD:5223 Pediatric Feeding and Swallowing Disorders** 1 s.h.  
Development of anatomy and physiology of feeding and swallowing in infants and children; assessment and treatment of pediatric feeding and swallowing disorders. Prerequisites: CSD:4115.
- CSD:5224 System and Signal Theory for Speech and Hearing Science** 3 s.h.  
Introduction to signals and systems with emphasis on their relevance to the fields of audiology and speech-language pathology. Requirements: introductory calculus.
- CSD:5233 Aphasia** 2 s.h.  
Assessment, diagnosis, and treatment of aphasia and other acquired language and cognition-based communication disorders. Corequisites: CSD:5136. Requirements: CSD:5146 or a course that provides an overview of acquired language disorders.
- CSD:5234 Acquired Cognitive-Communication Disorders** arr.  
Cognitive, neuropsychological, and social aspects of communication and the management of acquired cognitive-communication disorders associated with traumatic brain injury, right hemisphere damage, and neurodegenerative diseases.

- CSD:5236 Neurogenic Disorders of Speech and Swallowing** 3 s.h.  
Provides future speech-pathologists with a strong foundation for career-long learning about the nature and classification of neurogenic motor-speech and swallowing disorders, symptomatology, etiology, diagnosis, treatment, and management options.
- CSD:5237 Cleft Palate and Related Disorders** 1-2 s.h.  
Nature, etiologies, and principles of treatment of common disorders associated with cleft lip and palate, associated disorders.
- CSD:5240 Hearing Aids I** 3 s.h.  
Hearing aids and diagnostic procedures; laboratory emphasis on measurement procedures.
- CSD:5246 Advanced Audiology** 3 s.h.  
Theory and procedures for assessment of hearing loss in adult and pediatric populations; experience in test administration through supervised laboratory sessions.
- CSD:5253 Speech Perception in Listeners with Hearing Loss** 1-2 s.h.  
Introduction to study of speech perception in listeners with normal hearing and those with hearing loss; overview of speech acoustics; theories of speech perception; contributions of auditory, visual, and indexical (talker-specific) information in speech signal; assessment techniques; benefits of hearing aid and/or cochlear implant use; factors influencing speech perception by children and adults with hearing loss.
- CSD:5255 Educational Audiology** 2 s.h.  
Training in skills necessary for working with school-age population; case management and aural rehabilitation, amplification and classroom hearing technology, identification and assessment practices, federal legislation that affects services. Requirements: CSD:5240 for Au.D. students.
- CSD:5256 Anatomy and Physiology of Hearing** 3-4 s.h.  
Anatomy of auditory system, cochlear mechanics, and electrophysiology of peripheral and central auditory nervous system; laboratory emphasis on physiological techniques for study of ear.
- CSD:5258 Multilingualism and Culturally Responsive Practice in Communication Sciences and Disorders** 3 s.h.  
Trajectories of multilingual language acquisition in typical contexts and in context of communication disorders; connections between language, cognition, culture, and cultural-linguistic experiences to develop and apply culturally responsive speech and language assessment and intervention skills in context of cultural and linguistic diversity.
- CSD:5260 Augmentative and Alternative Communication** 2 s.h.  
Theories, assessment, and intervention in augmentative and alternative communication (AAC) for individuals with severe communication disorders resulting from a variety of developmental and acquired conditions.
- CSD:5282 Phonological Development and Disorders** 2 s.h.  
Advanced topics in phonological development and disorders; current theoretical approaches to phonological analysis and typical phonological acquisition applied to assessment and intervention with children who have phonological disorders.
- CSD:5283 Clinical Problems** 1-2 s.h.  
Issues and approaches to treatment of children and adults.
- CSD:5284 Advanced Fluency Disorders** 2 s.h.  
Fluency disorders and treatment approaches for children and adults.
- CSD:5301 Practicum: Speech-Language Pathology** arr.  
Supervised clinical practice. Corequisites: CSD:5135. Requirements: M.A. professional emphasis.
- CSD:5304 Speech Pathology Outplacement: School** 0-4 s.h.  
Supervised teaching and observation in speech-language pathology in an elementary school setting.
- CSD:5305 Speech Pathology Outplacement: Non-School** 0-4 s.h.  
Supervised clinical work and observation in speech-language pathology in a non-school setting.
- CSD:5310 Scientific Writing** 2 s.h.  
Principles of writing for scientific posters, journal articles, grant proposals; effective communication of concepts and data. Requirements: Ph.D. standing.
- CSD:5311 Advanced Clinical Topics in Audiology** 2 s.h.  
Variety of professional issues important to clinical practice; incorporates professional and community engagement as well as service learning; topics directly related to clinical work and covered by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.
- CSD:5313 Accounting and Marketing in Audiology Business Practice** 2 s.h.  
Introduction to business aspects of developing and managing an audiology practice related to accounting and marketing; varied professional issues important to clinical practice; topics covered by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.
- CSD:5314 Audiology Student Teaching** arr.  
Supervised teaching and observation in an area of audiology in the elementary schools. Corequisites: CSD:5315. Requirements: Au.D. first-, second-, or third-year enrollment.
- CSD:5315 Clinical Rotations in Audiology** arr.  
Supervised clinical practice in audiology. Corequisites: CSD:5311. Requirements: Au.D. first-, second-, or third-year enrollment.
- CSD:5316 Professional, Ethical, and Legal Issues in Audiology Business Practice** 2 s.h.  
Introduction to business aspects of developing and managing an audiology practice related to professional liability, certification, and licensure; legal and ethical issues in business practice; varied professional issues important to clinical practice; topics directly related to clinical work and covered by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.
- CSD:5317 Compliance, Billing, Coding, and Reimbursement in Audiology Business Practice** 1 s.h.  
Introduction to business aspects of developing and managing an audiology practice related to compliance, billing, coding, and reimbursement; varied professional issues important to clinical practice; topics covered by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.

**CSD:5320 Applied Statistics and Principles of Evidence-Based Practice in Audiology** 3 s.h.

Combination of applied statistics and principles of evidence-based clinical practice with emphasis on applications in audiology and hearing science; review of statistical techniques widely used in audiology research including nonparametric and descriptive statistics, correlation, regression, and ANOVA; examples taken from studies published in scientific journals in communication sciences and disorders; principles of evidence-based practice that focus on topics and methods of establishing treatment efficacy, meta analyses, levels of evidence, and methods of assessing research quality. Requirements: introductory course in statistics.

**CSD:5350 Seminar in Supervision** 1 s.h.

Process and procedures in clinical education and supervision in a graduate program.

**CSD:5511 Introduction to Doctoral Research** 1 s.h.

Topics related to development and execution of research; doctoral program, use of library, human and animal subject issues, philosophy of science, use of common research tools, reading and writing research papers, and research grant preparation.

**CSD:6101 Cognitive Science of Language Proseminar I** 3 s.h.

Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as LING:6101, PSY:6101.

**CSD:6102 Cognitive Science of Language Proseminar II** 3 s.h.

Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as LING:6102, PSY:6102.

**CSD:6202 Vocal Pedagogy** 3 s.h.

History of voice pedagogy, various pedagogical techniques of voice training, vocal anatomy, voice classification, critical listening, postural alignment, managing breath, tonal production, connecting registers, articulation, interpretation, vocal health, pharmacological effects on the voice, vocal gadgets, requirements for a professional career, teaching in the 21st century, and teaching practicum; diagnosis and correction of vocal faults. Same as MUS:6520.

**CSD:6230 Psychoacoustics** 2-3 s.h.

Basic properties of auditory perception or psychoacoustics from material covered in CSD:5256; perception of loudness, masking frequency selectivity, temporal processing, and spatial perception; basic perceptual properties, methods of measurement, and physiological basis for performance; properties of perception in normal ears, hearing impairment, and auditory prostheses (e.g., cochlear implants).

**CSD:6242 Hearing Aids II** 2 s.h.

Evaluation and verification procedures; emphasis on advanced technologies and strategies.

**CSD:6245 Pediatric Audiology** 1,3 s.h.

Theory and procedures for assessment and rehabilitation of pediatric populations; laboratory emphasis on test administration.

**CSD:6247 Medical Audiology** 2 s.h.

Review of a wide range of pathologic conditions that have an impact on hearing; focus on understanding the underlying pathophysiology and how the disorder is diagnosed and treated.

**CSD:6249 Cochlear Implants** 1-3 s.h.

Introduction to cochlear implants; history of cochlear implantation, introduction to cochlear implant technology, basics of device programming and troubleshooting, candidacy issues, outcomes in children and adults; auditory rehabilitation specific to cochlear implant recipients.

**CSD:6290 Auditory Evoked Potentials** 3 s.h.

Introduction to the wide range of electrophysiologic measures of auditory function used in clinical practice.

**CSD:6291 Vestibular Assessment** 2 s.h.

Introduction to vestibular anatomy, physiology theory, and testing techniques.

**CSD:6292 Advanced Rehabilitative Audiology** 1-2 s.h.

Current and developing procedures for assessment and habilitation of adults and children with hearing losses.

**CSD:6293 Vestibular Rehabilitation** 2 s.h.

Introduction to vestibular management and rehabilitation.

**CSD:6311 Professional Issues in Audiology** 1 s.h.

Information on a variety of professional issues important to clinical practice; topics directly related to clinical work; written assignments required as a means for students to reflect on and share clinical experiences related to topics. Corequisites: CSD:6316. Requirements: M.A. professional emphasis or Au.D. fourth-year enrollment.

**CSD:6312 Professional Issues in Audiology II and Capstone** 1 s.h.

Information on a variety of professional issues important to clinical practice; topics directly related to clinical work; presentations, discussions, and written assignments required as a means for students to reflect on and share clinical experiences related to topics; capstone project. Requirements: Au.D. fourth-year enrollment.

**CSD:6316 Advanced Externship in Audiology** arr.

Advanced clinical externship in audiology. Corequisites: CSD:6311. Requirements: Au.D. fourth-year enrollment.

**CSD:6317 Audiology Practice: Business Start-Up** 1 s.h.

Introduction to business aspects of developing and managing an audiology practice related to business start-up as well as short and long range business planning; presentation of topics by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.

**CSD:6318 Occupational Audiology** 1 s.h.

Incidence and prevalence of hearing loss; risk factors and assessment; noise exposure guidelines; hearing protection devices; education and motivation.

**CSD:6319 Interprofessional Practice and Community Engagement in Communication Sciences and Disorders** 1 s.h.

Advanced knowledge and experiences related to interprofessional education and practice (IPE/IPP) in communication sciences and disorders; IPE/IPP training focus on students' collaboration with multiple service providers from other professions to improve outcomes for individuals, families, and/or communities; presentation of topics by clinical faculty and guest speakers with special expertise in each area; student presentations. Requirements: M.A. professional emphasis or Au.D. enrollment.

**CSD:6515 Professional Seminar 0 s.h.**

Weekly presentation of research projects, ideas, and clinical initiatives by faculty, students, and guests; required for Ph.D., Au.D., and M.A.-SLP first-year graduate students.

**CSD:6519 Evidence-Based Practice 2 s.h.**

Introduction to design and conduct of research and evidence-based clinical practice. Offered fall semesters. Recommendations: clinical graduate standing in audiology or speech-language pathology.

**CSD:6538 Advanced Topics in Speech, Language, and Hearing Research 1 s.h.**

Varied topics related to auditory function, assessment, and rehabilitation; discussion based.

**CSD:7238 Capstone Requirement 1 s.h.**

Work with a faculty mentor to complete a project that focuses on an area of student's interest.

**CSD:7590 Research arr.**

Individual laboratory research training in speech-language pathology or audiology.

# Speech and Hearing Science, B.A.

The undergraduate major in speech and hearing science emphasizes the normal processes of speech, hearing, and language. Coursework for the major prepares students to enroll in either a master's degree program in speech-language pathology or a clinical doctorate program in audiology (Au.D.). The undergraduate degree does not qualify an individual to work professionally in the field.

## Learning Outcomes

Graduating B.A. students in speech and hearing science will have:

- a strong foundational understanding of the physical processes and biological substrates underlying normal audition, normal perception, and production of speech and language;
- a strong foundational understanding of the normal development of speech, language, and hearing;
- finished all prerequisite coursework needed to begin a graduate program in either speech-language pathology or audiology; and
- preparation to begin more advanced graduate coursework focusing on disorders, diagnosis, and treatment.

## Requirements

The Bachelor of Arts with a major in speech and hearing science requires a minimum of 120 s.h., including 63-64 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Requirements include 12 core courses offered by the department and eight cognate courses offered by other departments. Transfer students must complete a minimum of 15 s.h. toward the major at the University of Iowa.

The B.A. with a major in speech and hearing science requires the following coursework.

Code	Title	Hours
Core Courses		37
Cognate Courses		26-27
Clinical Observation		
<b>Total Hours</b>		<b>63-64</b>

## Core Courses

Code	Title	Hours
All of these:		
CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
CSD:2110	Phonetics: Theory and Applications	3
CSD:2111	Basic Acoustics for Speech and Hearing	3
CSD:3112	Anatomy and Physiology of Speech Production	4

CSD:3113	Introduction to Hearing Science	4
CSD:3116	Basic Neuroscience for Speech and Hearing	3
CSD:3117	Psychology of Language	3
CSD:3118	Language Acquisition	3
CSD:3185	Hearing Loss and Audiometry	3
CSD:4145	Developmental Language Disorders	3
CSD:4148	Developmental Speech Disorders	3
CSD:4244	Rehabilitative Audiology	3

## Cognate Courses

Students may choose cognate courses that help fulfill the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Code	Title	Hours
Both of these:		
LING:3001	Introduction to Linguistics	3
PSY:1001	Elementary Psychology	3
One of these:		
PSQF:1020/ STAT:1020	Elementary Statistics and Inference	3
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics	3
One of these:		
CHEM:1070	General Chemistry I	3
CHEM:1110	Principles of Chemistry I	4
PHYS:1400	Basic Physics (preferably with lab)	4
PHYS:1511	College Physics I	4
One of these:		
ASP:3150	Psychology of Aging	3
PSY:2301	Introduction to Clinical Psychology	3
PSY:2930	Abnormal Psychology: Health Professions	3
SSW:1800/ ASP:1800/ CSD:1800/ NURS:1800/ TR:1800	Aging Matters: Introduction to Gerontology	3
One of these:		
PSQF:4106	Child Development	3
PSY:2401	Introduction to Developmental Science	3
One of these:		
BIOL:1141	Human Biology: Health Professions (with lab)	4
BIOL:1411	Foundations of Biology (with lab)	4
One of these:		
MATH:1440	Mathematics for the Biological Sciences	4



MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4

The cognate requirement in mathematics may be fulfilled through an acceptable score on the Advanced Placement AB or BC Calculus exam; see Credit by Exam Options on the Office of Admissions website. Students without AP credit are encouraged to take MATH:1440 Mathematics for the Biological Sciences (speech interest) or MATH:1460 Calculus for the Biological Sciences (audiology interest) to satisfy this requirement.

## Clinical Observation

Students have the opportunity and are encouraged to obtain 25 hours of supervised clinical observation, a prerequisite for participation in clinical practicums at the graduate level. This requirement is satisfied by completion of CSD:4120 Introduction to Clinical Methods and Observation. In some cases, this requirement also can be fulfilled by independent observations.

## Honors

### Honors in the Major

The departmental honors program provides students the opportunity to conduct research in the field of communication sciences and disorders, to gain experience presenting research ideas in public settings, and to work closely with a faculty mentor. In order to be eligible, students must have a cumulative and major g.p.a. of at least 3.60 at the beginning of the spring semester of their sophomore year. All eligible students will be invited to apply to the program during the spring semester of their sophomore year. Interested students should complete and return the application. A limited number of spots are available, based on the availability of mentors. Applications will be reviewed and a select number of students will be admitted to the program based on their grade-point average.

After entering the departmental honors program, students enroll in CSD:3097 Honors Seminar in the fall semester of their junior year. The seminar provides an introduction to research philosophies, research design and implementation, and a chance for each student to critically evaluate existing research literature. In addition, the seminar provides an introduction to the department's research facilities and potential thesis advisors.

By the beginning of the spring semester of their junior year, students will have selected project areas and thesis advisors. During their final three semesters, honors students register for a total of 4 s.h. of CSD:4098 Honors Thesis and work on their projects and theses with their mentors. During the spring semester of their senior year, honors students present their projects at a University-wide forum (such as the UI Spring Undergraduate Research Festival) and at a departmental event. Students must maintain a cumulative and major g.p.a. of at least 3.60 in order to graduate with honors in the major.

As final recognition of the completion of the departmental honors program, the diplomas of honors students bear a honors notation. Students interested in learning more about this program should contact their academic advisor and/or the departmental honors advisor.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the speech and hearing science major.

### Career Advancement

The speech and hearing science program provides excellent preparation for study in an advanced degree program that leads to a career as a speech-language pathologist or audiologist. There continues to be a strong demand for professionals in these fields, and both speech pathology and audiology are consistently ranked highly in "best job" surveys.

Advanced degree holders may work as a professor, clinician, and/or researcher in the field of communication sciences and disorders.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

The major requires specific mathematics and science competencies that may be satisfied with courses approved for the GE CLAS Core.

**Before the fifth semester begins:** three courses in the major.

**Before the seventh semester begins:** nine courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 12 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Speech and Hearing Science, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>

<b>First Year</b>		
<b>Fall</b>		
CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
MATH:1440 or MATH:1460	Mathematics for the Biological Sciences <sup>b, c</sup> or Calculus for the Biological Sciences	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>18-20</b>
<b>Spring</b>		
PSY:1001	Elementary Psychology	3
Major: physics or chemistry course <sup>f, g</sup>		3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>h</sup>		1
<b>Hours</b>		<b>14-17</b>
<b>Second Year</b>		
<b>Fall</b>		
CSD:2110	Phonetics: Theory and Applications <sup>i</sup>	3
CSD:2111	Basic Acoustics for Speech and Hearing <sup>j</sup>	3
LING:3001	Introduction to Linguistics	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>h</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
CSD:3113	Introduction to Hearing Science <sup>j</sup>	4
CSD:3118	Language Acquisition <sup>j</sup>	3
BIOL:1141	Human Biology: Health Professions	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>h</sup>		1
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
CSD:3185	Hearing Loss and Audiometry <sup>i</sup>	3
Major: group A psychology course <sup>f</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>h</sup>		3 - 4
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
CSD:3112	Anatomy and Physiology of Speech Production <sup>j</sup>	4
CSD:3117	Psychology of Language <sup>j</sup>	3
Major: group B psychology course <sup>f</sup>		3
Major: statistics course <sup>f</sup>		3

Elective course <sup>h</sup>		3 - 4
<b>Hours</b>		<b>16-17</b>
<b>Fourth Year</b>		
<b>Fall</b>		
CSD:3116	Basic Neuroscience for Speech and Hearing <sup>i</sup>	3
CSD:4145	Developmental Language Disorders <sup>i</sup>	3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
Elective course <sup>h</sup>		3 - 4
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
CSD:4148	Developmental Speech Disorders <sup>j</sup>	3
CSD:4244	Rehabilitative Audiology <sup>j</sup>	3
CSD:4120	Introduction to Clinical Methods and Observation <sup>k</sup>	3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>l</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>125-135</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students intending to pursue AuD should consider MATH:1460.
- c Enrollment in math courses requires completion of a placement exam.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f See General Catalog for list of approved courses.
- g Students should choose a course that will also fulfill the GE CLAS Core Natural Sciences requirement.
- h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- i Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- j Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- k Students have the opportunity and are encouraged to obtain 25 hours of supervised clinical observation, a prerequisite for participation in clinical practicums at the graduate level. This requirement is satisfied by completion of CSD:4120 Introduction to Clinical Methods and Observation. In some cases, this requirement also can be fulfilled by independent observations.

I Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Communication Sciences and Disorders, Minor

## Requirements

The undergraduate minor in communication sciences and disorders requires a minimum of 15 s.h., including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students must begin the minor with CSD:1015 Introduction to Speech and Hearing Processes and Disorders, which provides a broad overview of all aspects of the normal communication process and of various disorders. Students complete the minor by choosing from the courses listed below, according to their interests.

The minor in communication sciences and disorders requires the following coursework.

Code	Title	Hours
This course:		
CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
A minimum of 13 s.h. from these:		
CSD:2110	Phonetics: Theory and Applications	3
CSD:2111	Basic Acoustics for Speech and Hearing	3
CSD:2140	Manual Communication	1
CSD:3112	Anatomy and Physiology of Speech Production	4
CSD:3113	Introduction to Hearing Science	4
CSD:3116	Basic Neuroscience for Speech and Hearing	3
CSD:3117	Psychology of Language	3
CSD:3118	Language Acquisition	3
CSD:3185	Hearing Loss and Audiometry	3
CSD:4145	Developmental Language Disorders	3
CSD:4148	Developmental Speech Disorders	3
CSD:4244	Rehabilitative Audiology	3

# Speech Pathology and Audiology, M.A.

The Master of Arts program in speech pathology and audiology provides training for individuals who wish to do clinical work in speech-language pathology. Graduates of the M.A. program meet all academic and practicum requirements for clinical certification by the American Speech-Language-Hearing Association (ASHA) and for licensure by the State of Iowa. Students preparing for clinical positions in public schools must meet school licensure or certification requirements of the states in which they plan to work.

## Learning Outcomes

Graduating M.A. students in speech pathology and audiology will:

- demonstrate knowledge and skills specified in the Knowledge and Skills Acquisition (KASA) competencies for speech-language pathology professionals;
- behave professionally and ethically, and adhere to the American Speech-Language-Hearing Association (ASHA) Code of Ethics;
- use critical thinking skills to apply theory and knowledge to clinical decision making; and
- use evidence-based practice and practice-based evidence to make clinical decisions regarding diagnosis and treatment of persons with communication disorders.

## Requirements

The Master of Arts program in speech pathology and audiology requires a minimum of 38 s.h. of graduate credit, although students typically earn 53-57 s.h. of credit by the time they complete the degree. The program prepares clinicians to be able to function independently in a variety of clinical settings. The program is designed to ensure that upon graduation, a student will meet requirements for immediate professional employment.

M.A. students usually have a background of undergraduate courses in speech and hearing science, psychology of language, and human behavior that is equivalent to an undergraduate major in speech and hearing science at the University of Iowa.

Before registering in the program, entering M.A. students receive descriptive materials about basic science core courses considered to be required preparation for the M.A. program, and required M.A. clinical core courses for which the department may accept comparable courses taken at the undergraduate level. Decisions about incorporating background coursework in these areas are made by the faculty advisor in consultation with the student and the instructors of the basic science or clinical core courses. Entering students must have completed the following courses or their equivalents.

Code	Title	Hours
	A biological science course (human or animal biology)	3
	A physical science course (physics or chemistry)	3
	A social/behavioral science course	3
CSD:2110	Phonetics: Theory and Applications	3

CSD:3112	Anatomy and Physiology of Speech Production	4
CSD:3113	Introduction to Hearing Science	4
CSD:3116	Basic Neuroscience for Speech and Hearing	3
CSD:3118	Language Acquisition	3
CSD:3185	Hearing Loss and Audiometry	3
CSD:4145	Developmental Language Disorders	3
CSD:4148	Developmental Speech Disorders	3
CSD:4244	Rehabilitative Audiology	3
PSQF:1020/ STAT:1020	Elementary Statistics and Inference	3

25 hours of observation documented by a practitioner with ASHA certification

Candidates for an M.A. with a professional emphasis in speech-language pathology are not required to complete a thesis, although all students demonstrating research aptitude and interest are encouraged to do so.

A typical program usually takes two calendar years to complete but may take longer, depending on a student's background and personal interests.

## Core Requirements

All students seeking an M.A. in speech pathology and audiology with professional emphasis in speech-language pathology must take the following.

Code	Title	Hours
CSD:5135	Foundations of Clinical Practice I	2
CSD:5136	Foundations of Clinical Practice II	1
CSD:5137	Foundations of Clinical Practice III	1
CSD:6515	Professional Seminar (taken fall and spring semesters of first year)	0

In addition, they must take the following courses unless they completed equivalent courses as undergraduates.

Code	Title	Hours
CSD:2140	Manual Communication	1
CSD:4114	Introduction to Voice Disorders	2
CSD:4115	Structural Disorders	2
CSD:4183	Introduction to Stuttering	2
CSD:5104	Language Disorders in School-Aged Children	3
CSD:5146	Neurogenic Disorders of Language	3
CSD:5203	Counseling in Communication Disorders	1
CSD:5236	Neurogenic Disorders of Speech and Swallowing	3
CSD:6519	Evidence-Based Practice	2

Also required are additional semester hours of practicum registration sufficient to meet supervised, direct clinical experience requirements for the Certificate of Clinical

Competence of the American Speech-Language-Hearing Association and the Iowa license, and to provide broad, supervised practicum experience.

In addition to the core requirements listed above, all nonthesis students preparing to be speech-language pathologists must earn a minimum of 12 s.h. from the following; thesis students must earn a minimum of 8 s.h. from the following. Thesis students also must enroll in 4 s.h. of research.

Code	Title	Hours
CSD:4130	Diversity, Equity, and Inclusion in Communication Sciences and Disorders	1
CSD:5213	Voice Habilitation	2
CSD:5223	Pediatric Feeding and Swallowing Disorders	1
CSD:5233	Aphasia	2
CSD:5234	Acquired Cognitive-Communication Disorders	arr.
CSD:5237	Cleft Palate and Related Disorders	1-2
CSD:5258	Multilingualism and Culturally Responsive Practice in Communication Sciences and Disorders	3
CSD:5260	Augmentative and Alternative Communication	2
CSD:5282	Phonological Development and Disorders	2
CSD:5283	Clinical Problems	1-2
CSD:5350	Seminar in Supervision	1

## Professional Licensure

### Licensure to Work Outside Public Schools

A number of states, including Iowa, require a state license in speech-language pathology or audiology for persons who work in settings outside the public schools. Students who meet the requirements listed above for the M.A. in speech pathology and audiology also meet the academic requirements for the license in Iowa as well as in most other states.

### Public School Licensure

Students preparing for clinical positions in public schools typically must meet school licensure or certification requirements of the states in which they plan to work. The following criteria meet the requirements for endorsement as speech-language pathologists in Iowa and most other states:

- a master's degree with professional emphasis in speech-language pathology or the equivalent;
- completion of an approved human relations component;
- completion of courses that cover the education of people with disabilities and the gifted and talented (e.g., exceptional persons, education of the gifted); and
- completion of the requirements in speech-language pathology and the 20 s.h. professional education sequence, including CSD:5104 Language Disorders in School-Aged Children and CSD:5304 Speech Pathology Outplacement: School as a speech-language pathologist.

The professional education sequence requires coursework in the following areas:

- curriculum (e.g., reading, methods, curriculum development);
- foundations (e.g., philosophy of education, foundations of education);
- educational measurement (e.g., tests and measurements, measures and evaluations of instruction);
- educational psychology (e.g., educational psychology, counseling theories and techniques);
- special education (e.g., introduction to special education, exceptional persons, learning disabilities); and
- child development (e.g., human growth and development, principles and theories of child development, history and theories of early childhood education).

GE CLAS Core [p. 20] courses (e.g., introduction to psychology, sociology, history, literature, and humanities) do not meet the requirements of the professional education sequence.

Alternatively, speech-language pathologists practicing in Iowa can obtain a Statement of Professional Regulation (SPR). In order to obtain the SPR, they must have a temporary or regular license from the State Board of Speech Pathology and Audiology Examiners, a master's degree in speech-language pathology, and have completed a human relations course. The SPR is valid for five years and does not transfer to other states.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Admission to the program is competitive; applicants' credentials are considered in relation to those of others in the applicant pool, and a limited number of individuals are admitted to each program. Applicants whose undergraduate g.p.a. is below 3.30 rarely are admitted.

Admission is for fall; the application deadline is January 15. All applications to the M.A. program must be submitted through the Central Application Service for Communication Science and Disorders (CSDCAS).

For detailed information regarding evaluation of applicants, application materials and requirements, and other matters, see Graduate Programs on the department's website.

## Financial Support

Financial support is based on merit and dependent on availability of funds. For more detailed information, contact the Department of Communication Sciences and Disorders director of graduate studies.

## Career Advancement

The speech pathology and audiology program provides excellent preparation for a career as a speech-language pathologist or audiologist. There continues to be a strong demand for professionals in these fields, and both speech pathology and audiology are consistently ranked highly in "best job" surveys.

Advanced degree holders may work as a teacher, clinician, and/or researcher in the field of communication sciences and disorders.

# Doctor of Audiology, Au.D.

## Learning Outcomes

Graduating Au.D. students will:

- be able to accurately identify, diagnose, prevent, quantify, and treat hearing and balance disorders affecting both children and adults;
- understand the importance of and be able to implement patient- and family-centered, evidence-based approaches to identify, treat, and prevent hearing and balance disorders affecting individuals of all ages; and
- become leaders—nationally and internationally—driving innovation, shaping the future of the profession, and disseminating information about consequences of untreated hearing and balance disorders as well as the importance of early intervention and prevention.

## Requirements

The Doctor of Audiology (Au.D.) requires 95 s.h. of graduate credit. The Au.D. is the entry-level degree for individuals who wish to work as audiologists in the United States.

The four-year Au.D. program is designed for students with an undergraduate degree in speech and hearing science. Au.D. students must complete the following courses. They may be excused from taking courses whose equivalents they completed successfully during undergraduate study.

Code	Title	Hours
All of these:		
CSD:3185	Hearing Loss and Audiometry	3
CSD:4145	Developmental Language Disorders	3
CSD:4244	Rehabilitative Audiology	3
CSD:5203	Counseling in Communication Disorders	1
CSD:5219	Fundamentals of Laboratory Instrumentation	2
CSD:5224	System and Signal Theory for Speech and Hearing Science	3
CSD:5240	Hearing Aids I	3
CSD:5246	Advanced Audiology	3
CSD:5253	Speech Perception in Listeners with Hearing Loss	1-2
CSD:5255	Educational Audiology	2
CSD:5256	Anatomy and Physiology of Hearing	3-4
CSD:5311	Advanced Clinical Topics in Audiology	2
CSD:5313	Accounting and Marketing in Audiology Business Practice	2
CSD:5315	Clinical Rotations in Audiology	arr.
CSD:5316	Professional, Ethical, and Legal Issues in Audiology Business Practice	2

CSD:5317	Compliance, Billing, Coding, and Reimbursement in Audiology Business Practice	1
CSD:5320	Applied Statistics and Principles of Evidence-Based Practice in Audiology	3
CSD:6230	Psychoacoustics	2-3
CSD:6242	Hearing Aids II	2
CSD:6245	Pediatric Audiology	1,3
CSD:6247	Medical Audiology	2
CSD:6249	Cochlear Implants	1-3
CSD:6290	Auditory Evoked Potentials	3
CSD:6291	Vestibular Assessment	2
CSD:6292	Advanced Rehabilitative Audiology	2
CSD:6293	Vestibular Rehabilitation	2
CSD:6311	Professional Issues in Audiology	1
CSD:6316	Advanced Externship in Audiology	arr.
CSD:6317	Audiology Practice: Business Start-Up	1
CSD:6318	Occupational Audiology	1
CSD:6319	Interprofessional Practice and Community Engagement in Communication Sciences and Disorders	1
CSD:6515	Professional Seminar	0
CSD:7238	Capstone Requirement	1

## Combined Programs

### Au.D./Ph.D. in Speech and Hearing Science

For students who are enrolled in the Au.D. program but interested in research, the Department of Communication Sciences and Disorders offers a combined Doctor of Audiology/Doctor of Philosophy program. This option is appropriate for students who have more applied research interests but would like to work in academics.

The combined program requires 137 s.h. of coursework. Students must satisfy all the clinical practicum experiences required for the Au.D. as well as all of the milestones required for the traditional Ph.D. Completion time for the two degrees varies but is typically seven years. Details on applying for the combined program can be found under Admissions in this section of the Catalog. For more information, contact the director of Ph.D. studies.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Admission to the program is competitive and each applicant's credentials are considered in relation to the credentials of others in the applicant pool. Individuals with an undergraduate g.p.a. below 3.00 are rarely admitted.

Students interested in admission to the combined Au.D./Ph.D. program are required to initially apply to the Au.D. program

and be admitted. At the end of their second year in the Au.D. program, they may formally request permission to change their degree objective. If the faculty approve and a mentor is available, students transition into the Au.D./Ph.D. program.

The deadline for application is January 15. All applications to the Au.D. program must be submitted through the Central Application Service for Communication Science and Disorders (CSDCAS).

For detailed information regarding evaluation of applicants, application materials and requirements, and other matters, see Graduate Programs on the department's website.

## Financial Support

Financial support is based on merit and dependent on availability of funds. For more detailed information, contact the chair of the Department of Communication Sciences and Disorders.

## Career Advancement

The Au.D. program provides students with excellent preparation for a career as an audiologist. There continues to be a strong demand for audiologists nationwide and it is consistently ranked highly in "best job" surveys. Graduates are often hired as faculty in positions at universities, in industry and clinical positions, and in research settings.



# Speech and Hearing Science, Ph.D.

The Ph.D. program in speech and hearing science provides flexible, comprehensive training for scholar-researchers interested in communication processes and disorders, allowing students to develop the knowledge and skills necessary for them to become productive researchers, whether in academia or industry. At the University of Iowa, the program reflects the broadly multidisciplinary interests of its faculty, who have expertise in physiology, bioengineering and physical sciences, neuroscience, psychology, linguistics, and multiculturalism across the domains of speech, language, and hearing. Prospective students are encouraged to identify a mentor whose research area aligns with their own interests. Students with diverse backgrounds in the natural and behavioral sciences are encouraged to apply.

## Learning Outcomes

Graduating Ph.D. students in speech pathology and audiology will demonstrate:

- critical thinking through reading, discussing, and writing about relevant scientific literature;
- competence in designing and conducting quality research, from concept to methodology, and through to data analysis and publication;
- competence in scientific writing;
- competence in developing and delivering quality oral research presentations; and
- competence in developing and delivering course material to undergraduate and graduate classes.

## Requirements

The Doctor of Philosophy program in speech and hearing science requires a minimum of 72 s.h. of graduate credit. Although there is no standard curriculum for the Ph.D., a program of study is developed by each student in consultation with their mentor and a faculty planning committee. The course of study typically includes registration in an introductory course in doctoral research that covers broad issues relevant to research approaches and life in academia, as well as one or more courses in statistical or other research methods. In addition, a range of topical seminars and courses are offered by faculty members in the Department of Communication Sciences and Disorders, as well as by faculty in other departments, including linguistics, psychological and brain sciences, otolaryngology—head and neck surgery, statistics and actuarial science, molecular physiology and biophysics, engineering, neuroscience, and computer science. Also important to a student's education is registration in CSD:7590 Research, which covers individual readings and research experiences with their mentor and other faculty members.

The stepping stones of the Ph.D. program include a pre-dissertation project, a comprehensive examination, and the dissertation. The pre-dissertation project is a research project conducted jointly between a student and mentor, under the direction of the mentor. Upon completion, students are expected to present their results at the department's weekly professional seminar series. The comprehensive exam typically involves a written exam consisting of several questions broadly related to a student's interests and goals,

followed by an oral defense of the responses. Questions are developed and evaluated by the student's mentor and faculty comprehensive committee. Following successful completion of the comprehensive exam, the student can advance to the candidacy stage. This final step requires each student to successfully conduct, write up, and defend an original research project that meets the college requirements for the dissertation.

## Combined Programs

### Ph.D. in Speech and Hearing Science/Au.D.

Students interested in research with an emphasis in audiology or hearing science may be interested in obtaining clinical certification, which requires completing the clinical doctorate (Au.D.). The Department of Communication Sciences and Disorders offers a combined program that allows students to earn both degrees simultaneously. The Doctor of Philosophy/Doctor of Audiology program is especially appropriate for students who have more applied research interests but would like to work in academia.

The program requires 137 s.h. of coursework, including all of the clinical practicum experiences required for the Au.D. degree. Students also must meet all of the milestones required for the traditional Ph.D. degree. Completion time for the two degrees varies but is typically seven years. For more information, consult the department chair.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Admission to the Ph.D. program is based on a student's aptitude, their specific area of research interest, as well as availability of a faculty member to serve as a mentor.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Either the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) is acceptable to verify proficiency in English.

Students interested in admission to the combined Ph.D./Au.D. program are required to initially apply and be admitted to the Au.D. program. At the end of their second year in the Au.D. program, they may formally request permission to change their degree objective. If the faculty approve and a mentor is available, transition into the Au.D./Ph.D. program is approved.

The deadline for application to the Ph.D. program is January 15. Applications must be submitted through the Office of Graduate Admissions.

For more information, see Doctor of Philosophy in Speech and Hearing Science on the Department of Communication Sciences and Disorders website or contact the director of graduate studies.

## Financial Support

While admission to the Ph.D. program is competitive, funding is guaranteed for admitted students for up to four years that includes tuition, a stipend, and generous benefits. Additional financial support is based on merit and dependent on availability of funds. No separate application for financial

aid is required. Financial support is provided through teaching assistantships and research assistantships. For more information, contact the departmental administrator in the Department of Communication Sciences and Disorders.

## Career Advancement

The Ph.D. program provides excellent preparation for careers in academia, industry, and research. There continues to be a strong demand for graduates with doctoral-level training in speech and hearing sciences. Graduates routinely advance to postdoctoral research positions or are hired as university faculty members, and many graduates have achieved high-level administrative and research positions in the field.

# Communication Studies

## Chair

- Kembrew McLeod

**Undergraduate major:** communication studies (B.A.)

**Undergraduate minor:** communication studies

**Graduate degrees:** M.A. in communication studies; Ph.D. in communication studies

**Faculty:** <https://clas.uiowa.edu/commstudies/people>

**Website:** <https://clas.uiowa.edu/commstudies/>

Communication creates meaning and builds worlds. The mission of the Department of Communication Studies is to explore the central role that communication plays in shaping our relationships, institutions, and societies. The department prepares students to serve as innovative scholars, engaged citizens, effective communicators, and visionary leaders in all of the communities they inhabit.

## Forensics/Debate

Students in the forensics/debate program have the opportunity to participate in on-campus debates, in developmental programs designed to improve speech activities in the state, and as members of competitive intercollegiate debate teams. Forensics scholarships are available. Students interested in debate should enroll in COMM:2813 Practicum in Debate.

## Related Minor and Certificates

### Minor: Religion and Media

The Departments of Communication Studies and Religious Studies collaborate to offer the minor in religion and media that emphasizes the study of religion and the study of media in contemporary culture. It is a course of study for students interested in the importance of religion in public life, the digital humanities, and the shaping role of media in public and religious culture. For more information, see the minor in religion and media [p. 1025] in the Catalog.

### Certificate: Event Management

The Departments of Communication Studies, Health and Human Physiology, and Marketing, and the School of Journalism and Mass Communication collaborate to offer the undergraduate Certificate in Event Management. Students who earn the certificate will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event management and careers in the event management industry. For more information, see the Certificate in Event Management [p. 512] in the Catalog.

### Certificate: Leadership Studies

The Certificate in Leadership Studies is an interdisciplinary program supported by the Tippie College of Business, the Colleges of Education and Liberal Arts and Sciences, and the Center for Student Involvement and Leadership. The certificate provides a structure for involvement and commitment to leadership. It introduces students to leadership concepts and offers them hands-on leadership experiences. The certificate is coordinated by the Pomerantz Career Center and housed in University College. For more information, see the Certificate in Leadership Studies [p. 2189] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Communication Studies (Bachelor of Arts) [p. 307]

#### Minor

- Minor in Communication Studies [p. 311]

### Graduate Programs of Study

#### Majors

- Master of Arts in Communication Studies [p. 313]
- Doctor of Philosophy in Communication Studies [p. 316]

## Facilities

The Samuel L. Becker Communication Studies Building is designed to meet the department's research and technological needs.

## Courses

### Communication Studies Courses

Courses numbered below 5000 are intended primarily for undergraduates; those numbered 5000 and above are for graduate students. Graduate students may take courses numbered 3000-4999 for credit, with their committee's approval.

Not all courses are offered each semester.

Registration in COMM:1000 First-Year Seminar is open to first- and second-semester students regardless of grade-point average.

#### COMM:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### COMM:1112 Interpersonal Communication 3 s.h.

Introduction to face-to-face communication in social and personal relationships; maximizing communicative effectiveness in relationships with knowledge about how communication functions; analysis of one's own and others' communication practices and experiences.

#### COMM:1117 Advocacy and Argument 3 s.h.

Public arguments as practiced in law, politics, science, and other public arenas; improvement of skills in researching, constructing, organizing, and presenting arguments on disputed subjects; analyzing and refuting arguments of others; developing a better understanding of how scholars apply tools of formal and informal logic in a variety of disciplines to improve quality of academic argument. GE: Quantitative or Formal Reasoning.

**COMM:1130 The Art of Persuading Others 3 s.h.**

Basic theoretical concepts of effective public communication; employ knowledge of concepts in analyzing texts; definition and influence of rhetorical situation, different elements of persuasion (message logic, appeal to feelings, character of speaker), ability of speakers to invent arguments; issues of judgment, public discourse, identity, and agency.

**COMM:1168 Music and Social Change 3 s.h.**

What makes popular music important for people; music's power to change culture; production, distribution, reception of popular music in cultural and historical contexts. GE: Diversity and Inclusion.

**COMM:1170 Communication Theory in Everyday Life 3 s.h.**

General overview of everyday life communication, theories and research techniques used to understand it; sheer depth and complexity of processes in communication that occur in everyday lives and which appear to be trivial; how to observe conversations and identify what is really happening in them; ways in which scholars explain everyday communication and how it works; applications of theoretical thinking to explain processes of everyday communication. GE: Social Sciences.

**COMM:1174 Media and Society 3 s.h.**

Processes and effects of mass communication; how mass media operate in the United States; how mass communication scholars develop knowledge. GE: Social Sciences; Values and Culture.

**COMM:1305 Understanding Communication: Social Scientific Approaches 3 s.h.**

Social scientific methods used to generate knowledge about communication processes; basic tools necessary to conduct and evaluate communication research; epistemological perspectives, research procedures, and data analysis; readings and hands-on activities.

**COMM:1306 Understanding Communication: Humanistic Approaches 3 s.h.**

Humanistic methods and theories used to generate knowledge about communication processes; basic tools necessary to conduct and evaluate communication research in humanities subdisciplines; epistemological perspectives, research procedures, and critical practices; readings and hands-on activities.

**COMM:1809 Social Marketing Campaigns 3 s.h.**

Introduction to theory, development, and practice of social marketing campaigns; public service announcements, political action to change smoking laws, community-led initiatives to increase availability of local foods; communication-centric format including research in public health, nursing, marketing, and other fields; group work to identify issues of local concern and develop a theoretically justified and practically realistic social marketing campaign with potential to positively impact communities.

**COMM:1816 Business and Professional Communication 3 s.h.**

Introduction to business and professional communication at individual and corporate levels; individual-level topics cover organizational communication, business vocabulary, speaking and writing, professionalism and interviewing; corporate-level topics focus on marketing, advertising, public relations, corporate communications, crisis communication management, business and communication plans, proposals; guest speakers from for-profit and not-for-profit organizations.

**COMM:1818 Communication Skills for Leadership 3 s.h.**

Practice and understanding of essential communication skills for leadership; skills-based curriculum promoting application of knowledge; topics include relationship skills, collaboration skills, presentation skills, and writing skills; emphasis on leadership throughout each section of the course.

**COMM:1819 Organizational Leadership 3 s.h.**

Introduction to nature of leadership, styles of leadership that are most effective, and ways in which obstacles may be overcome in groups or organizations; different approaches to qualities of leadership, role of visions and motivation, interpersonal and decision-making skills, meeting preparation and evaluation, and related communication skills.

**COMM:1830 Communication Skills for Community Engagement 3 s.h.**

Communication at the heart of public problems and solutions; critical 21st-century skills (writing for a general audience, facilitating dialogue); valuable community service experiences as an introduction to the interdisciplinary field of dialogue and deliberation; focus on a complex local issue, such as affordable housing, flood planning, or excessive drinking; partnering with local organizations to research a local problem, plan community-based solutions, and study the art of facilitating public discussions; topics include issue analysis, deliberative inquiry, convening meetings, and community organizing.

**COMM:1840 Introduction to Media Production 3 s.h.**

Foundation of electronic media and digital television production skills using industry-quality technology; high-definition camera operation, audio recording and editing, digital switcher operation, nonlinear editing, studio lighting techniques, and more; introduction to questions surrounding the impact of media production on artistic expression, audiences, and society.

**COMM:1845 Short-Form Media Production 3 s.h.**

Basics of short-form media creation including public service announcements, commercials, promotional videos, and more; entire production process from creation to production to post-production; assumes basic knowledge of studio and field production techniques, nonlinear editing.

**COMM:1898 Introduction to Latina/o/x Communication and Culture 3 s.h.**

Introduction to fundamentals of communication by and about Latina/o/x in the U.S.; Latina/o/x as one of the fastest growing demographics; how Latina/o/x history, politics, and culture remain little understood despite a longstanding and growing presence in Iowa and across the nation; historical orientation; Latina/o/x social movement and protest (e.g., Chicana/o/x movements, Young Lords Organization), institutional discourses (e.g., congressional, presidential, legal discourses), and Latina/o/x in popular culture (film, television, music, sports). GE: Diversity and Inclusion. Same as LATS:1898.

**COMM:2010 Communication and Organizational Culture 3 s.h.**

Introduction to nature, construction, and deconstruction of organizational culture from a communication perspective; examination of different approaches for understanding and analyzing organizational culture, including the lens of symbolic performance, narrative reproduction, textual reproduction, management, power and politics, technology, and globalization; prepares students to be change agents in organizations as they learn how to conduct an organizational cultural audit and how to create and implement successful change.

- COMM:2011 Group Communication** 3 s.h.  
Study of relevant theory, research, and application to increase understanding of communication in small groups; critical thinking and communication skills; individual roles in groups, creativity, leadership, decision making, problem solving, and conflict resolution.
- COMM:2020 Health Communication** 3 s.h.  
How to better understand the intersections of health and communication; health communication is the study of how health information is generated and disseminated, and how that information affects and is affected by individuals, community groups, institutions, and public policy; people who understand the study of communication are in an important role, and their services are in high demand; health communication specialists work in hospital education departments, public relations, marketing, and human resource departments, in health care administration, in media organizations covering health issues, and in organizations that educate and support public policy and research.
- COMM:2030 Sexual Communication in Personal Relationships** 3 s.h.  
Exploration of sexual communication as a foundational activity in the development and maintenance of relationships; examination of intersection of sexual communication and personal, relational, cultural, and institutional norms and values; translation of sexual communication research into practical skills.
- COMM:2040 Communication and Conflict** 3 s.h.  
Conflict and its management as critical issues that pervade people's personal and professional lives; complexities of conflict; forces that make conflict challenging; skills for thinking about and managing conflict more effectively; central features that define conflict; behaviors, attributions, and emotions that are manifest during conflict; formal models of conflict management and their corresponding recommendations for handling conflict.
- COMM:2041 Gender, Communication, and Culture** 3 s.h.  
Social construction of gender and gendered identities across a range of communicative settings in contemporary U.S. society, including relationships, schools, organizations, media, and social movements; how communication creates, reproduces, sustains, and sometimes challenges and changes the meaning of gender and, with that, cultural structures and practices. Same as GWSS:2041.
- COMM:2042 Intercultural Communication** 3 s.h.  
Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Same as IS:2042, SSW:2042.
- COMM:2044 Political Communication** 3 s.h.  
Relationship between media, cultural politics, and the American political system; focus on advertising, campaigns, and new media outlets; ways politicians, the press, and intermediaries create and disseminate messages into mainstream culture; how people generate their own discourses of political identity and dissent, creating a robust democratic practice that is both empowering and central to the contemporary political landscape.
- COMM:2045 Gender, Sexuality, and Space** 3 s.h.  
Introduction to feminist and queer theories of social space; material and symbolic construction of gender and sexuality; communicating gender and sexuality in different social spaces and scales in historical and contemporary contexts. Same as GWSS:2046.
- COMM:2048 Transforming Media: From Telegraph to Internet** 3 s.h.  
How U.S. electronic media have shaped, and been shaped by, social and cultural transformations since the mid-19th century; examination of public responses to communication revolutions; exploration of questions about media power and influence in specific historical contexts including the emergence and expansion of telegraph, telephone, broadcasting, cable, and internet; readings, discussions, and assignments investigate role of communication media in the rise of the United States as a global power and consumer culture.
- COMM:2053 Secrets, Confidences, and Lies: Privacy Management in Interpersonal Relationships** 3 s.h.  
How individuals manage private information with regard to their interpersonal relationships; multiple theories of privacy management; how aspects of information, individual, and target of disclosure all contribute to decisions to reveal or conceal private information to friends and family.
- COMM:2054 Movements, Protest, Resistance** 3 s.h.  
Historical and contemporary study of social movements from a symbolic perspective (e.g., speeches, protests, propaganda, media events); social movements as interpersonal and group communication; relationships between media and social change; efficacy of individual and larger-scale forms of resistance.
- COMM:2057 Introduction to Computer-Mediated Communication** 3 s.h.  
Theoretical and practical introduction to concepts and research in computer-mediated communication; emphasis on study of social effects of communication and information technology; factors that distinguish mediated from face-to-face interaction, theories of mediated communication, self-presentation online; internet-based relationships, online supportive communication, online communities; how the internet influences communication and how to use computer-mediated communication for self-presentation.
- COMM:2060 Public Relations, Publicity Stunts, and Pranks** 3 s.h.  
General overview of public relations and strategic communication methods; history of deception in communication practices; development of critical thinking strategies used to critique advertising and other forms of persuasion; use of humor in mounting public relations campaigns, publicity stunts, and pranks.
- COMM:2064 Media, Advertising, and Society** 3 s.h.  
Introduction to the critical study of advertising in the United States; advertising contextualized as an industry and as a key part of media and culture; advertising as an institution and as a series of symbols, ideas, and fantasies; how advertising works, role and function of advertising in culture and society.
- COMM:2065 Television Criticism** 3 s.h.  
Introduction to scholarly study of television as a social institution; nature of television form and content; role of industry in creation, selection, and presentation of television programs; production conventions and textual conventions in defining the medium; application of genre and narrative theory, semiotics, political economy of media industries, and audience reception study.

- COMM:2069 Black Television Culture** 3 s.h.  
Social and political impact of television dramas featuring people of African descent in the West; examination of production, reception, representation, and industry as it relates to the African American images that are granted tenure on television screens. GE: Diversity and Inclusion. Same as AFAM:2070.
- COMM:2070 Social Media and Society** 3 s.h.  
Introduction to theoretical and critical issues raised by social media for communication; particular emphasis on cultural and political phenomena; topics include various understandings of social media, forms of digital communication, individual and collective identity formations via social media, online communities, and global cultural exchange; recent examples of the "viral" phenomenon and internet-born activism.
- COMM:2072 African American Popular Culture** 3 s.h.  
Examination of global popularity and impact of African American popular culture. Same as AFAM:2072.
- COMM:2075 Gender, Sexuality, and Media** 3 s.h.  
Mediated representations of gender and sexuality (television, film, and internet) to understand how these complex and complicated codes influence meaning of sex, sexuality, and gender; contemporary and historical examples used to engage texts that illuminate cultural conceptions of femininity, masculinity, heterosexuality, and homosexuality; cases that confuse and trouble the stability of these categories. Same as GWSS:2075.
- COMM:2076 Race, Ethnicity, and Media** 3 s.h.  
Introduction to debates about media portrayals of race and ethnicity; focus primarily on entertainment media; use of general analytic perspectives (stereotype analysis, aesthetic analysis, history) applied to real-world examples; address one or more racial/ethnic groups in the United States. Same as AFAM:2076.
- COMM:2077 Writing and Producing Television** 3 s.h.  
Introduction to basics of scripting and producing a conventional, three-camera television series; hands-on experience with production equipment and workshoping television scripts; students create one or more episodes of an original television series.
- COMM:2078 Audio Production/Podcast** 3 s.h.  
Hands-on techniques of audio production, radio production, and podcasting using software and hardware tools; basic concepts of sound from how sound travels to how our brain interprets the sound; sound and mix with audio tools for quality podcast and other sound recordings.
- COMM:2079 Digital Media and Religion** 3 s.h.  
Influences of digital media on religion and spirituality today. GE: Historical Perspectives. Same as RELS:2930.
- COMM:2080 Public Life in the U.S.: Religion and Media** 3 s.h.  
Examination of how the U.S. came into being through specific communication practices, how religion has helped and hindered that process; religious roots of the idea of the U.S., intertwined histories of print media and religion, role of religion and secularism in public discourse; U.S. pride as a nation in which diversity thrives in public discourse; communicative acts that created and sustained this country and also mark sites of discord, conflict, and confusion from the very beginnings of the U.S. to today; how religion has been a source of national identity and national division. Same as RELS:2080.
- COMM:2083 Privacy and Anonymity on the Internet** 3 s.h.  
Exploration of the influence of new communication technologies on privacy and anonymity; engagement with historical and contemporary readings; reaction papers, comprehensive essay, and group project.
- COMM:2085 Media Industries and Organizations** 3 s.h.  
Trends in media industries as reflected in changes of ownership, different work conditions, media convergence, and globalization generally; focus on local, network, and cable television; examination of industry structures, business practices, economic fundamentals, and theoretical explanations of media industries in society.
- COMM:2086 Global Media Studies** 3 s.h.  
Key developments in contemporary international communication; impact of deregulation and privatization on ownership and control of global communication infrastructure; spread of American television abroad in terms of production, texts, and reception; cultural concerns surrounding the phenomenon.
- COMM:2088 Media and Democracy** 3 s.h.  
Exploration of relationship between democracy and mass communication; why controversies regarding mass communication are also controversies about democracy; logical relationship between democracy and mass media; roots and history of ideas of democracy, contemporary obstacles to realization of these ideas, and varied issues of present; latest developments in world of politics and media.
- COMM:2089 Nonverbal Communication** 3 s.h.  
Introduction to theoretical study of nonverbal communication; focus on major principles and research trends; examination of role of nonverbal communication in communication as a whole; perception and interpretation of nonverbal communication (i.e., posture, eye movements, tone of voice); nonverbal behaviors (i.e., facial expression, eye movement) as used to persuade, impress, or deceive someone.
- COMM:2090 Topics in Communication Studies** 3 s.h.  
Topics vary.
- COMM:2091 Organizational Communication** 3 s.h.  
Explores nature and function of communication in organizations; theories of organizational communication and scholarly research related to communicating effectively in organizational settings; course will strengthen critical thinking and research skills, deepen understanding of topics related to organizing, and improve ability to communicate successfully as members and leaders of organizations.
- COMM:2248 The Invention of Writing: From Cuneiform to Computers** 3 s.h.  
Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

**COMM:2800 Introduction to Latin American Studies****3 s.h.**

Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Taught in English. Same as IS:2700, LAS:2700, PORT:2700, SPAN:2700.

**COMM:2813 Practicum in Debate****1 s.h.**

Practice of skills in research, reasoning, argument development, and argumentative performance in debate undertaken by members of the A. Craig Baird Debate Forum in preparation for and participation in intercollegiate debate competition. Requirements: participation in A. Craig Baird Debate Forum.

**COMM:2821 Oral Interpretation****3 s.h.**

Weekly performances to develop and define communication skills for professional careers in teaching and business; poetry, prose, monologue, storytelling, duo interpretation, reader's theatre, and demonstration speeches. Same as EDTL:2821.

**COMM:2828 Experiential Learning in Communication Studies****1-3 s.h.**

Structured coursework while student completes a semester-long professional work experience (paid or unpaid, part- or full-time, on- or off- campus); professionalization and application of classroom learning to real-world contexts; requires professional supervision and evaluation by a manager in the organization. Requirements: g.p.a. of at least 2.00, communication studies major, and minimum of 12 s.h. of communication studies coursework.

**COMM:2897 Independent Study****arr.**

Creative or research project under faculty supervision.

**COMM:2899 Honors Thesis****3 s.h.**

Individual research, writing, or creative production under faculty supervision. Requirements: g.p.a. of at least 3.33, honors standing, completion of Foundations of Communication requirement, and 6 s.h. of intermediate-level coursework.

**COMM:4044 Political Marketing: Media, Campaigns, and Persuasion****3 s.h.**

Relationship between media, politics, and professional marketing in American political system; representative topics include U.S. presidential campaigns, communication strategies, social media, issue framing, rhetoric, and campaign narratives; focus on critical marketing and how citizens contest efforts at marketing and generate discourses of political identity. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4131 Globalization and Culture****3 s.h.**

How context for everyday experience has increasingly become globally determined (e.g., ever-increasing transnational migration of people, spread of American culture, growth of international corporations and trade, rise of international conflict and transnational activism); range of theoretical and critical readings on globalization; various phenomena and perspectives regarding topic; themes directly relevant to lives of modern youth; how globalization affects opportunities and risks, identities and relationships. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:2020, COMM:2030, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248). Same as IS:4131.

**COMM:4140 Communication and Relationships****3 s.h.**

Communication process in personal relationships; how communication functions to initiate, sustain, and dissolve a variety of relationships including friendships, romantic couples, marital pairs, and family relationships. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4146 Corporate Advocacy and Public Relations****3 s.h.**

Case studies and theories of strategies used by for-profit and nonprofit organizations to communicate about products and services, answer public questions and complaints, and defend their interests against public scrutiny and government regulation. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4147 Family Communication 3 s.h.**

Family relationships and various ways they develop and change, how they affect those who participate in them; theory and research on family communication; family conceived as a group of persons who share their lives over an extended period of time bound by ties of marriage, blood, or commitment. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4154 Magic Machines: Technology and Social Change 3 s.h.**

How media has altered culture, society, and human consciousness throughout history with focus on last two centuries (or modernity); how communication has been shaped by a variety of media (i.e., gesture, language, writing, printing, calendars, clocks, photography, telegraph, telephone, phonograph, film, radio, television, computers); 21st-century questions concerning technology and how few communicate today without aid of some kind of machine or technique. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248). Same as RELS:4154.

**COMM:4157 Advanced Topics in Communication Studies 3 s.h.**

Issues or problems in particular communication contexts. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4163 The Dark Side of Interpersonal Communication 3 s.h.**

Review of advanced communication theories and research; focus on dark side of interpersonal communication and close relationships; negative or difficult elements of developing and maintaining relationships; expression of difficult emotions; mundane communication that can function in destructive or negative ways. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4168 Rhetoric of the Body 3 s.h.**

Students survey theories of the body as vehicle for communication of social norms; the philosophy, historical, and contemporary practices of productivity culture; discourses of burnout and overwhelm; theories of care from feminist, disability, LGBTQ, and environmental communities. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4169 Feminist Rhetorics 3 s.h.**

Exploration of multiple, varied, and complex histories of U.S. feminisms from rhetorical perspectives; focus on primary documents, the letters, speeches, essays, and manifesto/as that shaped women's movements and inspire social change from late 18th century to present; social, political, and personal issues that feminists sought to address and transform, communicative and rhetorical methods utilized, and implications of these efforts for women's lives and broader U.S. American culture. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248). Same as GWSS:4169.



**COMM:4171 Community Media****3 s.h.**

Theory and history of community media as means of cultural expression, political participation, and social change; focus on case studies from Latin America and other global contexts. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4174 Communication, Technology, and National Security****3 s.h.**

What is the best way to balance the democratic values of the United States and its national security objectives? To answer this question, students consider discussions in three distinct, but overlapping areas of inquiry: surveillance and privacy, cyber war, and Internet governance. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:4183 Networking America: The Cultural History of Broadcasting****3 s.h.**

Exposure to different interpretations of cultural impact and legacy of U.S. broadcasting in 20th century; institutional practices, program genres, and audience formations of 1920s through the 1970s radio and television network eras; how historical contexts shape, and are shaped by, production and reception of broadcasting texts. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248).

**COMM:5200 Introduction to Research and Teaching****2 s.h.**

Introduction to communication studies as a field of scholarship; selection of research problems, major lines of research represented in the department, bibliographical tools for scholarship in the field; issues, practical tasks, and concerns relevant to effective college or university classroom teaching.

**COMM:5205 Proseminar in Communication Studies****1 s.h.**

Research presentations in the field given by graduate students, faculty, and visiting scholars.

**COMM:5230 Introduction to Rhetorical Studies****3 s.h.**

Introduction to major theories, principles, and practices of rhetorical theory and rhetorical criticism.

**COMM:5241 Theories of Mass Communication****3 s.h.**

Major concepts, theories, schools of thought in media studies, mass communication.

**COMM:5297 M.A. Research****3 s.h.**

Preparation for master's final exam; reading and writing under the supervision of a faculty member.

**COMM:5298 M.A. Thesis****3 s.h.**

Research and writing under direction of a faculty member; leads to completion of a master's thesis.

**COMM:5299 Graduate Independent Study****arr.****COMM:5300 Proseminar: Preparing for the Academic Job Market****1-3 s.h.**

Preparation for academic job market; development of a full academic portfolio including cover letter, curriculum vitae, research statement, teaching portfolio, job talk, strong skill set for interviewing, and statement on diversity, equity, and inclusion; includes multiple weeks dedicated to bringing a journal article to publication in an academic outlet; capstone seminar for ABD doctoral students. Requirements: successful completion of comprehensive exams and prospectus, or defense of comprehensive exams completed and prospectus defense scheduled.

**COMM:6220 Health Communication Campaigns****3 s.h.**

Intervention design and analysis of health campaigns; theory, practice, methods; mass media, community, organization, and interpersonal approaches. Same as CBH:6220.

**COMM:6319 Criticism and Public Culture****3 s.h.**

Fundamentals of criticism; practice of critical reading to engage various cultural texts (i.e., pop culture, national memorials, social movements, visual rhetoric); contemporary theories/debates that inform the art of critique (i.e., feminist theory, queer theory, critical theory).

**COMM:6324 Rhetoric, Race, and Racism****3 s.h.**

Relationships between rhetoric and race/racism; theoretical, critical, and historical perspectives on race/racism with special emphasis on rhetoric and discourse.

**COMM:6335 Proseminar: Contemporary Rhetorical Studies****2-4 s.h.**

Problems in contemporary rhetorical studies; may include works of Kenneth Burke, Wayne Booth, deconstructionists, feminist theorists and critics, critics of communication technologies.

**COMM:6336 Seminar in Rhetorical Theory****1-4 s.h.**

Topics in history and development of rhetorical theory; theory construction and application to critical practice.

- COMM:6339 Seminar: Rhetoric and Culture** 1-4 s.h.  
Cultural theories, their utility in accounting for communication practices.
- COMM:6341 Topics in Mass Communication Scholarship** 1-3 s.h.  
Theory and research on problems in mass communication.
- COMM:6342 Critical Television Studies** 3 s.h.  
Introduction to canonical and contemporary readings in critical television studies; primary questions and theories associated with textual, industrial, ethnographic, and integrated approaches to studying television; how technological, economic, and cultural changes have altered television and how it is studied.
- COMM:6345 New Materialisms** 3 s.h.  
Exploration of new strategies for rupturing persistent dichotomies of subject/object, representation/real, culture/nature, and active humans/passive things offered by theories of the vitality and agency of matter; introduction to origins of and developments in new materialisms; oriented to interdisciplinary inquiry and application to research in the humanities, broadly conceived; particular attention to actor-network theory, feminism, queer theory, infrastructuralism, and materialist theories of media. Same as GWSS:6345.
- COMM:6346 The Public Sphere** 3 s.h.  
Theories, intellectual history, critics, contemporary issues of the public sphere.
- COMM:6350 Seminar: Mass Communication** 1-4 s.h.  
Topics vary.
- COMM:6352 Seminar: Media Theory** 3 s.h.  
Topics vary.
- COMM:6354 Media and Social Change in Latin America** 3 s.h.  
Cultural history and political economy of Latin American media; focus on U.S. influence and globalizing processes; media theory in Latin context; national and transnational audience formations.
- COMM:6365 The Communication of Social Support** 3 s.h.  
Substantial knowledge base developed by scholars about types, processes, and mechanisms of social support used by humans to comfort one another; in-depth examination of theory and empirical research related to communication of social support; emphasis on types of support, verbal person-centered messages, and various strategies for social support; gender differences and social skills related to comforting; online supportive communication; development of detailed knowledge of this topic, critical assessment of extant research, and synthesis of class readings in written format.
- COMM:6371 Communication Theory** 3 s.h.  
Survey of primary theories of interpersonal, cultural, group, and organizational communication.
- COMM:6376 Family Communication** 3 s.h.  
Theory and research on communication among and between family members (parents, children, marital partners, siblings); quantitative and qualitative research.
- COMM:6381 Seminar: Topics in Communication Research** 3 s.h.  
Topics vary.
- COMM:6387 Communication, Cognition, and Emotion** 3 s.h.  
Theoretical and empirical work that integrates communication, cognition, emotion; role of social cognition in communication, theories of emotion, types of emotional experiences; approaches to understanding emotion from perspectives in psychology, social cognition, communication; emotion-related issues such as influence of gender, effects of mood.
- COMM:6399 Ph.D. Dissertation** arr.
- COMM:6635 Crossing Borders Seminar** 2-3 s.h.  
Taught in English. Same as AFAM:6635, ANTH:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

# Communication Studies, B.A.

## Learning Outcomes

Graduating communication studies majors will be able to:

- explain the significance of the communicative process across personal, familial, organizational, civic, and mediated contexts;
- demonstrate effective written, oral, and/or digital communication skills;
- plan, evaluate, and conduct basic communication research using qualitative, quantitative, and critical-cultural methods;
- think critically about the role of communication in the production, maintenance, and transformation of culture;
- apply and reflect upon the skills and theories of communication in communities, professional settings, and a global context; and
- develop the ability to discuss controversial issues of public importance in a way that demonstrates intercultural competence and personal and social responsibility to a dynamic and globalizing world.

## Requirements

The Bachelor of Arts with a major in communication studies requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The curriculum is designed to encourage learning that progresses from foundation courses that teach the basics of communication to intermediate and advanced (capstone) courses. Students may choose to build creative combinations of coursework that suit their individual learning and career goals.

Students may count up to 56 s.h. of Department of Communication Studies coursework (prefix COMM) toward credit required for the Bachelor of Arts degree. Transfer courses may be applied toward the requirements of the major, with the department's approval. A maximum of 15 s.h. of transfer credit may be counted toward the major.

Students work with the communication studies academic advisors to develop study plans that meet the requirements of the major. Students may check their progress toward the degree on MyUI.

First-year students interested in completing a major in communication studies are advised at the Academic Advising Center. Students who have earned 30 s.h. or more and have declared the communication studies major are advised in the department by the communication studies academic advisors.

Students are encouraged to discuss their career goals and interests with faculty members.

The semester hours required for the major consist of foundation courses, intermediate courses, a capstone course, and additional coursework which may be earned in courses listed under "Intermediate Courses," "Capstone Experience,"

and/or "Additional Courses," below. Students may not use a course to satisfy more than one requirement of the major.

The B.A. with a major in communication studies requires the following coursework.

Code	Title	Hours
	Foundations of Communication Courses	15
	Intermediate Courses	12
	Capstone Experience Course	3
	Additional Courses	9
<b>Total Hours</b>		<b>39</b>

## Foundations of Communication

Foundation courses cover introductory concepts in the field of communication. Students must complete five foundation courses (15 s.h.) and should take them early in their studies. The following foundation courses are appropriate for first- or second-year students. They do not require a minimum grade-point average for enrollment and most do not have prerequisites. Students complete the first three foundation courses as follows.

Code	Title	Hours
COMM:1112	Interpersonal Communication	3
or COMM:1170	Communication Theory in Everyday Life	
COMM:1117	Advocacy and Argument	3
or COMM:1130	The Art of Persuading Others	
COMM:1168	Music and Social Change	3
or COMM:1174	Media and Society	

The fourth and fifth foundation courses are appropriate for first- or second-year students.

Code	Title	Hours
COMM:1305	Understanding Communication: Social Scientific Approaches	3
COMM:1306	Understanding Communication: Humanistic Approaches	3

## Intermediate Courses

Intermediate courses cover detailed aspects of the study of communication. Students usually complete these courses during their third and fourth years of study.

Code	Title	Hours
At least four of these:		
	Communication studies courses (prefix COMM) numbered from 1800-2799	12

## Capstone Experience

Capstone courses (those numbered 3000-4999) provide a faculty-led experience in which students participate directly in producing knowledge, research, or creative work about communication. The capstone experience gives students a chance to synthesize what they have learned about the study of communication. Students must complete one capstone course (3 s.h.).

In order to enroll in a capstone course, students must have completed at least four of the five foundation courses and at least two intermediate courses.

Code	Title	Hours
COMM:4044	Political Marketing: Media, Campaigns, and Persuasion	3
COMM:4131	Globalization and Culture	3
COMM:4140	Communication and Relationships	3
COMM:4146	Corporate Advocacy and Public Relations	3
COMM:4147	Family Communication	3
COMM:4157	Advanced Topics in Communication Studies	3
COMM:4163	The Dark Side of Interpersonal Communication	3
COMM:4168	Rhetoric of the Body	3
COMM:4169	Feminist Rhetorics	3
COMM:4171	Community Media	3
COMM:4174	Communication, Technology, and National Security	3
COMM:4183	Networking America: The Cultural History of Broadcasting	3

## Additional Courses

Students earn an additional 9 s.h. to complete at least 39 s.h. in communication studies courses required for the major. They may choose from the courses listed below and/or from the intermediate and capstone experience courses. However, students may not use a course to fulfill more than one requirement for the major, so in selecting the additional 9 s.h. of coursework, they may not choose a course they already used to fulfill the intermediate or capstone experience course requirement.

All of the courses listed below, except COMM:2800, have prerequisites, a minimum grade-point average, or other requirements for enrollment.

Code	Title	Hours
COMM:2800	Introduction to Latin American Studies	3
COMM:2813	Practicum in Debate	1
COMM:2821	Oral Interpretation	3
COMM:2828	Experiential Learning in Communication Studies	1-3
COMM:2897	Independent Study	arr.
COMM:2899	Honors Thesis	3

## Internships and Professional Experiences

Internships enable students to supplement their coursework with professional experiences relevant to careers in communication-related fields. The department's internship program is open only to communication studies majors.

To earn academic credit for internships, students must obtain approval for their internship experience and site before they register for COMM:2828. Internship academic credit is awarded for an analytical paper and daily log submitted at the end of the internship and for the number of hours worked. Internships can be completed during fall semester, spring semester, or summer session.

Visit the department's website for information on communication studies internships.

Code	Title	Hours
COMM:2828	Experiential Learning in Communication Studies	1-3

## Honors

### Honors in the Major

Students majoring in communication studies have the opportunity to graduate with honors in the major. Students interested in honors in the major should consult the honors advisor as early as possible in their undergraduate career and work with a faculty member to supervise the honors project.

Students earning honors in the major must maintain a cumulative University of Iowa g.p.a. of at least 3.33, a g.p.a. set by the College of Liberal Arts and Sciences; a minimum cumulative g.p.a. of 3.33 in coursework for the major also must be maintained, a standard set by the Department of Communication Studies. Students may be required to complete COMM:2899 Honors Thesis, depending on their specific project.

Through the Global Engagement, Research, Outreach, and Work Experience (GROW) in Communication Studies initiative, there are a variety of options for honors in the major. Honors students must complete at least two authorized GROW activities and participate in a poster session.

Honors students may add an honors designation to a departmental course by completing an agreement with the course instructor.

Learn more about graduating with honors in the major; visit Honors on the department's website.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University of Iowa Honors Program.

Membership in the UI Honors Program is not required to earn honors in the communication studies major.

## Career Advancement

Communication studies graduates have numerous career options. The major provides solid preparation for employment in almost any job that requires effective critical thinking and communication skills. It also prepares students for graduate school by providing a strong theoretical and methodological foundation in communication research. Graduates find work in fields such as the arts, entertainment, and media industries; consulting; sales and marketing; human resources; public advocacy; and higher education.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Students should consult the department for details.

**Before the fifth semester begins:** at least two courses in the major.

**Before the seventh semester begins:** at least six courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least eight courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Communication Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
COMM:1168 or COMM:1174	Music and Social Change <sup>b, c, d</sup> or Media and Society	3
ENGL:1200 or Rhet:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
Elective course <sup>f</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>

#### Spring

COMM:1117 or COMM:1130	Advocacy and Argument <sup>b, d, g, h</sup> or The Art of Persuading Others	3
COMM:1112 or COMM:1170	Interpersonal Communication <sup>b, d, h, i</sup> or Communication Theory in Everyday Life	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>14-15</b>

#### Second Year

##### Fall

COMM:1305	Understanding Communication: Social Scientific Approaches <sup>b, j</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: Diversity and Inclusion <sup>e, k</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>l</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

##### Spring

COMM:1306	Understanding Communication: Humanistic Approaches <sup>b, h</sup>	3
Major: intermediate-level communication studies course (prefix COMM numbered 1800-2799)		3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>l</sup>		4 - 5
GE CLAS Core: Quantitative or Formal Reasoning <sup>e, m</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Third Year

##### Fall

COMM:1898	Introduction to Latina/o/x Communication and Culture <sup>d</sup>	3
Major: intermediate-level communication studies course (prefix COMM numbered 1800-2799)		3
GE CLAS Core: International and Global Issues <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>l</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>

##### Spring

Major: intermediate-level communication studies course (prefix COMM numbered 1800-2799)		3
GE CLAS Core: Values and Culture <sup>e, n</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>l</sup>		4 - 5
GE CLAS Core: Social Sciences <sup>e, o</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Fourth Year

##### Fall

Major: capstone-level communication studies course (prefix COMM numbered 3000-4999)		3
Major: elective communication studies course (prefix COMM numbered 1800-4999)		3

Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
Major: elective communication studies course (prefix COMM numbered 1800-4999)	3
Major: elective communication studies course (prefix COMM numbered 1800-4999)	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>120-126</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students should take foundation courses early in their studies. Foundation courses are appropriate for first- or second-year students.
- c Typically COMM:1174 is offered in fall semesters only and COMM:1168 is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- d Fulfills a major requirement and may fulfill a GE requirement.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Typically COMM:1117 is offered in spring semesters only and COMM:1130 is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- i Typically COMM:1170 is offered in spring semesters only and COMM:1112 is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- j Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- k Students who have previously completed COMM:1898 have already satisfied the GE CLAS Core Diversity and Inclusion requirement.
- l Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- m Students who have previously completed COMM:1117 have already satisfied the GE CLAS Core Quantitative or Formal Reasoning requirement.

- n Students who have previously completed COMM:1174 have already satisfied the GE CLAS Core Values and Culture requirement.
- o Students who have previously completed COMM:1170 or COMM:1174 have already satisfied the GE CLAS Core Social Sciences requirement.
- p Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Communication Studies, Minor

## Requirements

The undergraduate minor in communication studies requires a minimum of 15 s.h. in communication studies courses, including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

## Foundations of Communication

Code	Title	Hours
Two of these:		
COMM:1112	Interpersonal Communication	3
or COMM:1170	Communication Theory in Everyday Life	
COMM:1117	Advocacy and Argument	3
or COMM:1130	The Art of Persuading Others	
COMM:1168	Music and Social Change	3
or COMM:1174	Media and Society	
One of these:		
COMM:1305	Understanding Communication: Social Scientific Approaches	3
COMM:1306	Understanding Communication: Humanistic Approaches	3

## Intermediate Course

Code	Title	Hours
One of these:		
	Communication studies course (prefix COMM) numbered from 1800-2799	3

## Additional Course

In selecting their additional course, students may not use a course to fulfill more than one requirement for the minor, so in selecting the additional 3 s.h. of coursework, they may not choose a course they already used to fulfill the intermediate course requirement.

Code	Title	Hours
One of these:		
COMM:1112	Interpersonal Communication	3
COMM:1117	Advocacy and Argument	3
COMM:1130	The Art of Persuading Others	3
COMM:1168	Music and Social Change	3
COMM:1170	Communication Theory in Everyday Life	3
COMM:1174	Media and Society	3
COMM:1305	Understanding Communication: Social Scientific Approaches	3
COMM:1306	Understanding Communication: Humanistic Approaches	3

COMM:1809	Social Marketing Campaigns	3
COMM:1816	Business and Professional Communication	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	3
COMM:1830	Communication Skills for Community Engagement	3
COMM:1840	Introduction to Media Production	3
COMM:1845	Short-Form Media Production	3
COMM:1898	Introduction to Latina/o/x Communication and Culture	3
COMM:2010	Communication and Organizational Culture	3
COMM:2011	Group Communication	3
COMM:2020	Health Communication	3
COMM:2030	Sexual Communication in Personal Relationships	3
COMM:2040	Communication and Conflict	3
COMM:2041	Gender, Communication, and Culture	3
COMM:2042	Intercultural Communication	3
COMM:2044	Political Communication	3
COMM:2045	Gender, Sexuality, and Space	3
COMM:2048	Transforming Media: From Telegraph to Internet	3
COMM:2053	Secrets, Confidences, and Lies: Privacy Management in Interpersonal Relationships	3
COMM:2054	Movements, Protest, Resistance	3
COMM:2057	Introduction to Computer-Mediated Communication	3
COMM:2060	Public Relations, Publicity Stunts, and Pranks	3
COMM:2064	Media, Advertising, and Society	3
COMM:2065	Television Criticism	3
COMM:2069	Black Television Culture	3
COMM:2070	Social Media and Society	3
COMM:2075	Gender, Sexuality, and Media	3
COMM:2076	Race, Ethnicity, and Media	3
COMM:2077	Writing and Producing Television	3
COMM:2079	Digital Media and Religion	3
COMM:2080	Public Life in the U.S.: Religion and Media	3
COMM:2085	Media Industries and Organizations	3
COMM:2086	Global Media Studies	3
COMM:2088	Media and Democracy	3
COMM:2089	Nonverbal Communication	3
COMM:2090	Topics in Communication Studies	3
COMM:2091	Organizational Communication	3

COMM:2248	The Invention of Writing: From Cuneiform to Computers	3
COMM:2800	Introduction to Latin American Studies	3
COMM:2813	Practicum in Debate	1
COMM:2821	Oral Interpretation	3
COMM:2828	Experiential Learning in Communication Studies	1-3
COMM:2897	Independent Study	arr.

b COMM:1305 is typically offered in fall semesters only and COMM:1306 is typically offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

c Intermediate courses are those with prefix COMM, numbered 1800-2799.

d Choose from COMM:1112, COMM:1117, COMM:1130, COMM:1168, COMM:1170, COMM:1174, COMM:1305, COMM:1306 (if not taken for previous requirements), or courses with prefix COMM numbered 1800-2897.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Communication Studies, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in communication studies requires a minimum of 15 s.h. in communication studies courses, including 12 s.h. in courses taken at the University of Iowa.		
Students must maintain a GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.		
Coursework for the minor may not be taken pass/nonpass.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Minor: foundations of communication course <sup>a</sup>		
		3 - 4
Minor: foundations of communication course <sup>a</sup>		
		3 - 4
<b>Hours</b>		<b>6-8</b>
<b>Second Year</b>		
<b>Any Semester</b>		
COMM:1306 or COMM:1305	Understanding Communication: Humanistic Approaches <sup>b</sup> or Understanding Communication: Social Scientific Approaches	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Minor: intermediate course <sup>c</sup>		
		3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
Minor: communication studies course <sup>d</sup>		
		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>15-17</b>

a Students choose two courses from COMM:1112 or COMM:1170, COMM:1117 or COMM:1130, COMM:1168 or COMM:1174.



# Communication Studies, M.A.

## Specialization Areas

The following are specialization areas available for the M.A. program in communication studies.

### Interpersonal Communication and Relationships

This area of specialization is centered on theory complemented by strength in quantitative and qualitative research methods. It focuses on scholarly issues that arise from face-to-face, everyday communication practices. It emphasizes personal relationship and family processes, identity construction, persuasion, and culture.

The goal of the program is to produce scholars who possess sophisticated knowledge of theory and methodology, who are careful consumers of theories and methods, and who can develop their own approaches to communication phenomena. The program emphasizes systematic analysis of the forms, functions, and meanings of messages within various contexts. Its broad social-scientific orientation springs from the belief that many methodological approaches are appropriate to studying and building theoretical explanations of communication.

Advisors and committee members work closely with individual students to select courses from the Department of Communication Studies and other University departments, and to plan teaching and research experiences that prepare students for the employment they seek after graduation.

### Media History and Culture

This area of specialization focuses on the interplay of institutions, texts, and audiences in mediated communication systems. Its central aim is to examine modern media—radio, television, advertising, music, new media, and a wide range of other popular cultural expressions—within their historical, social, political, economic, and cultural contexts. It also uses the mass media as sites for asking basic questions about culture, society, politics, and modernity.

Like the department's other graduate programs, media studies has a strong interdisciplinary flavor. Students draw not only on allied areas in the Department of Communication Studies but on fields across the University.

### Rhetoric, Culture, Engagement

This area of specialization is built on foundation courses in classical and 20th-century rhetorical theory and in an overview of 20th-century rhetorical criticism. Courses from a rhetorical perspective include rhetorical theory, rhetorical criticism, visual rhetoric and politics, public address and public culture, studies in argumentation and freedom of speech, work in science and technology as well as academic inquiry, and historical methods. Cognate work of interest to rhetoricians also can be found in interpersonal communication and relationship studies as well as media studies.

Work in related disciplines—political science, history, sociology, English, cinematic arts, anthropology, American studies, rhetoric, and journalism—complements rhetorical studies course offerings.

## Learning Outcomes Research

Learn to interpret and contribute to communication research using qualitative, quantitative, and critical-cultural methods.

## Theory

Evaluate and apply communication theories broadly conceived to a range of social, cultural, interpersonal, and other contextual and communicative settings.

## Scholarship

Demonstrate familiarity with relevant subfields of scholarship in communication studies and related disciplines.

## Teaching and Professional Development

Begin relevant professional training (such as teaching technologies; pedagogy; grant writing; diversity, equity, and inclusion; digital scholarship; media production; or community engagement) to contribute to better and more equitable educational and social outcomes, and to develop transferable skills for employment both inside and outside of academic settings.

## Communication Skills

Cultivate the skills to communicate in writing and orally to both professional and popular audiences in ways that demonstrate intercultural competence and personal and social responsibility.

## Requirements

The Master of Arts program in communication studies requires a minimum of 36 s.h. of graduate credit, including at least 30 s.h. earned at the University of Iowa and in courses numbered above 4999. No more than 6 s.h. that are numbered between 3000 and 4999 may be counted toward the major. Students must earn a program g.p.a. of at least 3.00 in major coursework. The degree program includes specializations in interpersonal communication and relationships; media history and culture; and rhetoric, culture, engagement. For further information on the specialization areas, see the Master of Arts overview section.

The M.A. with a major in communication studies requires the following.

Code	Title	Hours
All of these:		
COMM:5200	Introduction to Research and Teaching (taken the first semester)	2
COMM:5205	Proseminar in Communication Studies	1
COMM:5230	Introduction to Rhetorical Studies	3
COMM:5241	Theories of Mass Communication	3
COMM:6371	Communication Theory	3
One of these:		
COMM:5297	M.A. Research	3
COMM:5298	M.A. Thesis (must be taken twice for 3 s.h. each)	6

In exceptional circumstances, replacement courses may be approved by the student's advisor and the Graduate Affairs Committee.

Up to 9 s.h. in coursework may be earned in credit outside the department. Students take courses in specific topical areas as determined in their plan of study meeting.

## Thesis or Comprehensive Exam

Students, with the approval of their advisor and the Graduate Affairs Committee, can elect to write a thesis or complete a week-long, seven day take-home written exam which may be completed more quickly if desired or take a four-hour, written master's comprehensive exam near the completion of the required coursework for the master's degree. The master's comprehensive exam is not a duplicate of previous course examinations, but seeks to examine students on their ability to synthesize, integrate, and apply research and theory.

The master's comprehensive exam committee and the thesis committee are three-person faculty committees selected to reflect the pattern of coursework counted toward the master's degree. One of the three members of the committee must be the student's advisor. The examination or thesis is judged satisfactory or unsatisfactory, with two unsatisfactory votes necessary for a committee judgment of unsatisfactory. The thesis committee conducts an oral defense of the thesis.

The report of the master's comprehensive examination or thesis defense is due in the Graduate College no later than two weeks after the examination and by the deadline date established by the Graduate College. If the department so recommends, students who fail the examination or thesis defense may be eligible for a reexamination. The examination or thesis defense may be repeated only once.

## Admission

Applicants to graduate programs in communication studies must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. For information about applying to the Master of Arts program in communication studies, visit Prospective Graduate Students on the Department of Communication Studies website.

Admission is for fall semester entry. Materials received from applicants by the application deadline of January 1 are considered for admission and financial support.

## Career Advancement

M.A. communication studies graduates pursue Ph.D. academic work and alternate academic careers. Some pursue careers in the private sector, at nonprofit organizations, and as instructional faculty at postsecondary institutions.

The department is deeply engaged in university- and discipline-wide efforts to train students in both traditional and nontraditional career paths.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Communication Studies, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
36 s.h. must be graduate level coursework; maximum of 6 s.h. graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
COMM:5200	Introduction to Research and Teaching	2
COMM:5205	Proseminar in Communication Studies	1
COMM:5230	Introduction to Rhetorical Studies	3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
MA Audit <sup>e</sup>		
COMM:5241	Theories of Mass Communication	3
COMM:6371	Communication Theory	3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
COMM:5297	M.A. Research	3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>36</b>

a Maximum of 6 s.h. from coursework numbered between 3000 and 4999 may be counted towards the degree.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.

d Up to 9 s.h. in coursework may be earned in credit outside the department. Work with faculty advisor to determine appropriate coursework and sequence.

e Must be completed by the end of first year spring semester.

f Students, with the approval of their advisor and the Graduate Affairs Committee, can elect to write a thesis or

complete a week-long, seven day take-home written exam which may be completed more quickly if desired or take a four-hour, written master's comprehensive exam near the completion of the required coursework.

# Communication Studies, Ph.D.

## Specialization Areas

The following are specialization areas available for the Ph.D. program in communication studies.

### Interpersonal Communication and Relationships

This area of specialization is centered on theory complemented by strength in quantitative and qualitative research methods. It focuses on scholarly issues that arise from face-to-face, everyday communication practices. It emphasizes personal relationship and family processes, identity construction, persuasion, and culture.

The goal of the program is to produce scholars who possess sophisticated knowledge of theory and methodology, who are careful consumers of theories and methods, and who can develop their own approaches to communication phenomena. The program emphasizes systematic analysis of the forms, functions, and meanings of messages within various contexts. Its broad social-scientific orientation springs from the belief that many methodological approaches are appropriate to studying and building theoretical explanations of communication.

Advisors and committee members work closely with individual students to select courses from the Department of Communication Studies and other University departments, and to plan teaching and research experiences that prepare students for the employment they seek after graduation.

### Media History and Culture

This area of specialization focuses on the interplay of institutions, texts, and audiences in mediated communication systems. Its central aim is to examine modern media—radio, television, advertising, music, new media, and a wide range of other popular cultural expressions—within their historical, social, political, economic, and cultural contexts. It also uses the mass media as sites for asking basic questions about culture, society, politics, and modernity.

Like the department's other graduate programs, media studies has a strong interdisciplinary flavor. Students draw not only on allied areas in the Department of Communication Studies but on fields across the University.

### Rhetoric, Culture, Engagement

This area of specialization is built on foundation courses in classical and 20th-century rhetorical theory and in an overview of 20th-century rhetorical criticism. Courses from a rhetorical perspective include rhetorical theory, rhetorical criticism, visual rhetoric and politics, public address and public culture, studies in argumentation and freedom of speech, work in science and technology as well as academic inquiry, and historical methods. Cognate work of interest to rhetoricians also can be found in interpersonal communication and relationship studies as well as media studies.

The Ph.D. in rhetoric and public advocacy is designed to give students a mature grasp of the specialties and perspectives embraced by the field and to develop research competence essential to a life of productive scholarship.

Work in related disciplines—political science, history, sociology, English, cinematic arts, anthropology, American studies, rhetoric, and journalism—complements rhetorical studies course offerings.

More information is available on the Department of Communication Studies website.

## Learning Outcomes

### Research

Plan, organize, and conduct innovative, ethical, and significant communication research using qualitative, quantitative, and critical-cultural methods.

### Theory

Evaluate and apply communication theories broadly conceived to a range of social, cultural, interpersonal, and other contextual and communicative settings.

### Scholarship

Demonstrate broad-based knowledge of relevant subfields of scholarship in communication studies and related disciplines.

### Teaching and Professional Development

Develop relevant teaching and professional training (such as teaching technologies; pedagogy; grant writing; diversity, equity, and inclusion; digital scholarship; media production; or community engagement) to contribute to better and more equitable educational and social outcomes, and to develop transferable skills for employment both inside and outside of academic settings.

### Communication Skills

Cultivate the skills necessary to publish peer-reviewed articles and communicate in writing and orally to both professional and popular audiences in ways that demonstrate intercultural competence and personal and social responsibility.

## Requirements

The Doctor of Philosophy program in communication studies requires a minimum of 72 s.h. of graduate credit, including at least 39 s.h. earned at the University of Iowa and in courses numbered above 3000. Students must maintain a cumulative g.p.a. of at least 3.00. The degree program includes specializations in interpersonal communication and relationships; media history and culture; and rhetoric, culture, engagement. For further information, see the Doctor of Philosophy introductory section.

Graduate education in communication studies focuses on the Ph.D., but doctoral students may choose to earn a Master of Arts on their way toward the Doctor of Philosophy degree. A terminal master's degree may be an option for some students already admitted to the doctoral program.

The Ph.D. with a major in communication studies requires the following.

Code	Title	Hours
These courses:		
COMM:5200	Introduction to Research and Teaching (taken the first semester)	2

COMM:5205	Proseminar in Communication Studies (taken twice for 1 s.h. each)	2
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One of these in student's primary area of interest:

COMM:5230	Introduction to Rhetorical Studies	3
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COMM:5241	Theories of Mass Communication	3
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COMM:6371	Communication Theory	3
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All of these:

Department of Communication Studies courses (prefix COMM) numbered from 5000-7000	15
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COMM:6399	Ph.D. Dissertation	6
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Students also must complete their plan of study, the Ph.D. comprehensive examination, the dissertation prospectus, and successfully defend their dissertation.

More information is available on the Department of Communication Studies website.

## Admission

Admission decisions are based on undergraduate achievement for a B.A. applicant and graduate achievement for an M.A. applicant, letters of reference, the statement of purpose, and samples of scholarly work.

Applicants to graduate programs in communication studies must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. For information about applying to the doctoral program in communication studies, visit Prospective Graduate Students on the Department of Communication Studies website.

Admission is for fall semester entry. Applicants whose materials are received by the application deadline of January 1 will be considered for admission and financial support.

## Career Advancement

Communication studies Ph.D. graduates pursue academic and alternate academic careers. Nearly three-fourths of recent graduates teach in tenure-track academic positions. Others pursue careers in the private sector, at nonprofit organizations, and as instructional faculty at postsecondary institutions.

The department is deeply engaged in university- and discipline-wide efforts to train students in both traditional and nontraditional career paths.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Communication Studies, Ph.D.

Course	Title	Hours
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### Academic Career

#### Any Semester

72 s.h. must be approved coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>

<b>Hours</b>		<b>0</b>
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#### First Year

##### Fall

COMM:5200	Introduction to Research and Teaching <sup>c</sup>	2
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COMM:5205	Proseminar in Communication Studies <sup>d</sup>	1
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COMM:5230 or COMM:5241 or COMM:6371	Introduction to Rhetorical Studies or Theories of Mass Communication or Communication Theory	3
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Department course (COMM prefix, numbered 5000-7000)	3
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<b>Hours</b>		<b>9</b>
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<b>Hours</b>		<b>9</b>
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#### Spring

Plan of Study Defense <sup>e</sup>

COMM:5205	Proseminar in Communication Studies <sup>d</sup>	1
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Department course (COMM prefix, numbered 5000-7000)	3
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Department course (COMM prefix, numbered 5000-7000)	3
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Elective course <sup>f</sup>	2
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<b>Hours</b>		<b>9</b>
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#### Second Year

##### Fall

Department course (COMM prefix, numbered 5000-7000)	3
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Elective course <sup>f</sup>	3
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Elective course <sup>f</sup>	3
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<b>Hours</b>		<b>9</b>
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##### Spring

Department course (COMM prefix, numbered 5000-7000)	3
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Elective course <sup>f</sup>	3
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Elective course <sup>f</sup>	3
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<b>Hours</b>		<b>9</b>
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#### Third Year

##### Fall

Comprehensive Exam <sup>g</sup>	
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Elective course <sup>f</sup>	3
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Elective course <sup>f</sup>	3
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Elective course <sup>f</sup>	3
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<b>Hours</b>		<b>9</b>
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##### Spring

Dissertation Prospectus	
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Elective course <sup>f</sup>	3
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Elective course <sup>f</sup>	3
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Elective course <sup>f</sup>	3
<b>Hours</b>	<b>9</b>
<b>Fourth Year</b>	
<b>Fall</b>	
COMM:6399 Ph.D. Dissertation	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>9</b>
<b>Spring</b>	
COMM:6399 Ph.D. Dissertation	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Final Exam <sup>h</sup>	
<b>Hours</b>	<b>9</b>
<b>Total Hours</b>	<b>72</b>

- a At least 39 s.h. must be earned at the University of Iowa, including 6 s.h. of dissertation credit (COMM:6399). A maximum of 6 s.h. from University of Iowa courses numbered between 3000 and 4999 may be counted towards the degree.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Completed during the first semester in the program.
- d Taken twice for a total of 2 s.h.
- e Must be completed by the end of the second semester but no later than the fifth week of the third semester; students entering with a BA must complete by the end of the first semester of second year.
- f Work with faculty advisor to determine appropriate coursework and sequence.
- g Consists of a written exam, scholarly paper, and oral defense.
- h Dissertation defense.

# Computer Science

## Chair

- Alberto M. Segre

## Director of Graduate Studies

- Kasturi Varadarajan

## Director of Undergraduate Studies

- Elizabeth Kleiman

## Director of Graduate Studies, Informatics

- Juan Pablo Hourcade

## Director of Honors

- Tianbao Yang

**Undergraduate majors:** computer science (B.A., B.S.); informatics (B.A., B.S.)

**Undergraduate minors:** computer science; informatics

**Graduate degrees:** M.C.S.; M.S. in computer science; Ph.D. in computer science

**Faculty:** <https://cs.uiowa.edu/people>

**Website:** <https://cs.uiowa.edu/>

The Department of Computer Science offers undergraduate programs in computer science and in informatics as well as graduate degree programs in computer science. It offers courses that students in all majors may use to satisfy the GE CLAS Core [p. 20] Quantitative or Formal Reasoning requirement and a First-Year Seminar designed for entering undergraduate students. For general information about the department, faculty, and research activities, visit the Department of Computer Science website or the department's office.

## Related Majors

### Computer Science and Engineering

The Computer Science and Engineering major combines the technical content of a computer science degree and a computer engineering degree into a single program that leads to the Bachelor of Science in Engineering (B.S.E.) degree. The curriculum is jointly offered by the Department of Computer Science and the Department of Electrical and Computer Engineering (College of Engineering). The program provides students with a strong theoretical and conceptual understanding of the principles underlying computer software and hardware along with the engineering analysis, design, and multidisciplinary teamwork skills needed to develop large and complex systems containing both software and hardware components.

Computer science majors may not earn a second major in computer science and engineering. See the B.S.E. in computer science and engineering [p. 1632] in the Catalog.

### Data Science

The B.S. in data science produces graduates with the sophisticated analytical and computational skills required to thrive in a quantitative world where new problems are encountered at an ever-increasing rate. The major emphasizes the statistical/probabilistic and algorithmic methods that underlie the preparation, analysis, and communication of complex data. With focus on technical foundations, the data science program promotes skills useful for creating and implementing new or special-

purpose analysis and visualization tools. It also promotes a fundamental understanding of how to best handle uncertainty when making data-driven decisions.

Computer science majors may not earn a second major in data science. The Department of Statistics and Actuarial Science [p. 1134] and the Department of Computer Science [p. 319] collaborate to offer the major in data science. The B.S. in data science is administered by the Department of Statistics and Actuarial Science; see the B.S. in data science [p. 383] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Computer Science (Bachelor of Arts) [p. 324]
- Major in Informatics (Bachelor of Arts) [p. 328]
- Major in Computer Science (Bachelor of Science) [p. 334]
- Major in Informatics (Bachelor of Science) [p. 340]

#### Minors

- Minor in Computer Science [p. 345]
- Minor in Informatics [p. 346]

### Graduate Programs of Study

#### Majors

- Master of Computer Science [p. 347]
- Master of Science in Computer Science [p. 349]
- Doctor of Philosophy in Computer Science [p. 350]

## Courses

### Computer Science Courses

Competence and exposure to computer science are not only useful, they often are prerequisite to advanced study and research in many disciplines. For most graduate students from other disciplines, an appropriate first course is CS:5110 Introduction to Informatics.

#### CS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### CS:1020 Principles of Computing 3 s.h.

Introduction to computing; broad overview of discipline; necessary skills and concepts for effective application of computing resources in student's profession. GE: Quantitative or Formal Reasoning.

#### CS:1110 Introduction to Computer Science 3 s.h.

Introduction to study of algorithms; how computers work, simple algorithms and their efficiency, networking, databases, artificial intelligence, graphics, simulation, modeling, security, and social impact of computing; hands-on introduction to programming concepts with Python; for students in data-intensive disciplines. GE: Quantitative or Formal Reasoning.

**CS:1210 Computer Science I: Fundamentals 4 s.h.**

Introduction to programming using Python; programming constructs, data types, problem-solving strategies, data structures, object-oriented programming. Prerequisites: (MATH:1010 with a minimum grade of C- and MATH:1340 with a minimum grade of C-) or (ALEKS score of 45 or higher and MATH:1010 with a minimum grade of C-) or ALEKS score of 75 or higher or MATH:1020 with a minimum grade of C- or (MATH:1005 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or MPT Level 3 score of 9 or higher or MATH:1460 with a minimum grade of C- or MATH:1350 with a minimum grade of C- or MATH:1380 with a minimum grade of C- or MATH:1850 with a minimum grade of C-. GE: Quantitative or Formal Reasoning.

**CS:2110 Programming for Informatics 4 s.h.**

Introduction to programming, computing principles, and fundamental aspects of computer science; use of Python programming language for topics including expressions, operators, variables, control structures, basic data structures, functions, data modeling, basic data analysis, object-oriented concepts, and proper documentation. Prerequisites: CS:1110 with a minimum grade of C-.

**CS:2210 Discrete Structures 3 s.h.**

Mathematical methods used in computer science, including logic, proof techniques (with induction), functions, relations, algorithm analysis, recurrence relations, counting methods, combinatorics, graphs, trees. Recommendations: calculus I.

**CS:2230 Computer Science II: Data Structures 4 s.h.**

Design, implementation, and application of data structures (e.g., linked lists, stacks, queues, hash tables, trees); complexity analysis; recursion; introduction to object-oriented programming concepts; abstract data types and their realization using generic interfaces and classes; software design patterns (e.g., iterators, comparators). Prerequisites: CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-. Recommendations: previous or concurrent enrollment in CS:2210.

**CS:2420 Analyzing Data for Informatics 3 s.h.**

Introduction to data analytics through an understanding of data analysis pipelines including data extraction and collection, data modeling and organization, and use of tools for data analysis; topics include collection of data from a variety of sources, mapping data to appropriate data structures, basic relational database concepts and use, analysis through probability and statistics, use of basic data mining and machine learning tools, and an understanding of privacy issues. Prerequisites: CS:2110 with a minimum grade of C- and (PSY:2811 with a minimum grade of C- or SOC:2160 with a minimum grade of C- or STAT:1020 with a minimum grade of C- or STAT:1030 with a minimum grade of C- or STAT:2010 with a minimum grade of C- or STAT:2020 with a minimum grade of C- or STAT:3120 with a minimum grade of C- or STAT:3510 with a minimum grade of C- or PSQF:4143 with a minimum grade of C-).

**CS:2520 Human-Computer Interaction for Informatics 3 s.h.**

Basic theories, principles, and guidelines for design and evaluation of human-computer interactions; topics include usability and user experience, user-centered design, quantitative and qualitative evaluation of user interfaces (e.g., expert reviews, usability testing), societal and ethical issues, and front-end development in HTML and JavaScript. Prerequisites: CS:2110 with a minimum grade of C-.

**CS:2620 Server-Side Development for Informatics 3 s.h.**

Introduction to design, development, testing, and production deployment of data-driven web applications that use cloud/web services; introduction to server-side frameworks, software engineering tools, integration processes, and security mechanisms; topics include representational state transfer (REST) architectural style, key protocols and standards (e.g., HTTP, JSON), use of cloud/web services, data-binding strategies and databases. Prerequisites: CS:2420 with a minimum grade of C- and CS:2520 with a minimum grade of C-.

**CS:2630 Computer Organization 4 s.h.**

Computing machinery at various levels of abstraction including digital logic, control units and data paths, the representation of data, computer arithmetic, register operations, memory organization, instruction sets, I/O, and assembly language; how these relate to execution of programs written in a systems-level programming language such as C. Prerequisites: CS:2230 with a minimum grade of C- and CS:2210 with a minimum grade of C-.

**CS:2800 Digital Arts: An Introduction 3 s.h.**

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, DANC:2800, DIGA:2800, MUS:2800, THTR:2800.

**CS:2820 Introduction to Software Development 4 s.h.**

Software design and analysis at component and interface levels; implementation of interfaces; refactoring; abstract data types, delegation, polymorphism, and extension; automation and testing; event handling; significant software project that includes reading code written by others. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C-.

**CS:3210 Programming Languages and Tools arr.**

Varied programming languages and tools. Prerequisites: CS:1210 with a minimum grade of C- or CS:2110 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-.

**CS:3330 Algorithms 3 s.h.**

Algorithm design techniques (e.g., greedy algorithms, divide-and-conquer, dynamic programming, randomization); fundamental algorithms (e.g., basic graph algorithms); techniques for efficiency analysis; computational intractability and NP-completeness. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C-.

**CS:3620 Operating Systems 3 s.h.**

Introduction to modern operating systems, including device control, memory management and addressing, process scheduling, interprocess communication, interrupts, synchronization, security. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C- and (CS:2630 with a minimum grade of C- or ECE:3350 with a minimum grade of C-).



- CS:3640 Introduction to Networks and Their Applications** 3 s.h.  
Introduction to networks and the development of network applications; basic concepts of network communication common to applications such as simulation and web services. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C- and (CS:2630 with a minimum grade of C- or ECE:3350 with a minimum grade of C-).
- CS:3700 Introduction to Numerical Methods** 3 s.h.  
Computer arithmetic, root finding, polynomial approximation, numerical integration, numerical linear algebra, numerical solution of differential equations; use of a higher-level computer language such as Matlab, Python, or Julia. Prerequisites: (MATH:2550 or MATH:2700) and (MATH:1560 or MATH:1860). Same as MATH:3800.
- CS:3820 Programming Language Concepts** 3 s.h.  
Imperative, functional, and logical programming languages, and differences between them; syntax specification, types, control structures, recursion, data abstraction. Prerequisites: CS:2230 with a minimum grade of C- and CS:2210 with a minimum grade of C- and (CS:2630 with a minimum grade of C- or ECE:3330 with a minimum grade of C- or CS:2820 with a minimum grade of C- or ECE:3350 with a minimum grade of C-).
- CS:3910 Informatics Project** 3 s.h.  
Students work in small groups to design, implement, document, and test a system using appropriate software tools; or compile, prepare, visualize, and analyze a data set to support a decision-making process; capstone course for informatics majors. Prerequisites: CS:2620 with a minimum grade of C-.
- CS:3980 Topics in Computer Science I** 3 s.h.  
Complement to material in other courses; for informatics and non-computer science majors. Prerequisites: CS:1210 with a minimum grade of C- or CS:2110 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-.
- CS:3990 Honors in Computer Science or Informatics arr.**  
Individual projects. Requirements: computer science or informatics major, and honors standing.
- CS:3999 Computer Science or Informatics Honors Cohort** 0 s.h.  
Students complete all requirements for honors in the computer science or informatics major; supervision by computer science honors director. Requirements: final semester prior to graduation with honors.
- CS:4310 Design and Implementation of Algorithms** 3 s.h.  
Algorithm design techniques with emphasis on programming and implementation in the work of students; topics include data structures, graph algorithms, divide-and-conquer, dynamic programming, randomized algorithms, and dealing with intractability; primarily for master's degree students in computer science. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C-.
- CS:4330 Theory of Computation** 3 s.h.  
Finite automata; regular sets and expressions; context-free and context-sensitive grammars, their properties; push-down automata; standard, universal, and linear-bounded Turing machines; relationships between formal languages and automata; undecidability and its consequences. Prerequisites: CS:3330 with a minimum grade of C-.
- CS:4350 Logic in Computer Science** 3 s.h.  
Applications of symbolic logic in computer science; symbolic logic as a powerful tool for modeling computation and computational devices and reasoning formally about them; introduction to several logics (i.e., propositional, predicate, temporal, modal) differing in their expressive power and focus, their uses in computer science; how to represent knowledge in these logics, what represents a valid argument, and how to prove or disprove, possibly automatically, the validity of a logical statement. Prerequisites: CS:3330 with a minimum grade of C-. Recommendations: computer science, math, or engineering major.
- CS:4400 Database Systems** 3 s.h.  
Introduction to database systems including querying using SQL, design using ER diagrams, developing relational databases, programming web applications using PHP or JDBC. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C- and CS:3330 with a minimum grade of C-.
- CS:4420 Artificial Intelligence** 3 s.h.  
Introduction to artificial intelligence covering problem-solving methods, heuristic search, knowledge representation, automated reasoning, planning, game playing, machine learning, and neural networks. Prerequisites: CS:3330 with a minimum grade of C-.
- CS:4440 Web Mining** 3 s.h.  
Core methods underlying development of applications on the Web; examples of relevant applications, including those pertaining to information retrieval, summarization of Web documents, and identifying social networks. Prerequisites: CS:3330 with a minimum grade of C-. Recommendations: CS:4400 strongly recommended.
- CS:4470 Health Data Analytics** 3 s.h.  
Analysis of different kinds of health care data, such as patient electronic medical records, public health data, biomedical publications, social media pertaining to health, and ontologies in health care; students will read papers exploring different kinds of research and application development involving such data; course will run in distinct modules with each focused on a dataset type and related research; students must be comfortable with programming (e.g., Java, Python, Perl). Prerequisites: CS:3330 with a minimum grade of C-.
- CS:4500 Research Methods in Human-Computer Interaction** 3 s.h.  
Introduction to research in the field of human-computer interaction; conducting research experiments; latest research in human-computer interaction. Prerequisites: CS:2520 with a minimum grade of C- or (CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C-).
- CS:4510 Human-Computer Interaction for Computer Science** 3 s.h.  
Basic theories, principles, and guidelines for design and evaluation of human-computer interactions; usability and user experience, user-centered design, quantitative and qualitative evaluation of user interfaces (e.g., expert reviews, usability testing), societal and ethical issues; application of topics through a challenging and collaborative software development project. Prerequisites: CS:2230 with a minimum grade of C-.

**CS:4630 Mobile Computing 3 s.h.**

Building mobile sensing systems requires addressing issues in sensor acquisition, wireless communication, and middleware development; hands-on projects using embedded computers and sensors; includes significant writing and presentation components; a conference-quality research paper on a novel research project in mobile computing is expected; knowledge of Java is assumed. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C- and CS:2820 with a minimum grade of C-.

**CS:4640 Computer Security 3 s.h.**

Mechanism versus policy; authentication, access control, security domains; perimeter security, defense in depth; cryptographic protocols; key management and distribution; security assessment. Prerequisites: CS:3620 with a minimum grade of C- or CS:3640 with a minimum grade of C- or ECE:3540 with a minimum grade of C-.

**CS:4700 High Performance and Parallel Computing 3 s.h.**

Parallel algorithms presented and implemented with different approaches and libraries (e.g., OpenMP, MPI); various platforms including Message Passing Clusters, Multicore and GPUs, MapReduce (Hadoop), and related current topics; scientific computing and large data analysis projects. Prerequisites: (CS:2210 with a minimum grade of C- or MATH:4050) and CS:2230 with a minimum grade of C-. Same as MATH:4860.

**CS:4720 Optimization Techniques 3 s.h.**

Basic theory of optimization, use of numerical algorithms in solution of optimization problems; linear and nonlinear programming, sensitivity analysis, convexity, optimal control theory, dynamic programming, calculus of variations. Prerequisites: (MATH:2700 or MATH:2550) and (ME:4111 or MATH:3800 or CS:3700) and (MATH:1560 or MATH:2850). Same as MATH:4820.

**CS:4740 Large Data Analysis 3 s.h.**

Current areas that deal with problem of big data; techniques from computer science, mathematics, statistics; high performance and parallel computing, matrix techniques, cluster analysis, visualization; variety of applications including Google PageRank, seismology, Netflix-type problems, weather forecasting; fusion of data with simulation; projects. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:3800 or CS:3700) and (STAT:3200 or ISE:3760 or IGPI:3200). Same as IGPI:4740, MATH:4740, STAT:4740.

**CS:4980 Topics in Computer Science II 3 s.h.**

Complements material in other courses; for computer science graduate students and advanced undergraduate computer science, computer science and engineering, and data science majors. Prerequisites: CS:2210 with a minimum grade of C- and CS:2230 with a minimum grade of C-.

**CS:5110 Introduction to Informatics 3 s.h.**

Fundamentals of computer science: algorithms, complexity, relational databases, systems concepts, programming in Python. Same as IGPI:5110.

**CS:5340 Limits of Computation 3 s.h.**

Turing machines, undecidability and complexity: reductions, Cook's theorem and NP-completeness, approximation algorithms and randomized algorithms. Prerequisites: CS:3330.

**CS:5350 Design and Analysis of Algorithms 3 s.h.**

Review of design and analysis techniques; advanced data structures (binomial and Fibonacci heaps, disjoint sets); graph algorithms (network flows, matching, min-cut); NP-completeness, randomization and approximation algorithms; special topics (string matching, computational geometry, number theoretic algorithms). Prerequisites: CS:3330 or CS:5340.

**CS:5360 Randomized Algorithms 3 s.h.**

Use of randomization in the design of algorithms; focus on various fundamental principles in the design of randomized algorithms, such as first and second moment method, random sampling, hashing, probability amplification; tools for analysis, such as the tail bounds of Markov, Chebyshev, Chernoff, and Hoeffding, the Lovasz Local Lemma, Martingale tail bounds, randomized rounding of linear and semi-definite programs; applications to network routing, combinatorial optimization, random walks, social networks, data streaming, and more. Prerequisites: CS:3330.

**CS:5370 Computational Geometry 3 s.h.**

Study of data structures for geometric problems such as point location, range searching, finding nearest neighbors, and algorithms for convex hulls, Voronoi diagrams, triangulations, and quad-trees along with their uses; other topics will be determined by student interest; focus on algorithm design and an understanding of the implementation of geometric algorithms; assumes a sound understanding of the material in an undergraduate algorithms course. Prerequisites: CS:3330.

**CS:5430 Machine Learning 3 s.h.**

Fundamental machine learning techniques as well as hands-on experience applying these techniques and developing new techniques for solving problems from the real world; topics include regression (least square regression, lasso), classification (naive Bayes, nearest neighbor, support vector machines, logistic regression), kernel methods, unsupervised methods (k-means clustering, spectral clustering, dimensionality reduction), stochastic optimization, deep learning, and recent advances in big data analytics. Prerequisites: MATH:1850 and MATH:2700 and (STAT:2020 or STAT:3100 or STAT:3101 or STAT:3120) and (CS:2230 or CS:2110).

**CS:5610 High Performance Computer Architecture 3 s.h.**

Problems involved in designing and analyzing current machine architectures using hardware description language (HDL) simulation and analysis, hierarchical memory design, pipeline processing, vector machines, numerical applications, multiprocessor architectures and parallel algorithm design techniques; evaluation methods to determine relationship between computer design and design goals. Prerequisites: ECE:3350 or CS:3620. Same as ECE:5320.

**CS:5620 Distributed Systems and Algorithms 3 s.h.**

Models of distributed systems, program correctness—safety and liveness properties, causality, logical and vector clocks, mutual exclusion, distributed snapshot, leader election, distributed algorithms for graph-theoretic problems, fault-tolerance—masking versus nonmasking types, checkpointing, stabilization, consensus—byzantine generals problem, fault-tolerant broadcast and multicast, management of replicated data. Prerequisites: CS:3330 and CS:3620. Requirements: some interest in networking.

- CS:5630 Cloud Computing Technology** 3 s.h.  
Explores infrastructure and programming paradigms of scalable systems and databases; provides experience with popular cluster frameworks (MapReduce, Hadoop, Spark, Flink, or similar) through programming exercises, projects, and experiments; assigned readings and case studies explore themes such as replication, data sharding, looser types of consistency, virtualization, consensus, and barrier synchronization; cloud system stacks developed by Google, Amazon, Facebook, and Microsoft. Prerequisites: CS:2820 and (CS:3620 or CS:3640).
- CS:5710 Numerical Methods I** 4 s.h.  
Root finding for nonlinear equations; polynomial interpolation; polynomial approximation of functions; numerical integration. Prerequisites: MATH:2700 and (MATH:2850 or MATH:3550). Requirements: knowledge of computer programming. Same as MATH:5800.
- CS:5720 Numerical Methods II** 4 s.h.  
Numerical methods for initial value problems for ordinary differential equations; direct and iterative methods for linear systems of equations; eigenvalue problems for matrices. Prerequisites: MATH:2700 and MATH:5800 and (MATH:2850 or MATH:3550) and (MATH:3600 or MATH:2560). Requirements: knowledge of computer programming. Same as MATH:5810.
- CS:5800 Fundamentals of Software Engineering** 3 s.h.  
Problem analysis, requirements definition, specification, design, implementation, testing/maintenance, integration, project management; human factors; management, technical communication; design methodologies; software validation, verification; group project experience. Prerequisites: CS:2820 or ECE:3330. Same as ECE:5800.
- CS:5810 Formal Methods in Software Engineering** 3 s.h.  
Models, methods, and their application in all phases of software engineering process; specification methods; verification of consistency, completeness of specifications; verification using tools. Prerequisites: ECE:3330 or CS:2820. Recommendations: CS:4350. Same as ECE:5810.
- CS:5820 Software Engineering Languages and Tools** 3 s.h.  
Modern agile software development practices for cloud and web-based applications, using state-of-the-art software engineering languages, tools, and technologies; agile software development practices, software-as-a-service (SAAS), and the Ruby on Rails Development Framework. Prerequisites: ECE:3330 or CS:2820. Same as ECE:5820.
- CS:5830 Software Engineering Project** 3 s.h.  
Team software development project using concepts and methodologies learned in earlier software engineering classes; practical aspects of large-scale software development. Prerequisites: ECE:5820. Same as ECE:5830.
- CS:5850 Programming Language Foundations** 3 s.h.  
Introduction to formal foundations of programming languages using a variety of models, including attribute grammars, operational, axiomatic, denotational, and algebraic techniques; proofs of program equivalence, correctness, termination. Prerequisites: CS:3330 and CS:3820.
- CS:5860 Lambda Calculus and Applications** 3 s.h.  
Covers both typed and untyped versions of the lambda calculus in depth, including essential theoretical results like confluence for untyped lambda calculus and normalization for typed lambda calculi, as well as applications in computer science, logic, and linguistics; coursework includes both theoretical exercises and practical problems using software for manipulating lambda-calculus expressions, students devise their own final projects; no prior experience with lambda calculus, programming, logic, or linguistics is required, although ability to grasp definitions of new concepts and to follow detailed arguments is needed. Prerequisites: CS:3820.
- CS:5980 Topics in Computer Science III** arr.  
Complements material in other courses; for computer science graduate students.
- CS:5990 Individualized Research or Programming Project** arr.  
Individualized research and/or programming projects in computer science, guided by a faculty member.
- CS:6000 Research Seminar: Colloquium Series** 1 s.h.  
Graduate colloquium. Requirements: graduate standing in computer science.
- CS:6990 Readings for Research** arr.  
Requirements: Ph.D. standing in computer science.
- CS:7270 Computing Research Ethics** 1 s.h.  
Series of weekly student-led discussions moderated by supervising faculty, based on papers selected by faculty that emphasize ethical issues specific to computer science including, but not limited to, ethical issues that arise in building and testing software systems, software as intellectual property, managing sensitive electronic data, human-subjects issues in computer science research, online privacy and surveillance, online crime and hacking, computer security, problems with algorithmic bias, and computer-related research misconduct; research focus; students deal with issues pertinent to computing professionals.
- CS:7604 Computing Research Ethics for Postdocs** 0 s.h.  
Review of responsible conduct of research policies specifically tailored to research roles computer science students are likely to play at the University of Iowa and beyond in their professional lives. Requirements: postdoctoral research scholar/fellow standing in computer science.
- CS:7990 Research for Dissertation** arr.  
Individualized instruction for Ph.D. candidates in computer science towards thesis requirements. Requirements: Ph.D. candidacy (postcomprehensive exam) in computer science.

# Computer Science, B.A.

The major in computer science provides students with the necessary training for employment in careers such as software development and information management. It provides good preparation for graduate study in a variety of disciplines.

Students may declare a major in computer science when they are admitted to the University or afterward. They may declare either a Bachelor of Arts or a Bachelor of Science, but if no preference is indicated by a student, the Bachelor of Arts is designated. Students may switch to the Bachelor of Science at any time.

Undergraduates majoring in computer science develop competence in programming principles and methodologies, problem-solving techniques, mathematics, and computer systems. Computer science training is critical for many careers in science, engineering, business, and health care.

Computer science majors are advised at the Academic Advising Center until they have completed 30 s.h., at which point they are assigned a departmental advisor. Students being advised at the Academic Advising Center also can consult with a computer science faculty advisor.

Transfer students who have taken a course approved as equivalent to a required computer science or informatics course are exempt from that course. Transfer course grades are included in the computer science grade-point average.

Students should consult the Department of Computer Science website or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Computing Sciences (WiCS).

## Advanced Placement

The Computer Science Advanced Placement Program test may be used to satisfy requirements. See Advanced Placement Credit Policy on the Department of Computer Science website.

## Learning Outcomes

- Students understand the mathematical, logical, and theoretical foundations of computing.
- Students can analyze and compare the relative merits of alternative software designs and develop high-quality software systems.
- Students understand the fundamental principles of computer organization, system software, networks, and security.
- Students can apply computer science principles to a variety of problems, such as databases, data mining, and various fields of artificial intelligence (AI).
- Students understand social, professional, and ethical issues related to computing.

## Requirements

The Bachelor of Arts with a major in computer science requires a minimum of 120 s.h., including at least 41 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A cumulative g.p.a. of at least 2.00 is required

for graduation. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The computer science major for the Bachelor of Arts is designed for students who would like to gain considerable knowledge in computer science and have flexibility in choosing electives. Students preparing for careers in the computing field are encouraged to supplement the base requirements with additional computer science courses. The program's flexibility makes it suitable for combination with other majors.

Coursework for the major includes computer science courses as well as courses in mathematics, statistics, and other supporting disciplines. Work for the major may not be taken pass/nonpass.

Bachelor of Arts students considering a switch to the Bachelor of Science program should choose their GE CLAS Core Natural Sciences courses carefully since students may be able to use the same courses to satisfy the computer science major natural science sequences requirement for the B.S. degree. See "Natural Science Sequences" under Requirements in the B.S. in computer science [p. 334] section of the Catalog.

Students who major in computer science may not also major or minor in computer science and engineering, data science, or informatics.

## Departmental Residency Requirement

Students who earn a B.A. in computer science must complete at least five courses (minimum of 15 s.h.) at the University of Iowa from the following: CS:2630 Computer Organization or ECE:3350 Computer Architecture and Organization, CS:2820 Introduction to Software Development, CS:3330 Algorithms, and at least two computer science courses numbered CS:3620-CS:5899, but excluding CS:3910 Informatics Project, CS:3980 Topics in Computer Science I, and CS:4310 Design and Implementation of Algorithms; these courses are requirements for the B.A. in computer science as listed below.

## Program Requirements

The B.A. with a major in computer science requires the following coursework. Many courses for the major require a minimum grade of C-minus in prerequisite courses.

Code	Title	Hours
Computer Science Core Courses		27-28
Mathematics Core Courses		11-12
Advanced Computer Science Electives		3
<b>Total Hours</b>		<b>41-43</b>

## Computer Science Core

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:2820	Introduction to Software Development	4
CS:3330	Algorithms	3
CS:3820	Programming Language Concepts	3

One of these:

CS:2630	Computer Organization	4
ECE:3350	Computer Architecture and Organization	3

One of these:

CS:3620	Operating Systems	3
CS:3640	Introduction to Networks and Their Applications	3

## Mathematics Core

### Calculus I

Code	Title	Hours
One of these:		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

### Calculus II

Code	Title	Hours
One of these:		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:1860	Calculus II	4

### Linear Algebra/Probability and Statistics

Students who take MATH:2550 Engineering Mathematics III: Matrix Algebra and MATH:2560 Engineering Mathematics IV: Differential Equations can use these courses together to satisfy the linear algebra requirement.

Code	Title	Hours
One of these:		
MATH:2700	Introduction to Linear Algebra	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4

### Advanced Computer Science Electives

Code	Title	Hours
At least 3 s.h. from these:		
A computer science course (prefix CS) numbered 3620-5899, except CS:3910, CS:3980, and CS:4310		
A computer science course (prefix CS) numbered 5900 or above, with department approval		

Students may count a maximum of 3 s.h. earned in CS:3990 Honors in Computer Science or Informatics toward the advanced computer science elective requirement.

### Early Admission to the Graduate College

Undergraduate computer science students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their final undergraduate semester to take courses

for graduate credit in addition to the courses they need to complete their bachelor's degrees.

## Combined Programs

### B.A./M.C.S.

Qualified computer science undergraduate students who plan to earn the Master of Computer Science degree may apply for the combined Bachelor of Arts/Master of Computer Science program. The combined B.A./M.C.S. program allows students to earn both degrees in five years. The program requires a total of 140 s.h. Students are granted a B.A. when they complete all requirements for the undergraduate degree.

Students in the combined program must complete all requirements for each degree, but may count a maximum of 12 s.h. (four courses) toward both degrees. The four courses must be taken during the fourth year of undergraduate study, after admission to the combined program, and must satisfy degree requirements of both the B.A. and the M.C.S.

If students withdraw from the combined program before completing their bachelor's degree, credit earned in the four courses is counted only toward the undergraduate degree.

A version of the combined program is now available for Grinnell College undergraduate students pursuing a B.A. degree in computer science who want to earn the M.C.S. at the University of Iowa.

Students apply for admission to the combined program during their third year as an undergraduate and enter the program at the beginning of their fourth year. They typically complete the combined program in one year after completing B.A. requirements.

Applicants to the combined program must:

- be enrolled as a B.A. student majoring in computer science at the University of Iowa;
- have completed a minimum of 80 s.h. at the time of admission to the combined program, with at least 30 s.h. earned at the University of Iowa; and
- have a cumulative University of Iowa g.p.a. of at least 3.25 and a g.p.a. of at least 3.25 in the computer science major (computed on math prerequisites and core computer science coursework taken at the University of Iowa).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students must submit an application for admission to the program, a statement of purpose, three letters of recommendation, and transcripts from all colleges attended; they also must apply to the Graduate College. Graduate Record Examination (GRE) scores are not required. For more detailed information, see Graduate Programs on the Department of Computer Science website.

## Honors

### Honors in the Major

Students majoring in computer science have the opportunity to graduate with honors in the major. They must maintain a minimum UI cumulative g.p.a. of 3.33 and a minimum major g.p.a. of 3.50; additionally, students complete 4-6 s.h. of CS:3990 Honors in Computer Science or Informatics and submit an acceptable honors thesis or project. At any

time, students can communicate to the computer science professional advisor that they have an honors interest and can have that designation placed on their academic record.

A student is responsible for finding a faculty member willing to supervise the honors project. The student can register for CS:3990 Honors in Computer Science or Informatics under the project supervisor's name once the faculty member approves the proposed project and a timetable for the work. Once that is accomplished, the student must then communicate with the Department of Computer Science faculty honors director, who changes the student's status to denote the student is pursuing honors in the major. It is not necessary to have declared an honors interest before finding a thesis supervisor and beginning to pursue honors in the major, but the student must be coded as pursuing honors prior to completing the application for degree.

An honors project can be completed in one semester, but it usually takes two semesters to complete. In their final semester, a student must register for CS:3999 Computer Science or Informatics Honors Cohort (0 s.h.). The honors thesis/project must be approved by the thesis supervisor and then submitted to the faculty honors director who will give initial approval that the student can graduate with honors in the major. Final approval is given after final grades are submitted and all requirements are met. For more details regarding project requirements, see Honors in Computer Science on the department's website.

Students who pursue honors in the major may count a maximum of 3 s.h. in CS:3990 Honors in Computer Science or Informatics toward the advanced computer science elective requirement. Those in the combined B.A./M.C.S. program may register for 4-6 s.h. in CS:5990 Individualized Research or Programming Project instead of CS:3990; this registration allows them to receive graduate credit for the course while satisfying the course requirements to graduate with honors.

## University of Iowa Honors Program

In addition to honors in the major, students can pursue honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the computer science major. However, the semester hours earned in CS:3990 Honors in Computer Science or Informatics or CS:5990 Individualized Research or Programming Project can be used to partially satisfy the UI Honors requirement of 12 s.h. of experiential learning coursework.

For more information, contact the Department of Computer Science honors director.

## Career Advancement

Computer science graduates work primarily in two market sectors. One sector is the software and computer industry where the words computer science are being used—those in Silicon Valley, among other areas, and that can range from start-ups to giants like Amazon, Google, Facebook, and Microsoft. The other sector allows computer science students to use their technical expertise in fields beyond computer science. Examples would be working as a user experience (UX) designer for a marketing agency or developing software for a financial group; those are computer science majors

working in media, health care, the government, and even in law firms. Computer science skills are needed everywhere so students have ample opportunities to find an environment that fits their interest and strengths.

As many as one-third of computer science graduates go into research or elect to pursue graduate studies in computer science, including the University of Iowa's five-year B.A./M.C.S. program, or pursue other areas where computer science provides a strong foundation.

A recent job placement survey indicates that more than 97 percent of computer science graduates have a job, are continuing education, or are not seeking employment within six months of graduation.

View post-graduation data on the Pomerantz Career Center website that uses University of Iowa placement information to explore what recent computer science alumni are doing that includes median salaries, job titles, companies of employment, and other facts about UI graduates.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to B.A. students majoring in computer science. Students work with their advisors on individual graduation plans.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Computer Science, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Effective fall 2022, computer science majors enrolled full-time and with 60 s.h. or more overall earned hours reflected on the UI grade report will be assessed \$500 per semester supplemental tuition; the amount is pro-rated for part-time students. For more information see: <a href="https://cs.uiowa.edu/supplemental-tuition-effective-fall-2022">https://cs.uiowa.edu/supplemental-tuition-effective-fall-2022</a> .		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1005	College Algebra <sup>b</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
CS:1110	Introduction to Computer Science	3
MATH:1010	Trigonometry	3

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
<b>Hours</b>		<b>16-18</b>

**Second Year****Fall**

CS:1210	Computer Science I: Fundamentals	4
MATH:1850	Calculus I	4
GE CLAS Core: Social Sciences <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>16-17</b>

**Spring**

CS:2210	Discrete Structures	3
MATH:1860	Calculus II	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>16-17</b>

**Third Year****Fall**

CS:2230	Computer Science II: Data Structures	4
Major: mathematics core course <sup>f</sup>		3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>15-16</b>

**Spring**

ECE:3350 or CS:2630	Computer Architecture and Organization or Computer Organization	3 - 4
CS:3330	Algorithms <sup>g</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>

**Fourth Year****Fall**

CS:2820	Introduction to Software Development <sup>g</sup>	4
CS:3820	Programming Language Concepts <sup>g</sup>	3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16</b>

**Spring**

CS:3640 or CS:3620	Introduction to Networks and Their Applications or Operating Systems	3
Major: advanced computer science elective <sup>h</sup>		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>e</sup>		3

Elective course <sup>e</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	

<b>Hours</b>	<b>15</b>
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<b>Total Hours</b>	<b>125-133</b>
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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Choose from MATH:2700, STAT:2020, or STAT:3120.

g Students may take CS:2820, CS:3330, and CS:3820 in any order after completing CS:1210, CS:2210, and CS:2230.

h Students may choose a computer science course (prefix CS) numbered 3620-5899 (except CS:3910, CS:3980, CS:4310), or a CS course numbered 5900 or above with department approval. A course used to complete a core requirement cannot also be used as a major elective.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Informatics, B.A.

The major in informatics provides students with the necessary training for employment in careers such as software development, user experience, and data analytics. It provides good preparation for graduate study in a variety of disciplines.

Students may declare a major in informatics when they are admitted to the University or afterward. All students begin the major as Bachelor of Arts students but may switch to the Bachelor of Science programs at any time.

The informatics major combines fundamental and practical computing knowledge with a choice of cognate areas from the liberal arts and sciences, providing students with the necessary background and specialized skills to work at the interface of computing and another discipline. Students may begin the major without a chosen cognate area; they may declare a cognate at any time. Some cognates are available only with the Bachelor of Arts, others are available only with the Bachelor of Science. A student's choice of cognate determines whether the student will earn a B.A. or a B.S.

Informatics majors are advised at the Academic Advising Center until they have completed 30 s.h., at which point they are assigned a departmental advisor. Students being advised at the Academic Advising Center also can consult with an informatics faculty advisor.

Transfer students who have taken a course approved as equivalent to a required informatics or computer science course are exempt from that course. Transfer course grades are included in the informatics grade-point average.

Students should consult the Department of Computer Science website or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Computing Sciences (WiCS).

## Advanced Placement

The Computer Science Advanced Placement (AP) exam may be used to satisfy requirements. See Advanced Placement Credit Policy on the Department of Computer Science website.

## Learning Outcomes

- Students can apply computational thinking approaches to solve problems.
- Students can individually and collaboratively develop software using professional tools.
- Students can extract, organize, analyze, and present data from a variety of sources.
- Students can contribute to the development of usable, useful, and enjoyable software applications by using human-centered methods.
- Students understand social, professional, and ethical issues related to computing.
- Students have a thorough understanding of a chosen cognate area.

## Requirements

The Bachelor of Arts with a major in informatics requires a minimum of 120 s.h., including at least 43-51 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A

cumulative g.p.a. of at least 2.00 is required for graduation. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The program combines foundational informatics coursework with coursework in a cognate area. The major offers the cognate areas of art, economics, geoinformatics, health informatics, human-computer interaction, linguistics, media, music, social informatics, and individualized cognates. Required credit for the major depends on a student's choice of cognate area.

Coursework for the major includes the informatics core, one elective, a statistics course, and a set of courses in a chosen cognate area. Work for the major may not be taken pass/nonpass. Students are expected to have taken MATH:1005 College Algebra or the equivalent.

Students who major in informatics may not also major in computer science, business analytics and information systems, or computer science and engineering. They may, however, earn a minor in computer science.

## Departmental Residency Requirement

Students must complete at least four courses (minimum of 12 s.h.) at the University of Iowa from the following: CS:3910 Informatics Project and three additional courses numbered CS:2500-CS:4999; these courses are requirements for the B.A. in informatics as listed below.

## Program Requirements

The B.A. with a major in informatics requires the following coursework. Many courses for the major require a minimum grade of C-minus in prerequisite courses.

Code	Title	Hours
Informatics Core Courses		19
Informatics Electives		3
Statistics Course		3-4
Cognate Courses		18-25
<b>Total Hours</b>		<b>43-51</b>

## Informatics Core

The informatics core consists of six required computing courses (19 s.h.) that emphasize data manipulation, databases, and networking. It provides more applications-oriented content than the traditional computer science curriculum yet is designed to offer students a sound basis in underlying computer science themes and techniques.

Code	Title	Hours
All of these:		
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
CS:2420	Analyzing Data for Informatics	3
CS:2520	Human-Computer Interaction for Informatics	3
CS:2620	Server-Side Development for Informatics	3
CS:3910	Informatics Project	3



## Informatics Electives

Students must complete at least one course (3 s.h.) from a list of approved computing informatics electives. Course selection must be approved by an informatics advisor. In addition to the courses listed below, students may have additional choices from the Department of Electrical and Computer Engineering and the Department of Business Analytics; consult an informatics faculty advisor for additional choices.

Code	Title	Hours
BAIS:4220	Advanced Database Management and Big Data	3

A computer science course (prefix CS) numbered 3000-4999, including CS:3990 for 3 s.h., but excluding CS:3910 and CS:4510

## Statistics Course

Students must complete one introductory statistics course. Some cognates require a specific statistic course. Students should consult with their advisors to choose a statistics course appropriate for their cognate area.

Code	Title	Hours
One of these:		
PSY:2811	Research Methods and Data Analysis in Psychology I	3
SOC:2160	Applied Statistics for Social Scientists	3
STAT:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3

## Cognates

Students must complete all requirements listed under one of the cognate areas below: art, economics, geoinformatics, health informatics, human-computer interaction, linguistics, media, music, social informatics, or an individualized cognate.

### Art

The informatics major with the art cognate requires a minimum of 47 s.h. of work for the major, including 22 s.h. in cognate courses. Students learn about the design and maintenance of web services, applications of modern computerized artistic tools, and benefits and limitations of computers as a digital medium. They also gain insight into computerized tool design that is guided by knowledge of an artist's requirements. The art cognate may lead to careers in web development, technology coordination for artistic productions, development of digital artistic tools, and artistic or technical development for entertainment companies. Cognate courses are primarily in art history, design, elements of art, and photography.

Some courses listed below are open only to students majoring in art, so they are appropriate choices only for students

with a double major in art and informatics. Non-art majors should work with an informatics faculty advisor to develop an individual set of art cognate courses.

Code	Title	Hours
All of these:		
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
DSGN:2500	Graphic Design I	3
DSGN:2600	Graphic Design II	3
DSGN:3500	Graphic Design III	4
Any art history course (prefix ARTH) numbered at the 1000 or 2000 level		
One of these, to complete 22 s.h. for the art cognate:		
CS:2800	Digital Arts: An Introduction	3
DSGN:3600	Graphic Design IV	4
MUSM:3125	Museums in a Digital World	3
SCLP:3840	Robotic Art Studio	4
SCLP:4830	Motion and Mechanisms	4
SCLP:4835	Electronic Objects and Spaces	4
SCLP:4840	Air, Actuators, and Motors	4

## Economics

The informatics major with the economics cognate requires a minimum of 49 s.h. of work for the major, including 24 s.h. in cognate courses, which are primarily from economics. The economics cognate is intended for students interested in working with economic, financial, or demographic data. It may lead to careers in administration, business, or government or to graduate study in management or policy areas.

Code	Title	Hours
All of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3
MATH:1350	Quantitative Reasoning for Business	4

Additional 6 s.h. in economics courses (prefix ECON) numbered 3000 or above

## Geoinformatics

The informatics major with the geoinformatics cognate requires a minimum of 48 s.h. of work for the major, including 23 s.h. in cognate courses, which are primarily from geographical and sustainability sciences. The geoinformatics cognate is intended for students interested in geographic information systems (GIS) and spatial aspects of data. It may lead to careers in business, government, or public health or to graduate study in geography, public health, or policy areas.

Code	Title	Hours
All of these:		
GEOG:1020	The Global Environment	3
GEOG:1021	The Global Environment Lab	1
GEOG:1050	Foundations of GIS	4
Two of these:		

GEOG:1070	Contemporary Environmental Issues	3
GEOG:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2910	The Global Economy	3
One of these:		
GEOG:3520	GIS for Environmental Studies	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3

And:

Two geographical and sustainability sciences courses (prefix GEOG) numbered 3500 or above (at least 6 s.h.)

## Health Informatics

The informatics major with the health informatics cognate requires a minimum of 46 s.h. of work for the major, including 21 s.h. in cognate courses. The health informatics cognate is intended for students interested in applications of computing to health care, especially in public health. It may lead to careers in medical or health-related areas or to graduate and professional degree programs in public health, health informatics, and medical informatics. Cognate courses are selected primarily from public health, geography, and global health studies.

Once students complete the required courses in each of the four sets below, they must select additional courses from the sets to complete 21 s.h. of credit for the cognate.

Code	Title	Hours
One of these:		
CPH:1400	Fundamentals of Public Health	3
GHS:3720	Contemporary Issues in Global Health	3

At least two of these:

GEOG:1050	Foundations of GIS	4
GEOG:3110	Geography of Health	3
GEOG:4150	Health and Environment: GIS Applications	3

Any geographical and sustainability sciences course (prefix GEOG) numbered 3500 or above

At least two of these:

GHS:3620	Global Health and Human Rights	2-3
GHS:3720	Contemporary Issues in Global Health	3
GHS:3850	Promoting Health Globally	3
GHS:4100	Topics in Global Health	1-3
JMC:3150	Media and Health	3

One of these:

EPID:4400	Epidemiology I: Principles	3
HMP:4000	Introduction to the U.S. Health Care System	3

## Human-Computer Interaction

The informatics major with the human-computer interaction cognate requires a minimum of 46 s.h. of work for the major, including at least 21 s.h. in cognate courses. The human-

computer interaction cognate is intended for students interested in designing useful and usable technologies. It can lead to careers in interaction design, web design, implementation of user interfaces, and evaluation of human-computer interactions as well as provide valuable skills for graduate study in human-computer interaction.

The cognate's courses provide an interdisciplinary foundation including psychology, sociology, and studio arts, together with an understanding of research methods in human-computer interaction and relevant software development skills. This cognate requires more advanced courses in computer science than other cognates.

Code	Title	Hours
This course:		
CS:4500	Research Methods in Human-Computer Interaction	3

Either both psychology courses or both sociology courses:

PSY:1001 & PSY:2601	Elementary Psychology - Introduction to Cognitive Psychology	6
SOC:1010 & SOC:2130	Introduction to Sociology - Sociological Theory	6-7

One art course from these:

ARTS:1020	Elements of 3D Design	3
ARTS:1070	Elements of Graphic Design (recommended)	3

Three of these:

ISE:3400	Human Factors	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4

Any computer science course (prefix CS) numbered 3000 or above, except CS:4510 and CS:5990, with 4000-level human-computer interaction themed courses recommended

Most courses in this list have prerequisites, which students must complete before they may register for the course. Most of the psychological and brain science courses (prefix PSY) require PSY:1001 Elementary Psychology as a prerequisite. Students should review prerequisites carefully before making their selections.

## Linguistics

The informatics major with the linguistics cognate requires a minimum of 47 s.h. of work for the major, including at least 22 s.h. in cognate courses. Linguistics, the scientific study of human languages, is directly related to psychology, anthropology, and computer science as well as to more applied fields such as second language acquisition or speech and hearing science. The cognate focuses on computational representations of syntax and semantics for processing natural language. Cognate courses are drawn primarily from linguistics.

Code	Title	Hours
All of these:		
CSD:3112	Anatomy and Physiology of Speech Production	4

CSD:3116	Basic Neuroscience for Speech and Hearing	3
LING:3001	Introduction to Linguistics	3
LING:3005	Articulatory and Acoustic Phonetics	3
LING:3010	Syntactic Analysis	3
LING:3020	Phonological Analysis	3
LING:3080	History of the English Language	3

## Media

The informatics major with the media cognate requires a minimum of 48 s.h. of work for the major, including 23 s.h. in cognate courses. This cognate is intended for students interested in working in media industries. Data-specific occupations in these industries include, but are not limited to, data/communication analyst, data mining expert, strategic analyst, data journalist, web developer, information graphics specialist, app developer, and multimedia journalist.

The courses, JMC:2010 Reporting and Writing and JMC:2020 Multimedia Storytelling, are corequisites and must be taken during the same semester. Students are responsible for completing the prerequisites for JMC:2010.

Code	Title	Hours
All of these:		
JMC:1300	Introduction to Journalism and Strategic Communication	3
JMC:2010	Reporting and Writing	3
JMC:2020	Multimedia Storytelling	3
One of these:		
JMC:3610	Graphic Design	3-4
JMC:3640	Information and Data Visualization	3-4

And:

At least three journalism and mass communication courses (prefix JMC) numbered 3400 or above to complete 23 s.h. for the media cognate

## Music

The informatics major with the music cognate requires a minimum of 48 s.h. of work for the major, including 23 s.h. in cognate courses. The music cognate is intended for students interested in audio recording, manipulation of sound, and digital media. It may help students prepare for careers in the entertainment industry. Cognate courses are primarily from music, with some from cinematic arts and theatre arts. Entering students must possess basic musicianship skills; an audition may be required for admission.

When students begin work on this cognate, they should enroll in MUS:1201 Musicianship and Theory I and they must take the Placement Exam A, which is administered online during the summer before fall semester begins, to determine readiness for the Musicianship and Theory course sequence. See Musicianship and Theory Placement on the School of Music website for more information. Advanced placement in School of Music courses does not reduce the number of semester hours required for the cognate.

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1
MUS:3780	Audio Recording I	3
MUS:3781	Audio Recording II	3
One of these:		
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311	Music of Latin America and the Caribbean	3
At least one of these, to complete 23 s.h. for the music cognate:		
CS:2800	Digital Arts: An Introduction	3
CINE:4841	Film/Video Production: Sound Design	4
MUS:1007	Garage Band: The Basics	2
MUS:1010	Recital Attendance for Nonmajors	1
THTR:3260	Sound Design for the Theatre	3

## Social Informatics

The informatics major with the social informatics cognate requires a minimum of 45 s.h. of work for the major, including 20 s.h. in cognate courses, all from the Department of Sociology and Criminology.

Code	Title	Hours
All of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:2130	Sociological Theory	3
SOC:2170	Research Methods	3
At least 11 s.h. from these:		
CRIM:1410	Introduction to Criminology	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3450	Criminal Legal System	3
CRIM:4400	Internship in Criminal Justice and Corrections	3

Any sociology course (prefix SOC) numbered 1020 or above

## Individualized Cognates

Students interested in developing individualized cognates may work with an informatics faculty advisor. Individualized cognates may be drawn primarily from one department or an appropriate mix of departments; they require an approved set of cognate courses totaling 18-25 s.h.

## Early Admission to the Graduate College

Undergraduate informatics students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their

final undergraduate semester to take courses for graduate credit in addition to the courses they need to complete their bachelor's degrees.

## Combined Programs

### **B.A./M.S. in Informatics (Geoinformatics or Health Informatics or Human-Computer Interaction Subprogram)**

Students majoring in informatics who are interested in earning a master's degree in informatics may apply to the combined B.A./M.S. program (geoinformatics or health informatics, or human-computer interaction subprogram) offered by the College of Liberal Arts and Sciences and the Graduate College. The program enables students to begin the study of informatics before they complete their bachelor's degree. Students are able to complete both degrees in less time than if they were to complete the two degrees separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information about the graduate degree program, see the M.S. in informatics [p. 1749] (Graduate College) in the Catalog.

## Honors

### **Honors in the Major**

Students majoring in informatics have the opportunity to graduate with honors in the major. They must maintain a minimum UI cumulative g.p.a. of 3.33 and a minimum major g.p.a. of 3.50; additionally, students complete 4-6 s.h. of CS:3990 Honors in Computer Science or Informatics and submit an acceptable honors thesis or project. At any time, students can communicate to the computer science professional advisor that they have an honors interest and can have that designation placed on their academic record.

A student is responsible for finding a faculty member willing to supervise the honors project. The student can register for CS:3990 Honors in Computer Science or Informatics under the project supervisor's name once the faculty member approves the proposed project and a timetable for the work. Once that is accomplished, the student must then communicate with the Department of Computer Science honors director, who changes the student's status to denote the student is pursuing honors in the major. It is not necessary to have declared an honors interest before finding a thesis supervisor and beginning to pursue honors in the major, but the student must be coded as pursuing honors prior to completing the application for degree.

An honors project can be completed in one semester, but it usually takes two semesters to complete. In the final semester, a student must register for CS:3999 Computer Science or Informatics Honors Cohort (0 s.h.). The honors thesis/project must be approved by the thesis supervisor and then submitted to the honors director who will give initial approval that the student can graduate with honors in the major. Final approval is given after final grades are submitted and all requirements are met. For more details regarding project requirements, see Honors in Computer Science on the department's website.

## **University of Iowa Honors Program**

In addition to honors in the major, students can pursue honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the informatics major. However, the semester hours earned in CS:3990 Honors in Computer Science or Informatics can be used to partially satisfy the UI Honors requirement of 12 s.h. of experiential learning coursework.

For more information, contact the Department of Computer Science honors director.

## Career Advancement

Informatics graduates work in a broad range of market sectors, reflecting the interdisciplinary nature of the program and the large number of available cognates. Students will have technical skills along with a specialty area that can help them pursue a specific type of organization or interest field.

Here are just a few of the areas that informatics graduates have pursued:

- software development,
- database and/or web administrators,
- data analyst,
- software support personnel (IT),
- user interface/user experience web designers (the human-computer interaction cognate is useful for this area), and
- health care information technicians (the health informatics cognate is useful for this area).

A recent job placement survey indicates that more than 90 percent of University of Iowa informatics graduates have a job, are continuing education, or are not seeking employment within six months of graduation.

View post-graduation data on the Pomerantz Career Center website that uses University of Iowa placement information to explore what recent informatics alumni are doing that includes median salaries, job titles, companies of employment, and other facts about UI graduates.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### **Four-Year Graduation Plan**

The Four-Year Graduation Plan is not available to B.A. students majoring in informatics. Students work with their advisors on individual graduation plans.

### **Sample Plan of Study**

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Informatics, B.A.

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>a</sup>		3
GE CLAS Core: International and Global Issues <sup>a</sup>		3
CS:1110	Introduction to Computer Science	3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3
GE CLAS Core: Historical Perspectives <sup>a</sup>		3
CS:2110	Programming for Informatics	4
Major: Informatics cognate course <sup>b</sup>		3 - 4
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
GE CLAS Core: Social Sciences <sup>a</sup>		3
CS:2520	Human-Computer Interaction for Informatics	3
Major: Informatics cognate course <sup>b</sup>		3 - 4
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
GE CLAS Core: Natural Sciences with Lab <sup>a</sup>		4
CS:2620	Server-Side Development for Informatics	3
Major: Informatics cognate course <sup>b</sup>		3 - 4
Elective course		2
<b>Hours</b>		<b>16-18</b>
<b>Third Year</b>		
<b>Fall</b>		
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
GE CLAS Core: Natural Sciences without Lab <sup>a</sup>		3
CS:2420	Analyzing Data for Informatics	3
Major: Informatics cognate course <sup>b</sup>		3 - 4
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts <sup>a</sup>		3
Major: Informatics cognate course <sup>b</sup>		3 - 4
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-18</b>

## Fourth Year

### Fall

GE CLAS Core: Values and Culture <sup>a</sup>	3
Major: Informatics advanced elective <sup>e</sup>	3
Major: Introductory statistics <sup>f, g</sup>	3
Major: Informatics cognate course <sup>b</sup>	3 - 4
Elective course <sup>c</sup>	3

**Hours 15-16**

### Spring

CS:3910	Informatics Project	3
Major: Informatics cognate course <sup>b</sup>		3 - 4
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)

**Hours 15-16**

**Total Hours 123-135**

a GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

b Students must complete all requirements in one of the following cognate areas: art, economics, geoinformatics, health informatics, human-computer interaction, linguistics, media, music, social informatics or individualized. Students interested in developing individualized cognates (a grouping of 18-25 s.h. of courses drawn primarily from one department) must work with an informatics faculty advisor to create a plan of study and obtain departmental approval for their plan.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e BAIS:4220, or a computer science course (prefix CS) numbered 3000-4999, including CS:3990 for 3 s.h., but excluding CS:3910 and CS:4510.

f STAT:1020 or other. Some cognates require a specific statistics course. See advisor for more information.

g Fulfills a major requirement and may fulfill a GE requirement.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Computer Science, B.S.

The major in computer science provides students with the necessary training for employment in careers such as software development and information management. It provides good preparation for graduate study in a variety of disciplines.

Students may declare a major in computer science when they are admitted to the University or afterward. They may declare either a Bachelor of Arts or a Bachelor of Science, but if no preference is indicated by a student, the Bachelor of Arts is designated. Students may switch to the Bachelor of Science at any time.

Undergraduates majoring in computer science develop competence in programming principles and methodologies, problem-solving techniques, mathematics, and computer systems. Computer science training is critical for many careers in science, engineering, business, and health care.

Computer science majors are advised at the Academic Advising Center until they have completed 30 s.h., at which point they are assigned a departmental advisor. Students being advised at the Academic Advising Center also can consult with a computer science faculty advisor.

Transfer students who have taken a course approved as equivalent to a required computer science or informatics course are exempt from that course. Transfer course grades are included in the computer science grade-point average.

Students should consult the Department of Computer Science website or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Computing Sciences (WiCS).

## Advanced Placement

The Computer Science Advanced Placement Program test may be used to satisfy requirements. See Advanced Placement Credit Policy on the Department of Computer Science website.

## Learning Outcomes

- Students understand the mathematical, logical, and theoretical foundations of computing.
- Students can analyze and compare the relative merits of alternative software designs and develop high-quality software systems.
- Students understand the fundamental principles of computer organization, system software, networks, and security.
- Students can apply computer science principles to a variety of problems, such as databases, data mining, and various fields of artificial intelligence (AI).
- Students understand social, professional, and ethical issues related to computing.

## Requirements

The Bachelor of Science with a major in computer science requires a minimum of 120 s.h., including at least 63 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A cumulative g.p.a. of at least 2.00 is required

for graduation. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The Bachelor of Science program is more rigorous than that of the Bachelor of Arts program; it is designed to provide in-depth training for students who would like to acquire strength in math and science in order to enhance their skills and job prospects. It also is appropriate for those who plan to pursue graduate work in computer science, although it is not required for graduate study at most universities.

Coursework for the major includes computer science courses as well as courses in mathematics, statistics, and other supporting disciplines. Work for the major may not be taken pass/nonpass.

Bachelor of Science students with a computer science major should choose their GE CLAS Core Natural Sciences courses carefully since they may be able to use the same courses to satisfy the computer science major natural science sequences requirement; see "Natural Science Sequences" below.

Students who major in computer science may not also major or minor in computer science and engineering, data science, or informatics.

## Departmental Residency Requirement

Students who earn a B.S. in computer science must complete at least seven courses (minimum of 21 s.h.) at the University of Iowa from the following: CS:2630 Computer Organization or ECE:3350 Computer Architecture and Organization, CS:2820 Introduction to Software Development, CS:3330 Algorithms, and at least four computer science courses numbered CS:3620-CS:5899, but excluding CS:3910 Informatics Project, CS:3980 Topics in Computer Science I, and CS:4310 Design and Implementation of Algorithms; these courses are requirements for the B.S. in computer science as listed below.

## Program Requirements

The B.S. with a major in computer science requires the following coursework. Many courses for the major require a minimum grade of C-minus in the prerequisite courses.

Code	Title	Hours
Computer Science Core Courses		27-28
Mathematics Core Courses		15-16
Computation Theory Course		3
Advanced Technical Electives		12
Natural Sciences Sequences Courses		6-8
<b>Total Hours</b>		<b>63-67</b>

## Computer Science Core

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:2820	Introduction to Software Development	4
CS:3330	Algorithms	3
CS:3820	Programming Language Concepts	3

One of these:

CS:2630	Computer Organization	4
ECE:3350	Computer Architecture and Organization	3

One of these:

CS:3620	Operating Systems	3
CS:3640	Introduction to Networks and Their Applications	3

## Mathematics Core

### Calculus I

Code	Title	Hours
One of these:		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

### Calculus II

Code	Title	Hours
One of these:		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:1860	Calculus II	4

### Linear Algebra

Students who take MATH:2550 Engineering Mathematics III: Matrix Algebra and MATH:2560 Engineering Mathematics IV: Differential Equations can use these courses together to satisfy the linear algebra requirement.

Code	Title	Hours
This course:		
MATH:2700	Introduction to Linear Algebra	4

### Probability and Statistics

Code	Title	Hours
One of these:		
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4

Other probability and statistics courses (prefix STAT) with a calculus prerequisite approved by the department

### Computation Theory

Code	Title	Hours
One of these:		
CS:4330	Theory of Computation	3
CS:4350	Logic in Computer Science	3

### Advanced Technical Electives

Students must earn at least 12 s.h. (four courses) in advanced technical electives, as follows.

Code	Title	Hours
At least 6 s.h. from these:		

A computer science course (prefix CS) numbered 3620-5899, except CS:3910, CS:3980, and CS:4310; a maximum of 3 s.h. in CS:3990 will count toward the requirement

A computer science course (prefix CS) numbered 5900 or above, with department approval

Remaining courses may be chosen from advanced technical elective courses in computer science (prefix CS) or in other disciplines with department approval; the following are preapproved technical electives.

Code	Title	Hours
<b>Biology</b>		
BIOL:2512	Fundamental Genetics	4
BIOL:3172	Evolution	4
<b>Chemistry</b>		
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CHEM:2230	Organic Chemistry I for Majors	3
CHEM:2240	Organic Chemistry II for Majors	3
CHEM:2410	Organic Chemistry Laboratory	3

### Electrical and Computer Engineering

ECE:3600	Control Systems	3
ECE:5450	Machine Learning	3
ECE:5480	Digital Image Processing	3
ECE:5600	Control Theory	3

### Geographical and Sustainability Sciences

GEOG:3520	GIS for Environmental Studies	3
GEOG:3540	Geographic Visualization	3

### Earth and Environmental Sciences

EES:2410	Mineralogy	4
EES:3020	Earth Surface Processes	3
EES:3210	Principles of Paleontology	3
EES:3300	Sedimentary Geology	4
EES:3360	Soil Genesis and Geomorphology	3
EES:3380	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4800	Global Geophysics	3

### Economics

ECON:4700	Topics in Analytical Economics	3
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### Mathematics

MATH:2560	Engineering Mathematics IV: Differential Equations	3
MATH:2850	Calculus III	4
MATH:3550	Engineering Mathematics V: Vector Calculus	3
MATH:3600	Introduction to Ordinary Differential Equations	2-3

MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4
MATH:4040	Matrix Theory	3
MATH:4050	Introduction to Discrete Mathematics	3
MATH:4060	Discrete Mathematical Models	3

**Philosophy**

PHIL:4691	Mathematical Logic	3
PHIL:4692	Modal Logic	3

**Physics**

PHYS:2703	Physics III	4
PHYS:2704	Physics IV	3-4

**Psychology**

LING:3117	Psychology of Language	3
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**Statistics and Actuarial Science**

ACTS:3080	Mathematics of Finance I	3
STAT:4100	Mathematical Statistics I	3
STAT:4101	Mathematical Statistics II	3

**Natural Science Sequences**

Students take two or more courses in a sequence (totaling at least 6 s.h.) in a cognate area of natural science. The natural science sequence is intended to enhance a student's perspective by providing a deeper understanding of the scientific method. Typically, it consists of a sequence of courses taken in the same science department. Students often choose courses that also fulfill the GE CLAS Core [p. 20] Natural Sciences requirement. Some possible choices are listed below; the director of undergraduate studies may approve others.

CLEP/AP credit may be used to satisfy part or all of the natural science requirement only if the appropriate science department at the University of Iowa accepts the credit as equivalent to one or more of the specific courses listed below.

Code	Title	Hours
<b>Astronomy</b>		
ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy	4
ASTR:1772	Introductory Astronomy II: Stellar, Galactic, and Extragalactic Astronomy	4
<b>Biology</b>		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
<b>Chemistry</b>		
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
<b>Earth and Environmental Sciences</b>		
EES:1030	Introduction to Earth Science	3-4
or EES:1050	Introduction to Geology	
EES:1080	Introduction to Environmental Science	3-4
<b>Geographical and Sustainability Sciences</b>		
GEOG:1020	The Global Environment	3

GEOG:1050	Foundations of GIS	4
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**Physics**

One of these sequences:

PHYS:1611-	Introductory Physics I-II	8
PHYS:1612		
PHYS:1701-	Physics I-II	8
PHYS:1702		

**Early Admission to the Graduate College**

Undergraduate computer science students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their final undergraduate semester to take courses for graduate credit in addition to the courses they need to complete their bachelor's degrees.

**Combined Programs****B.S./M.C.S.**

Qualified computer science undergraduate students who plan to earn the Master of Computer Science degree may apply for the combined Bachelor of Science/Master of Computer Science program. The combined B.S./M.C.S. program allow students to earn both degrees in five years. The program requires a total of 140 s.h. Students are granted a B.S. when they complete all requirements for the undergraduate degree.

Students in the combined program must complete all requirements for each degree, but may count a maximum of 12 s.h. (four courses) toward both degrees. The four courses must be taken during the fourth year of undergraduate study, after admission to the combined program, and must satisfy degree requirements of both the B.S. and the M.C.S.

If students withdraw from the combined program before completing their bachelor's degree, credit earned in the four courses is counted only toward the undergraduate degree.

Students apply for admission to the combined program during their third year as an undergraduate and enter the program at the beginning of their fourth year. They typically complete the combined program comfortably in one year after completing the B.S. requirements.

Applicants to the combined program must:

- be enrolled as a B.S. student majoring in computer science at the University of Iowa;
- have completed a minimum of 80 s.h. at the time of admission to the combined program, with at least 30 s.h. earned at the University of Iowa; and
- have a cumulative University of Iowa g.p.a. of at least 3.25 and a g.p.a. of at least 3.25 in the computer science major (computed on math prerequisites and core computer science coursework taken at the University of Iowa).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students must submit an application for admission to the program, a statement of purpose, three letters of recommendation, and transcripts from all colleges attended; they also must apply to the Graduate College. Graduate Record Examination (GRE) scores are not required. For



more detailed information, see Graduate Programs on the Department of Computer Science website.

## Honors

### Honors in the Major

Students majoring in computer science have the opportunity to graduate with honors in the major. They must maintain a minimum UI cumulative g.p.a. of 3.33 and a minimum major g.p.a. of 3.50; additionally, students complete 4-6 s.h. of CS:3990 Honors in Computer Science or Informatics and submit an acceptable honors thesis or project. At any time, students can communicate to the computer science professional advisor that they have an honors interest and can have that designation placed on their academic record.

A student is responsible for finding a faculty member willing to supervise the honors project. The student can register for CS:3990 Honors in Computer Science or Informatics under the project supervisor's name once the faculty member approves the proposed project and a timetable for the work. Once that is accomplished, the student must then communicate with the Department of Computer Science honors director, who changes the student's status to denote the student is pursuing honors in the major. It is not necessary to have declared an honors interest before finding a thesis supervisor and beginning to pursue honors in the major, but the student must be coded as pursuing honors prior to completing the application for degree.

An honors project can be completed in one semester, but it usually takes two semesters to complete. In their final semester, a student must register for CS:3999 Computer Science or Informatics Honors Cohort (0 s.h.). The honors thesis/project must be approved by the thesis supervisor and then submitted to the honors director who will give initial approval that the student can graduate with honors in the major. Final approval is given after final grades are submitted and all requirements are met. For more details regarding project requirements, see Honors in Computer Science on the department's website.

Students who pursue honors in the major may count a maximum of 3 s.h. in CS:3990 Honors in Computer Science or Informatics toward the advanced technical elective requirement. Those in the combined B.S./M.C.S. program may register for 4-6 s.h. in CS:5990 Individualized Research or Programming Project instead of CS:3990; this registration allows them to receive graduate credit for the course while satisfying the course requirements to graduate with honors.

### University of Iowa Honors Program

In addition to honors in the major, students can pursue honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the computer science major. However, the semester hours earned in CS:3990 Honors in Computer Science or Informatics or CS:5990 Individualized Research or Programming Project can be used to partially satisfy the UI Honors requirement of 12 s.h. of experiential learning coursework.

For more information, contact the Department of Computer Science honors director.

## Career Advancement

Computer science graduates work primarily in two market sectors. One sector is the software and computer industry where the words computer science are being used—those in Silicon Valley, among other areas, and that can range from start-ups to giants like Amazon, Google, Facebook, and Microsoft. The other sector allows computer science students to use their technical expertise in fields beyond computer science. Examples would be working as a user experience (UX) designer for a marketing agency or developing software for a financial group; those are computer science majors working in media, health care, the government, and even in law firms. Computer science skills are needed everywhere so students has ample opportunities to find an environment that fits their interest and strengths.

As many as one-third of computer science graduates go into research or elect to pursue graduate studies in computer science, including the University of Iowa's five-year B.S./M.C.S. program, or pursue other areas where computer science provides a strong foundation.

A recent job placement survey indicates that more than 97 percent of computer science graduates have a job, are continuing education, or are not seeking employment within six months of graduation.

View post-graduation data on the Pomerantz Career Center website that uses University of Iowa placement information to explore what recent computer science alumni are doing that includes median salaries, job titles, companies of employment, and other facts about UI graduates.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to B.S. students majoring in computer science. Students work with their advisors on individual graduation plans.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Computer Science, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Effective fall 2022, computer science majors enrolled full-time and with 60 s.h. or more overall earned hours reflected on the UI grade report will be assessed \$500 per semester supplemental tuition; the amount is pro-rated for part-time students. For more information see: <a href="https://cs.uiowa.edu/supplemental-tuition-effective-fall-2022">https://cs.uiowa.edu/supplemental-tuition-effective-fall-2022</a> .		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>

**First Year****Fall**

CS:1210	Computer Science I: Fundamentals <sup>b</sup>	4
MATH:1850	Calculus I <sup>c</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>14-15</b>

**Spring**

CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
MATH:1860	Calculus II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
<b>Hours</b>		<b>17-18</b>

**Second Year****Fall**

CS:2630	Computer Organization <sup>f</sup>	4
CS:3330	Algorithms <sup>f</sup>	3
Major: mathematics elective <sup>g</sup>		3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-17</b>

**Spring**

CS:2820	Introduction to Software Development <sup>f</sup>	4
CS:3820	Programming Language Concepts	3
Major: mathematics elective <sup>g</sup>		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>19-21</b>

**Third Year****Fall**

CS:3640 or CS:3620	Introduction to Networks and Their Applications or Operating Systems	3
Major: advanced computer science elective <sup>i</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>e, j</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
<b>Hours</b>		<b>13-14</b>

**Spring**

CS:4330 or CS:4350	Theory of Computation or Logic in Computer Science	3
Major: advanced computer science elective <sup>i</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e, j</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-16</b>

**Fourth Year****Fall**

Major: advanced computer science or technical elective <sup>k</sup>	3	
GE CLAS Core: Historical Perspectives <sup>e</sup>	3	
GE CLAS Core: International and Global Issues <sup>e</sup>	3	
Elective course <sup>d</sup>	3	
Elective course <sup>d</sup>	3	
<b>Hours</b>		<b>15</b>

**Spring**

Major: advanced computer science or technical elective <sup>k</sup>	3	
GE CLAS Core: Social Sciences <sup>e</sup>	3	
GE CLAS Core: Values and Culture <sup>e</sup>	3	
Elective course <sup>d</sup>	3	
Elective course <sup>d</sup>	3	
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>l</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>123-131</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in this course requires completion of a placement exam.

c Enrollment in math courses requires completion of a placement exam.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students may take CS:2630, CS:2820 and CS:3330 in any order after completing CS:1210, CS:2210, and CS:2230.

g Required math electives include (1) MATH:2700 and (2) STAT:2020 or STAT:3120

h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

i Students may choose a computer science course (prefix CS) numbered 3620-5899, except CS:3910, CS:3980 and CS:4310, or a CS course numbered 5900 or above with department approval. A course used to complete a core requirement cannot also be used as a major elective.

j The B.S. in computer science requires a 6-8 s.h., two-semester sequence science cognate. Select courses approved to meet the major requirement may also be used to meet the GE CLAS Core Natural Science requirement. See your academic advisor for additional information.

k Students may choose a computer science course (prefix CS) numbered 3620-5890, except CS:3910, CS:3980 and CS:4310, or a CS course numbered 5900 or above with department approval. A course used to satisfy a core requirement cannot also be used as an advanced major elective. Alternatively, students may take a course in other

disciplines with department approval. See academic advisor for additional information.

- | Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Informatics, B.S.

The major in informatics provides students with the necessary training for employment in careers such as software development, user experience, and data analytics. It provides good preparation for graduate study in a variety of disciplines.

Students may declare a major in informatics when they are admitted to the University or afterward. All students begin the majors as Bachelor of Arts students but may switch to the Bachelor of Science program at any time.

The informatics major combines fundamental and practical computing knowledge with a choice of cognate areas from the liberal arts and sciences, providing students with the necessary background and specialized skills to work at the interface of computing and another discipline. Students may begin the major without a chosen cognate area; they may declare a cognate at any time. Some cognates are available only with the Bachelor of Arts, others are available only with the Bachelor of Science. A student's choice of cognate determines whether the student will earn a B.A. or a B.S.

Informatics majors are advised at the Academic Advising Center until they have completed 30 s.h., at which point they are assigned a departmental advisor. Students being advised at the Academic Advising Center also can consult with an informatics faculty advisor.

Transfer students who have taken a course approved as equivalent to a required informatics or computer science course are exempt from that course. Transfer course grades are included in the informatics grade-point average.

Students should consult the Department of Computer Science website or visit the department's office for information about general policies, elective areas, and internships, scholarships, and student groups, such as the University's chapter of the Association for Computing Machinery (ACM) and Women in Computing Sciences (WiCS).

## Advanced Placement

The Computer Science Advanced Placement (AP) exam may be used to satisfy requirements. See Advanced Placement Credit Policy on the Department of Computer Science website.

## Learning Outcomes

- Students can apply computational thinking approaches to solve problems.
- Students can individually and collaboratively develop software using professional tools.
- Students can extract, organize, analyze, and present data from a variety of sources.
- Students can contribute to the development of usable, useful, and enjoyable software applications by using human-centered methods.
- Students understand social, professional, and ethical issues related to computing.
- Students have a thorough understanding of a chosen cognate area.

## Requirements

The Bachelor of Science with a major in informatics requires a minimum of 120 s.h., including at least 55-60 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A

cumulative g.p.a. of at least 2.00 is required for graduation. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The program combines foundational informatics coursework with coursework in a cognate area. The major offers the cognate areas of bioinformatics, medical informatics, and individualized cognates. Required credit for the major depends on a student's choice of cognate area.

Coursework for the major includes the informatics core, two electives, a statistics course, and a set of courses in the chosen cognate area. Work for the major may not be taken pass/nonpass. Students are expected to have taken MATH:1005 College Algebra or the equivalent.

## Departmental Residency Requirement

Students must complete at least five courses (minimum of 15 s.h.) at the University of Iowa from the following: CS:3910 Informatics Project and four additional courses numbered CS:2500–CS:4999; these courses are requirements for the B.S. in informatics as listed below.

## Program Requirements

The B.S. with a major in informatics requires the following coursework. Many courses for the major require a minimum grade of C-minus in prerequisite courses.

Code	Title	Hours
Informatics Core Courses		19
Informatics Electives		6
Statistics Course		3-4
Cognate Courses		27-31
<b>Total Hours</b>		<b>55-60</b>

## Informatics Core

The informatics core consists of six required computing courses (19 s.h.) that emphasize data manipulation, databases, and networking. It provides more applications-oriented content than the traditional computer science curriculum yet is designed to offer students a sound basis in underlying computer science themes and techniques.

Code	Title	Hours
All of these:		
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
CS:2420	Analyzing Data for Informatics	3
CS:2520	Human-Computer Interaction for Informatics	3
CS:2620	Server-Side Development for Informatics	3
CS:3910	Informatics Project	3

## Informatics Electives

Students must complete at least two courses (6 s.h.) from a list of approved computing informatics electives. Course selection must be approved by an informatics advisor. In addition to the courses listed below, students may have additional choices from the Department of Electrical and Computer Engineering and the Department of Business

Analytics; consult an informatics faculty advisor for additional choices.

Code	Title	Hours
BAIS:4220	Advanced Database Management and Big Data	3

A computer science course (prefix CS) numbered 3000-4999, including CS:3990 for 3 s.h., but excluding CS:3910 and CS:4510

## Statistics Course

Students must complete one introductory statistics course. Some cognates require a specific statistic course. Students should consult with their advisors to choose a statistics course appropriate for their cognate area.

Code	Title	Hours
One of these:		
SOC:2160	Applied Statistics for Social Scientists	3
STAT:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3

## Cognates

Students must complete all requirements listed under one of the cognate areas below: bioinformatics, medical informatics, or an individualized cognate.

### Bioinformatics

The informatics major with the bioinformatics cognate requires a minimum of 58 s.h. of work for the major, including at least 30 s.h. in cognate courses. The bioinformatics cognate is intended for students interested in applications of computing to the biological sciences. It may lead to careers in laboratory research, biotechnology, data management, and other related areas. It also may prepare students for graduate programs in bioinformatics or genetics. Cognate courses are drawn primarily from biology and chemistry.

Students who choose the bioinformatics cognate must satisfy the major's statistics requirement with either STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics.

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
BIOL:2512	Fundamental Genetics	4
BIOL:3172	Evolution	4
Two of these:		
BIOL:2673	Ecology	3

BIOL:3314	Genomics	3
BIOL:4213	Bioinformatics	4

## Medical Informatics

The informatics major with the medical informatics cognate requires a minimum of 56 s.h. of work for the major, including at least 28 s.h. in cognate courses. The medical informatics cognate is intended for students interested in applications of computing to health care, especially in a clinical setting. It may lead to careers in medical or hospital settings, graduate programs in medical informatics, or professional degree programs in medicine, dentistry, nursing, or other allied health professions. Cognate courses are drawn from biology, chemistry, health and human physiology, and public health.

Students who choose the medical informatics cognate must satisfy the major's statistics requirement with either STAT:2010 Statistical Methods and Computing or STAT:3510 Biostatistics.

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
At least two of these:		
BIOL:2512	Fundamental Genetics	4
BIOL:3172	Evolution	4
CHEM:2410	Organic Chemistry Laboratory	3
HHP:1100	Human Anatomy	3
HMP:4000	Introduction to the U.S. Health Care System	3

### Individualized Cognates

Individualized cognates may be drawn primarily from one department or an appropriate mix of departments; they require an approved set of cognate courses totaling 27-31 s.h. Students interested in developing individualized cognates should contact the Department of Computer Science for the name of an informatics faculty advisor.

## Early Admission to the Graduate College

Undergraduate informatics students who have 6 s.h. or less to earn toward graduation may apply for early admission to the Graduate College. Early admission allows students in their final undergraduate semester to take courses for graduate credit in addition to the courses they need to complete their bachelor's degrees.

## Combined Programs

### **B.S./M.S. in Informatics (Geoinformatics or Health Informatics or Human-Computer Interaction Subprogram)**

Students majoring in informatics who are interested in earning a master's degree in informatics may apply to the combined B.S./M.S. program (geoinformatics or health informatics or human-computer interaction subprogram) offered by the College of Liberal Arts and Sciences and the Graduate College. The program enables students to begin the study of informatics before they complete their bachelor's degree. Students are able to complete both degrees in less time than if they were to complete the two degrees separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information about the graduate degree program, see the M.S. in informatics [p. 1749] (Graduate College) in the Catalog.

## Honors

### **Honors in the Major**

Students majoring in informatics have the opportunity to graduate with honors in the major. They must maintain a minimum UI cumulative g.p.a. of 3.33 and a minimum major g.p.a. of 3.50; additionally, students complete 4-6 s.h. of CS:3990 Honors in Computer Science or Informatics and submit an acceptable honors thesis or project. At any time, students can communicate to the computer science professional advisor that they have an honors interest and can have that designation placed on their academic record.

A student is responsible for finding a faculty member willing to supervise the honors project. The student can register for CS:3990 Honors in Computer Science or Informatics under the project supervisor's name once the faculty member approves the proposed project and a timetable for the work. Once that is accomplished, the student must then communicate with the Department of Computer Science honors director, who changes the student's status to denote the student is pursuing honors in the major. It is not necessary to have declared an honors interest before finding a thesis supervisor and beginning to pursue honors in the major, but the student must be coded as pursuing honors prior to completing the application for degree.

An honors project can be completed in one semester, but it usually takes two semesters to complete. In the final semester, a student must register for CS:3999 Computer Science or Informatics Honors Cohort (0 s.h.). The honors thesis/project must be approved by the thesis supervisor and then submitted to the honors director who will give initial approval that the student can graduate with honors in the major. Final approval is given after final grades are submitted and all requirements are met. For more details regarding project requirements, see Honors in Computer Science on the department's website.

## **University of Iowa Honors Program**

In addition to honors in the major, students can pursue honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the informatics major. However, the semester hours earned in CS:3990 Honors in Computer Science or Informatics can be used to partially satisfy the UI Honors requirement of 12 s.h. of experiential learning coursework.

For more information, contact the Department of Computer Science honors director.

## Career Advancement

Informatics graduates work in a broad range of market sectors, reflecting the interdisciplinary nature of the program and the large number of available cognates. Students will have technical skills along with a specialty area that can help them pursue a specific type of organization or interest field. Here are just a few of the areas that informatics graduates have pursued:

- software development,
- database and/or web administrators,
- data analyst,
- software support personnel (IT),
- user interface/user experience web designers (the human-computer interaction cognate is useful for this area), and
- health care information technicians (the health informatics cognate is useful for this area).

A recent job placement survey indicates that more than 90 percent of University of Iowa informatics graduates have a job, are continuing education, or are not seeking employment within six months of graduation.

View post-graduation data on the Pomerantz Career Center website that uses University of Iowa placement information to explore what recent informatics alumni are doing that includes median salaries, job titles, companies of employment, and other facts about UI graduates.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### **Four-Year Graduation Plan**

The Four-Year Graduation Plan is not available to B.S. students majoring in informatics. Students work with their advisors on individual graduation plans.

### **Sample Plans of Study**

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### **Informatics, B.S.**

- Bioinformatics Track [p. 343]
- Medical Informatics Track [p. 343]

## Bioinformatics Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:1110	Introduction to Computer Science	3
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
CS:2110	Programming for Informatics	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>14</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:1411	Foundations of Biology	4
Major: statistics requirement <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
CS:2420	Analyzing Data for Informatics	3
CS:2520	Human-Computer Interaction for Informatics	3
BIOL:1412	Diversity of Form and Function	4
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
<b>Hours</b>		<b>17-18</b>
<b>Third Year</b>		
<b>Fall</b>		
CS:2620	Server-Side Development for Informatics	3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective courses <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
BIOL:2512	Fundamental Genetics	4
Major: advanced informatics elective <sup>g</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5

Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Fourth Year</b>		
<b>Fall</b>		
BIOL:3172	Evolution	4
Major: advanced informatics elective <sup>g</sup>		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CS:3910	Informatics Project	3
Major: advanced biology elective <sup>h</sup>		3
Major: advanced biology elective <sup>h</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>122-127</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in chemistry courses requires completion of a placement exam.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Choose from STAT:2010 or STAT:3510.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g BAIS:4220, or a computer science course (prefix CS) numbered 3000-4999, including CS:3990 for 3 s.h., but excluding CS:3910 and CS:4510.

h Students must choose from BIOL:2673, BIOL:3314, or BIOL:4213.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Medical Informatics Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>

**First Year****Fall**

CS:1110	Introduction to Computer Science	3
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>

**Spring**

CS:2110	Programming for Informatics	4
CHEM:1120	Principles of Chemistry II	4
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>14-15</b>

**Second Year****Fall**

BIOL:1411	Foundations of Biology	4
Major: statistics requirement <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>

**Spring**

CS:2420	Analyzing Data for Informatics	3
CS:2520	Human-Computer Interaction for Informatics	3
BIOL:1412	Diversity of Form and Function	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>

**Third Year****Fall**

CS:2620	Server-Side Development for Informatics	3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>

**Spring**

CHEM:2210	Organic Chemistry I	3
Major: advanced informatics elective <sup>g</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>

**Fourth Year****Fall**

CHEM:2220	Organic Chemistry II	3
Major: advanced informatics elective <sup>g</sup>		3
GE CLAS Core: Values and Culture <sup>c</sup>		3

Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours****15****Spring**

CS:3910	Informatics Project	3
Major: advanced science elective <sup>h</sup>		3
Major: advanced science elective <sup>h</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

**Hours****15****Total Hours****123-129**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in chemistry courses requires completion of a placement exam.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Choose from STAT:2010 or STAT:3510.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g BAIS:4220, or a computer science course (prefix CS) numbered 3000-4999, including CS:3990 for 3 s.h., but excluding CS:3910 and CS:4510.

h Choose from BIOL:2512, BIOL:3172, CHEM:2410, HHP:1100 or HMP:4000.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Computer Science, Minor

## Requirements

The undergraduate minor in computer science requires a minimum of 17 s.h. in computer science coursework, including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Students excused from courses required for the minor may substitute other computer science electives. Many of the prerequisite courses that must be taken before registering for minor courses require grades of at least C-minus.

Students who major in informatics may earn a minor in computer science. Students majoring in computer science, computer science and engineering, or data science may not minor in computer science.

The minor in computer science requires the following coursework.

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:3330	Algorithms	3
One of these:		
CS:3210	Programming Languages and Tools	3
CS:3980	Topics in Computer Science I	3

Students who have completed ENGR:1300 Introduction to Engineering Computing and ENGR:2730 Computers in Engineering are considered to have satisfied the minor's requirement for CS:1210 Computer Science I: Fundamentals.

Students may declare the computer science minor on MyUI, and they may request an audit for the minor through MyUI.

# Informatics, Minor

## Requirements

The undergraduate minor in informatics requires a minimum of 16 s.h., including at least 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students who major in computer science, data science, computer science and engineering, or business analytics and information systems may not earn a minor in informatics.

The minor in informatics requires the following coursework. Many courses for the minor require a minimum grade of C-minus in prerequisite courses.

Code	Title	Hours
Both of these:		
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
Two of these:		
CS:2420	Analyzing Data for Informatics	3
CS:2520	Human-Computer Interaction for Informatics	3
CS:2620	Server-Side Development for Informatics	3
One of these:		
PSY:2811	Research Methods and Data Analysis in Psychology I	3
STAT:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3120	Probability and Statistics	4
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3

Students may declare the informatics minor on MyUI, and they may request an audit for the minor through MyUI.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Informatics, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The informatics minor requires a minimum of 16 s.h. of coursework, including at least 12 s.h. of courses taken at the University of Iowa.		
Students must earn a C-minus minimum grade in prerequisite courses to advance to the subsequent course.		
Several informatics courses are offered only in the fall or spring terms.		
For assistance sequencing the minor given the irregular course offerings and prerequisite structure, see the computer science departmental advisor.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:1110	Introduction to Computer Science	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
CS:2110	Programming for Informatics	4
<b>Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
Minor: statistics course <sup>a</sup>		3 - 4
<b>Hours</b>		<b>3-4</b>
<b>Spring</b>		
CS:2420	Analyzing Data for Informatics <sup>b</sup>	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Spring</b>		
CS:2520	Human-Computer Interaction for Informatics <sup>b</sup>	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>16-17</b>

a Choose from PSY:2811, STAT:1020, STAT:1030, STAT:2010, STAT:2020, STAT:3120, STAT:3510 or STAT:4143. Some statistics options require specific math prerequisites. See academic advisor for more information.

b Need two of these: CS:2420 (spring only, requires a statistics prerequisite), CS:2520 (spring only), CS:2620 (fall only); check MyUI for course availability since offerings are subject to change.

# Master of Computer Science, M.C.S.

The Master of Computer Science (M.C.S.) is a course-based, nonresearch program for students who wish to enhance their careers with advanced knowledge of computer science.

Current and prospective graduate students should consult the Computer Science Graduate Handbook, available from the department's office and its website. The handbook provides detailed information about specific degree requirements, such as required courses, examinations, and dissertation requirements.

## Learning Outcomes

Students gain:

- in-depth and up-to-date knowledge of concepts and/or technologies covering a breadth of computer science,
- problem solving in the context of the areas covered,
- a grounding in theoretical aspects of computer science, and
- exposure to cutting-edge research.

## Requirements

The Master of Computer Science (M.C.S.) requires a minimum of 32 s.h. of graduate credit, including at least 24 s.h. earned at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.75. Consult the Computer Science Graduate Handbook for detailed information about M.C.S. requirements and graduate study policies.

The Master of Computer Science requires the following coursework.

## Theory

Code	Title	Hours
One of these:		
CS:4330	Theory of Computation	3
CS:4350	Logic in Computer Science	3
CS:4980	Topics in Computer Science II (consult advisor for approved section topic)	3
CS:5340	Limits of Computation	3
CS:5350	Design and Analysis of Algorithms	3
CS:5360	Randomized Algorithms	3
CS:5370	Computational Geometry	3
CS:5850	Programming Language Foundations	3
CS:5860	Lambda Calculus and Applications	3

## Algorithms

Code	Title	Hours
This course:		
CS:4310	Design and Implementation of Algorithms	3

## Colloquium

Students are graded on a satisfactory/unsatisfactory (S/U) basis. They must attend at least 80 percent of scheduled talks to earn a satisfactory grade in the course.

Code	Title	Hours
This course:		
CS:6000	Research Seminar: Colloquium Series (must enroll twice for 1 s.h. each)	2

## Electives

Students complete their remaining 24 s.h. (eight additional courses) with a combination of computer science graduate courses, research and project courses, and non-computer science graduate courses approved by their advisor. The choice of electives must satisfy the following constraints.

- At least six courses (18 s.h.) must be classroom-based computer science graduate courses numbered 4300 or above, excluding CS:5110 Introduction to Informatics, CS:5990 Individualized Research or Programming Project, CS:6000 Research Seminar: Colloquium Series, CS:6990 Readings for Research, and CS:7990 Research for Dissertation.
- At most, one offering of CS:5990 Individualized Research or Programming Project. This course is an excellent option for students interested in exploring an area in computer science beyond that provided by computer science classroom-based courses. Students interested in pursuing a Ph.D. usually benefit from taking CS:5990.
- At most, two technical courses (approved by the advisor) that are not computer science graduate courses. For students who want to take courses outside the department, those in mathematics, statistics, electrical engineering, industrial engineering, and management sciences are some popular options. Students also may include one computer science course taken during their first year in the M.C.S. program from these: CS:3620 Operating Systems, CS:3640 Introduction to Networks and Their Applications, or CS:3820 Programming Language Concepts.

## Software Engineering Subprogram

The Department of Computer Science, with the Department of Electrical and Computer Engineering, offers a M.C.S. subprogram in software engineering. Students receive a software engineering subprogram designation on their transcript after they complete CS:5800 Fundamentals of Software Engineering, CS:5810 Formal Methods in Software Engineering, CS:5820 Software Engineering Languages and Tools, and CS:5830 Software Engineering Project, and earn their M.C.S. degree. Students should meet with the academic services coordinator to file the appropriate paperwork when they apply for degree, if they did not originally declare their intent to complete the software engineering subprogram.

## Admission

Admission decisions are based on prior academic performance, letters of reference, and the applicant's statement about background and purpose. Applicants must meet the admission requirements of the Graduate College;

see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

Students pursue software design and development careers in the technology sector, including UX, mobile, and web development. Recent graduates hold positions at technology giants such as Microsoft, Google, Yahoo, or Intel, while others have taken positions in internationally established organizations whose primary business lies in the consulting, financial, health care, insurance, or media/entertainment sectors. A few M.C.S. students enter the start-up market or pursue additional graduate education leading to the Ph.D. at the University of Iowa or elsewhere.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Master of Computer Science, M.C.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
32 s.h. must be graduate level coursework; up to 8 s.h. of graduate transfer credits allowed upon approval. Students choose graduate level coursework from an approved list of courses; more information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:4310	Design and Implementation of Algorithms	3
CS:6000	Research Seminar: Colloquium Series <sup>b</sup>	1
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
Theory course <sup>d</sup>		3
Elective course (possibly CS:5990 Indiv Research or Programming Project) <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Elective course (possibly non-CS technical course) <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
CS:6000	Research Seminar: Colloquium Series <sup>b</sup>	1
Elective course <sup>c</sup>		3

Final Exam<sup>e</sup>

Hours	4
<b>Total Hours</b>	<b>32</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Students must enroll twice for 1 s.h. each semester and attend at least 80% of scheduled talks for a satisfactory grade.
- c See General Catalog and department website for specifics about elective coursework requirements; at least 18 s.h. must be computer science graduate coursework numbered 4300 or above; remaining 6 s.h. may be a combination of CS or non-CS graduate coursework, research and project courses.
- d See General Catalog and department website for list of approved courses.
- e Confirm completion of degree requirements.

## Computer Science, M.S.

The Master of Science in computer science is offered only to students working toward the Ph.D. in computer science. Students who are interested primarily in a master's degree and who do not intend to pursue a more advanced degree should apply to the Master of Computer Science [p. 347] (M.C.S.) program.

Current and prospective graduate students should consult the Computer Science Graduate Handbook, available from the department's office and its website. The handbook provides detailed information about specific degree requirements, such as required courses, examinations, and dissertation requirements.

### Requirements

Students should view the requirements for the Ph.D. in computer science [p. 350] program since the M.S. is offered only to students working toward the Ph.D. in computer science.

### Admission

The Department of Computer Science does not admit students to the Master of Science degree program; only to the Master of Computer Science (M.C.S.) or Doctor of Philosophy (Ph.D.) degree programs. Students who are interested primarily in a master's degree and who do not intend to pursue a more advanced degree should apply to the Master of Computer Science [p. 347] (M.C.S.) program.

# Computer Science, Ph.D.

The Doctor of Philosophy program in computer science emphasizes preparation for research and teaching in academic settings or for research in private, industrial, or government laboratories.

Current and prospective graduate students should consult the Computer Science Graduate Handbook, available from the department's office and its website. The handbook provides detailed information about specific degree requirements, such as required courses, examinations, and dissertation requirements.

## Learning Outcomes

Students gain:

- broad, up-to-date knowledge of computer science;
- fluency at reading, analyzing, synthesizing, and communicating research;
- thorough understanding of a research area and its major open problems;
- awareness of computing research ethics; and
- performance of original research advancing the state of knowledge in an area of computer science.

## Requirements

The Doctor of Philosophy program in computer science requires a minimum of 72 s.h. of graduate credit, three examinations (qualifying, comprehensive, and final), and a written dissertation. Students must maintain a cumulative g.p.a. of at least 3.00. Consult the Computer Science Graduate Handbook for detailed information about Ph.D. requirements and graduate study policies.

Basic Ph.D. requirements are as follows.

## Core Requirements

Code	Title	Hours
This course:		
CS:5350	Design and Analysis of Algorithms	3
And one of these:		
CS:4330	Theory of Computation	3
CS:5340	Limits of Computation	3

## Breadth

Students must complete at least three of the following courses, with at least one course selected from each area (9 s.h.).

## Systems and Software

Code	Title	Hours
CS:4640	Computer Security	3
CS:4980	Topics in Computer Science II (section approved by advisor)	3
CS:5610	High Performance Computer Architecture	3

## Networks and Distributed Systems

Code	Title	Hours
CS:4980	Topics in Computer Science II (section approved by advisor)	3
CS:5620	Distributed Systems and Algorithms	3
CS:5630	Cloud Computing Technology	3

## Programming Languages and Compilers

Code	Title	Hours
CS:4980	Topics in Computer Science II (section approved by advisor)	3
CS:5810	Formal Methods in Software Engineering	3
CS:5850	Programming Language Foundations	3
CS:5860	Lambda Calculus and Applications	3

With departmental approval, new courses or specific section offerings of CS:4980 Topics in Computer Science II also may satisfy a given area requirement.

## Practice

Students must complete at least one 3 s.h. course with significant practical or implementation-oriented content. Each semester the department designates courses that satisfy this requirement. The following are typical selections.

Code	Title	Hours
CS:4400	Database Systems	3
CS:4420	Artificial Intelligence	3
CS:4440	Web Mining	3
CS:4470	Health Data Analytics	3
CS:4500	Research Methods in Human-Computer Interaction	3
CS:4630	Mobile Computing	3
CS:4700	High Performance and Parallel Computing	3
CS:4720	Optimization Techniques	3
CS:4980	Topics in Computer Science II (section approved by advisor)	3
CS:5800	Fundamentals of Software Engineering	3
CS:5990	Individualized Research or Programming Project	3

## Cognate Area

In consultation with their advisor, students are required to select three courses, totaling 9 s.h. or more, that constitute coherent coverage of an external cognate area; the courses need not be offered by the same department. Choices include, but are not limited to, mathematics, statistics, genetics, biology, and engineering disciplines.

## Colloquium

Students must earn at least 4 s.h. in the following.

Code	Title	Hours
CS:6000	Research Seminar: Colloquium Series (must enroll at least four times for 1 s.h. each)	4

## Responsible Conduct of Research Requirement

Students must complete this course within their first two years; it is offered in spring semesters.

Code	Title	Hours
CS:7270	Computing Research Ethics	1

## Electives

Students fill their remaining semester hours with a selection of computer science graduate courses numbered 4300 or above and graduate courses outside of the Department of Computer Science, approved by their advisor.

## Qualifying Exam

Students are required to pass a qualifying examination by the end of their second year of graduate study. Once students select a topic in consultation with their advisor, they are assigned a three-member faculty examination panel by the department. Then they prepare a written prospectus for review by the committee, followed by an oral presentation.

## Comprehensive Exam

The comprehensive examination is an evaluation of a student's mastery of a research area near completion of formal coursework, and before preparation of the dissertation. The exam may be written, oral, or both, at the department's discretion, and is administered by a faculty committee. The comprehensive exam typically should be completed by the end of a student's third year and no later than the end of the fourth year in the Ph.D. program.

## Dissertation Proposal

At least six months prior to the final exam, a student must form a dissertation committee and circulate a formal thesis proposal to the committee. The proposal should describe the research performed to date, related work, and outline the expected thesis results. A student must argue the originality and significance of the expected results to the committee in a manner consistent with the advisor's counsel, which may or may not include an oral presentation.

Possible outcomes of a thesis proposal are that the committee finds the proposal satisfactory; or the committee suggests modifications, and within a few weeks after the proposal defense, the student and committee reach a consensus by email or in face-to-face meetings on a modified set of expected thesis results; or the committee asks the student to redo their proposal, likely with a fresh proposal document and oral presentation, giving the student enough time to address the committee's concerns.

## Dissertation

Each student must write a dissertation, a significant, original contribution to the field of computer science. The dissertation

must be prepared in accordance with the format specified on the Graduate College Thesis and Dissertation website.

## Final Oral Examination

Once the dissertation is complete and has been reviewed by the student's committee, a final oral examination is administered on campus. This examination must take place no sooner than the semester following successful completion of the comprehensive examination and no later than five years after completion of the comprehensive exam.

## Admission

Admission decisions are based on prior academic performance, letters of reference, and the applicant's statement about background and purpose. Scores on the Graduate Record Examination (GRE) General Test are considered if applicants choose to include them. Students need not have a master's degree to begin the Ph.D. program. Students admitted without a master's degree may choose to be granted an M.S. or the M.C.S. while working toward the doctorate.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

Many graduates obtain positions in industry research laboratories, such as Amazon, Disney, Google, Samsung, and Yahoo, or in government research laboratories. Others pursue research and teaching careers in higher education, with some starting their careers in postdoctoral positions at universities before seeking employment in tenure-track positions, and some are employed as faculty with more teaching-oriented positions. A few recent Ph.D. graduates have founded or joined start-up companies.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Computer Science, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 33 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:5350	Design and Analysis of Algorithms	3
CS:4330	Theory of Computation	3
or CS:5340	or Limits of Computation	
Breadth Requirement Course <sup>b</sup>		3

CS:6000	Research Seminar: Colloquium Series <sup>c</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
Breadth Requirement Course <sup>b</sup>		3
Breadth Requirement Course <sup>b</sup>		3
Practice Requirement Course <sup>d</sup>		3
CS:7270	Computing Research Ethics <sup>e</sup>	1
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>f</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Cognate Area Course <sup>g</sup>		3
Cognate Area Course <sup>g</sup>		3
Cognate Area Course <sup>g</sup>		3
CS:6000	Research Seminar: Colloquium Series <sup>c</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
Elective <sup>h</sup>		3
Elective <sup>h</sup>		3
Elective <sup>h</sup>		3
CS:6000	Research Seminar: Colloquium Series <sup>c</sup>	1
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>i</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Elective <sup>h</sup>		3
Elective <sup>h</sup>		3
Elective <sup>h</sup>		3
CS:6000	Research Seminar: Colloquium Series <sup>c</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
Elective <sup>h</sup>		3
Elective <sup>h</sup>		3
Elective <sup>h</sup>		3
Elective <sup>h</sup>		1
<b>Hours</b>		<b>10</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Dissertation Proposal Defense <sup>j</sup>		
CS:7990	Research for Dissertation	7
<b>Hours</b>		<b>7</b>
<b>Spring</b>		
CS:7990	Research for Dissertation	6
Final Oral Exam <sup>k</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>73</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program

admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Students must complete at least three courses (9 s.h.), with at least one course from each of the following areas: systems and software, networks and distributed systems, programming languages and compilers; see General Catalog and department website for list of approved courses.

c Students must enroll four times for 1 s.h. each semester and attend at least 80% of scheduled talks for a satisfactory grade.

d Students must complete at least one course (3 s.h.) with significant practical or implementation-oriented content; see General Catalog and department website for list of approved courses.

e Students must complete this course during first two years; typically offered in spring semesters. Note: this course does not count toward degree requirements.

f Taken before the end of second year; see General Catalog and department website for specifics.

g In consultation with their advisor, students are required to select three courses, totaling 9 s.h. or more, that constitutes coherent coverage of an external cognate area; the courses need not be offered by the same department. Choices include, but are not limited to, mathematics, statistics, genetics, biology, and engineering disciplines.

h See General Catalog and department website for specifics about elective coursework requirements; may be a combination of thesis hours, directed readings, or CS graduate or non-CS graduate coursework. Work with faculty advisor to determine appropriate graduate coursework and sequence.

i Taken before the end of third year; see General Catalog and department website for specifics.

j Usually takes place six months prior to Final Oral Exam.

k Dissertation defense.



# Creative Writing (Iowa Writers' Workshop)

## Director

- Lan Samantha Chang

**Graduate degree:** M.F.A. in English

**Faculty:** <https://writersworkshop.uiowa.edu/people>

**Website:** <https://writersworkshop.uiowa.edu/>

The Creative Writing Program (Iowa Writers' Workshop) is a world-renowned graduate program for fiction writers and poets. Founded in 1936, it was the first creative writing program in the United States to offer a degree, and it became a model for many contemporary writing programs. In addition to its Master of Fine Arts program, it also offers writing courses for undergraduates.

The Iowa Writers' Workshop has been home to thousands of remarkable writers, including Flannery O'Connor, Raymond Carver, Rita Dove, John Irving, James Alan McPherson, Philip Levine, Jane Smiley, Michael Cunningham, Sandra Cisneros, Denis Johnson, Jorie Graham, Ann Patchett, Lan Samantha Chang, D.A. Powell, Nathan Englander, Yiyun Li, Eleanor Catton, Angela Flournoy, Garth Greenwell, Yaa Gyasi, and Jamel Brinkley. The program's faculty and alumni include winners of virtually every major literary award, including seventeen winners of the Pulitzer Prize, six recent U.S. Poets Laureate, and numerous winners of the National Book Award, MacArthur Foundation Fellowships, and other major honors. In 2003, the Iowa Writers' Workshop received a National Humanities Medal from the National Endowment for the Humanities—the first awarded to a university and only the second given to an institution rather than an individual.

The Creative Writing Program offers courses for students from other programs of study; summer courses are open to undergraduate and graduate students.

To learn more about the Creative Writing Program's history and faculty, visit the Iowa Writers' Workshop website.

## Programs

### Graduate Program of Study

#### Major

- Master of Fine Arts in English [p. 354]

## Courses

### Creative Writing—Writers' Workshop Courses

The Creative Writing Program offers courses for undergraduates as well as graduate students. Enrollment in some graduate-level courses requires admission to the M.F.A. program. See "Courses" in the Department of English [p. 420] section of the Catalog for course descriptions and prerequisites to enrollment.

Code	Title	Hours
CW:1800	Creative Writing Studio Workshop	3
CW:2100	Creative Writing	3

CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3
CW:3002	Writing and Reading Young Adult Fiction	0,3
CW:3003	Writing and Reading Science Fiction	3
CW:3004	Writing and Reading Fantasy Fiction	3
CW:3005	Professional and Creative Business Communication	3
CW:3107	Creative Writing for the Health Professions	3
CW:3215	Creative Writing and Popular Culture	3
CW:3218	Creative Writing for New Media	3
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3
CW:4745	The Sentence: Strategies for Writing	3
CW:4751	Creative Writing for the Musician	3
CW:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3
CW:4870	Undergraduate Writers' Workshop: Fiction	arr.
CW:4875	Undergraduate Writers' Workshop: Poetry	arr.
CW:4894	Undergraduate Project in Creative Writing	arr.
CW:4897	Novel Writing	3
CW:7810	Form of Fiction	3
CW:7820	Form of Poetry	3
CW:7830	Seminar: Problems in Modern Fiction	arr.
CW:7840	Seminar: Problems in Modern Poetry	arr.
CW:7870	Fiction Workshop	arr.
CW:7875	Poetry Workshop	arr.
CW:7890	Graduate Project in Creative Writing	arr.
CW:7895	M.F.A. Thesis	arr.

## English, M.F.A.

The Program in Creative Writing offers an M.F.A. degree.

Occasionally well-qualified Ph.D. students in the Department of English may obtain permission to submit a creative dissertation for the doctoral degree; the Program in Creative Writing assumes responsibility for granting permission for the option of the creative dissertation and for approving the dissertation once it is completed. Contact the director of graduate studies in the Department of English for more information.

### Requirements

The Master of Fine Arts degree in English (creative writing) requires 48 s.h. of graduate credit taken over four semesters in residence at the University of Iowa. Students specialize in fiction or poetry.

The program is flexible and individualized. Up to 18 s.h. of graduate transfer credit may be counted toward the degree; however, students must satisfy the residence requirement.

In addition to taking Creative Writing Program courses, many M.F.A. students can choose courses offered by other University of Iowa departments and programs, such as the interdisciplinary Center for the Book [p. 1720] (Graduate College), and the Departments of Theatre Arts [p. 1159] and English [p. 420] (College of Liberal Arts and Sciences).

Students must enroll in CW:7870 Fiction Workshop or CW:7875 Poetry Workshop during each semester of residence in the program. In each course, groups of 10-15 students read and critique each other's work.

The program's seminars provide students with a thorough knowledge of their chosen literary form and related aspects of craft. Seminars include CW:7810 Form of Fiction, CW:7820 Form of Poetry, CW:7830 Seminar: Problems in Modern Fiction, and CW:7840 Seminar: Problems in Modern Poetry. Each focuses on a single aspect of modern poetry or fiction, such as a single writer's work or a body of work with a common theme or purpose.

During the second year of the program, each student must take the M.F.A. examination, an essay exam that may be written outside of the classroom. Students enroll in CW:7895 M.F.A. Thesis and submit their graduate thesis during the last semester; the thesis is a fiction or poetry manuscript of substantial length.

### Admission

Applicants to the Creative Writing Program (Iowa Writers' Workshop) must meet the program's admission requirements as well as those of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

A creative writing manuscript is the most important element of the application for admission to the workshop. Submissions for poetry should include 10-12 poems. Submissions for fiction should include two or three short stories, several sections of a novel, or a combination of those. Submissions are typically 30-80 double-spaced pages, and may not exceed 80 double-spaced pages.

Other application materials include a personal statement, official transcripts from all universities and colleges attended, the graduate application form, three letters of

recommendation, an application for graduate awards, and an application to the Graduate College.

For detailed information on application materials and procedures, see How to Apply on the Iowa Writers' Workshop website.

### Financial Support

Financial assistance is available to Creative Writing Program students in the form of teaching assistantships, research assistantships, and fellowships. See Financial Aid on the Iowa Writers' Workshop website.

# Critical Cultural Competence

## Director, School of Social Work

- Mercedes E. Bern-Klug

## Coordinator, Critical Cultural Competence

- Yolanda D. Spears (Social Work)

**Undergraduate certificate:** critical cultural competence

**Website:** <https://socialwork.uiowa.edu/undergraduate/certificate-critical-cultural-competence>

The certificate program helps students develop an appreciation for their own cultural identities. It also helps them become critically self-reflective in their orientation to differences in other people's cultural identities as defined by matters such as race, ethnicity, gender, class, abilities, age, and sexual orientation.

Certificate students build the knowledge, skills, and attitudes they will need in order to increase their effectiveness in relating to others across cultural differences and in domestic and international environments that are increasingly diverse.

Students who complete the certificate program develop:

- a greater appreciation of cultural differences;
- increased ability to interact with individuals of diverse backgrounds;
- a philosophy of treating people fairly, equitably, and thoughtfully;
- critical self-reflection and awareness of their own culture;
- ability to assess and understand culture-related privilege and disprivilege; and
- concern with issues of power and privilege, and social justice.

The Certificate in Critical Cultural Competence is administered by the School of Social Work [p. 1049].

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Critical Cultural Competence [p. 356]

## Courses

### Critical Cultural Competence Courses

#### CCCC:2220 Foundations of Critical Cultural Competence

3 s.h.

Experiential and theoretical foundation; cultural competence as a concept and practice; conceptual frameworks and models for understanding cultural differences and similarities within, among, and between groups of people with whom others interact in their professional, personal, public, and private lives; appreciating differences while learning to be self-reflective; adjustment of perceptions, behaviors, styles for effective interaction with people from different ethnic, racial, sexual, gender, age, ability, and class groups. GE: Diversity and Inclusion.

#### CCCC:4490 Integrative Seminar in Critical Cultural Competence

3 s.h.

Capstone course; application of knowledge to one's areas of study; community settings where cultural competence is required; challenges and benefits of behaving in culturally competent ways in varied contexts; review and critique of educational experiences in the certificate program; development of skills in community education related to cultural competence; group project to benefit the University and/or community; development of a plan to integrate critical cultural competence into careers. Requirements: completion of other required certificate courses.

# Critical Cultural Competence, Certificate

## Requirements

The undergraduate Certificate in Critical Cultural Competence requires 18 s.h. of coursework. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. Ideally, students begin the certificate during their second year of undergraduate study.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

The Certificate in Critical Cultural Competence requires the following coursework.

Code	Title	Hours
CCCC:2220	Foundations of Critical Cultural Competence (taken first)	3
CCCC:4490	Integrative Seminar in Critical Cultural Competence	3
	One elective course with an immersion-learning or service-learning component	3
	Three elective courses that cover at least two diversity categories (two courses can be taken from the same department and two must be numbered 2000 or above)	9
<b>Total Hours</b>		<b>18</b>

Students begin the certificate with CCCC:2220 Foundations of Critical Cultural Competence, which is offered fall and spring semesters and is prerequisite to the coursework that follows. Students complete the certificate's requirements with the capstone course, CCCC:4490 Integrative Seminar in Critical Cultural Competence, which is offered spring semesters.

In collaboration with the certificate program's coordinator, students establish study plans while completing the foundation course. The coordinator works with the academic advisor in the student's major to ensure that the study plan complements the student's academic program and career interests. The program coordinator approves the final study plan, recommends the sequence in which coursework should be taken, schedules required courses, and keeps a record of each student's approved program and progress.

For more information, contact the School of Social Work.

# Dance

## Coordinator, Division of Performing Arts

- Roland Racevskis

## Chair, Department of Dance

- Rebekah J. Kowal

**Undergraduate major:** dance (B.A., B.F.A.)

**Undergraduate minor:** dance

**Graduate degree:** M.F.A. in dance

**Faculty:** <https://dance.uiowa.edu/people>

**Website:** <https://dance.uiowa.edu/>

The Department of Dance provides comprehensive training in dance technique, performance, choreography, and theoretical studies while approaching scholarship, creative research, and studio-based training in the framework of a liberal arts education at the Bachelor of Arts, Bachelor of Fine Arts, and Master of Fine Arts levels. Integrating dance studies with the liberal arts and sciences, the dance degree programs promote creative and intellectual growth in an environment that develops young artists and advances the art of dance.

The undergraduate major prepares students for careers as performers, choreographers, and educators as well as for graduate studies in dance and related fields. The M.F.A. curriculum broadens and deepens the knowledge and experience of returning professionals seeking to reenter the field or to secure positions in higher education.

The Department of Dance imparts the values and knowledge necessary to empower students as they create unique paths forward. Students develop as young artists, creative thinkers, and problem solvers who may further the arts in society in diverse, urgent, and transformational ways.

The department offers up to 10 concerts each year, providing dance students with numerous opportunities to perform and/or to present their choreography; visit the Performance Opportunities website for more information. The department's annual Dance Gala on campus, performed by dance students, presents original faculty choreography as well as work by a distinguished guest artist. UI Dance Company, the department's student repertory company, performs across Iowa and surrounding states.

All dance faculty members regularly present and/or publish their choreography or scholarship nationally and internationally. Students have ample opportunities to work with faculty on their creative and/or scholarly research. Periodic master classes with noted guest teachers, choreographers, and touring companies introduce students to contemporary artists and provide opportunities for professionalization and networking.

Students have the opportunity to earn a major in dance and a second major in another of the University's programs, including one of the other units within the division—music or theatre arts. Faculty and advisors guide students in combining their rigorous dance education with many other disciplines. Dance graduates work in the dance profession and also establish careers in a range of professional fields, such as arts administration and production, education, business, the health sciences, law, and engineering.

The department is one of the academic units in the Division of Performing Arts [p. 393].

View on YouTube

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Dance (Bachelor of Arts) [p. 366]
- Major in Dance (Bachelor of Fine Arts) [p. 371]

#### Minor

- Minor in Dance [p. 377]

### Graduate Program of Study

#### Major

- Master of Fine Arts in Dance [p. 379]

## Facilities

The Department of Dance houses six technique studios, a movement training lab, a media classroom and library, a media laboratory, an audio recording laboratory, a costume shop, and its own 220-seat theater for dance concerts.

## Courses

### Dance Courses

- DANC:1000 First-Year Seminar** **1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- DANC:1010 Beginning Tap** **2 s.h.**  
Elementary techniques, steps, and performance skills for rhythm and show tap styles; enhancement of rhythmic ability through exercises, improvisation, creative activities; may include history of tap. Tap shoes required. GE: Literary, Visual, and Performing Arts.
- DANC:1020 Beginning Jazz** **2 s.h.**  
Basic movement fundamentals, terminology, performance skills of jazz dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of jazz dance. GE: Literary, Visual, and Performing Arts.
- DANC:1025 Beginning Hip Hop Dance** **2 s.h.**  
Foundations of hip hop dance and street dance culture; movement participation is central to learning; activities may include viewing videos and written assignments; students are challenged and encouraged to understand and apply foundational and historical knowledge of hip hop. GE: Literary, Visual, and Performing Arts.
- DANC:1030 Beginning Ballet** **2 s.h.**  
Basic movement fundamentals, terminology, performance skills of ballet; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; barre and center combinations; terminology; may include history of ballet. GE: Literary, Visual, and Performing Arts.

- DANC:1040 Beginning Modern Dance** 2 s.h.  
Basic movement fundamentals, terminology, performance skills of modern dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of modern dance. GE: Literary, Visual, and Performing Arts.
- DANC:1055 Creativity in Motion** 3 s.h.  
Using foundational principles and components of movement, dance, and contact improvisation to explore questions and processes of creativity—What inspires you? How do you uniquely engage with the world? Students use readings and theories of creativity and the rigors of play and imagination to ground explorations, engage in an ongoing process of reflection and response that culminates in a final creative project, and get to know a local community partner in creative ways that are unique to individual participants. GE: Engineering Be Creative.
- DANC:1060 Introduction to Dance Studies** 1 s.h.  
Introduction to dance studies in the liberal arts; breadth and diversity of contemporary scholarship on dance; dance history, criticism, ethnography, theory, choreography, and technology.
- DANC:1070 Yoga** 2 s.h.  
In-depth physical practice of yoga postures; basic yoga philosophy and texts; personal practice of meditation; breathing techniques; for students interested in expanding or beginning yoga practice.
- DANC:1071 Yoga for Dancers and Performers** 3 s.h.  
Yoga practices related specifically to dancers and other active performers; conditioning needs with focus on cross-training and building strength and flexibility; warm-up for technique classes; weekly journal, written assignments.
- DANC:1075 Mat Pilates** 2 s.h.  
Basic movement fundamentals of the Pilates system of exercises benefiting body alignment, flexibility, balance, coordination, strengthening, injury prevention, self-awareness, and efficiency of movement; somatic training techniques that achieve conditioning needs of performing artists, athletes, and students at large.
- DANC:1090 Dance Production** 3 s.h.  
Scenic design, costuming, lighting, audio/video, publicity; visits by professional guest lecturers, field trips to creative shops; projects.
- DANC:1110 Continuing Tap** 1-2 s.h.  
Continuation of DANC:1010. GE: Literary, Visual, and Performing Arts.
- DANC:1120 Continuing Jazz** 2 s.h.  
Continuation of DANC:1020; skills for technique and performance of jazz dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of jazz dance. GE: Literary, Visual, and Performing Arts.
- DANC:1125 Continuing Hip Hop Dance** 2 s.h.  
Continuation of DANC:1025; focus on hip hop and street dance foundations and origins through movement participation; activities may include viewing videos and written assignments; students are challenged and encouraged to understand and apply historical and practical knowledge of hip hop; for advanced beginning students. GE: Literary, Visual, and Performing Arts.
- DANC:1130 Continuing Ballet** 2 s.h.  
Continuation of DANC:1030; skills necessary for technique and performance of ballet; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; barre and center combinations; terminology; may include history of ballet. GE: Literary, Visual, and Performing Arts.
- DANC:1140 Continuing Modern Dance** 2 s.h.  
Continuation of DANC:1040; skills necessary for the technique and performance of modern dance; enhancement of flexibility, strength, body alignment, coordination, balance, kinesthetic awareness, personal range of motion, and musicality; warm-up, locomotion, center combinations; may include history of modern dance. GE: Literary, Visual, and Performing Arts.
- DANC:1150 Brazilian Culture and Carnival** 3 s.h.  
Dance, music, historical, and social contents of Brazilian Carnival production, critical theories of performance, religious backgrounds, and theatre making in carnival parades. GE: Engineering Be Creative; Values and Culture. Same as LAS:1150.
- DANC:1170 Functional Anatomy** 1 s.h.  
Introduction to human anatomy; scientific principles of movement safety and efficiency; survey of somatic practices for better kinesthetic awareness, body organization, and alignment; application of anatomical knowledge to multiple dance techniques.
- DANC:1412 The Arts in Performance** 3 s.h.  
GE: Literary, Visual, and Performing Arts; Values and Culture. Same as DPA:1412, THTR:1412.
- DANC:2020 Intermediate Jazz** 2 s.h.  
Low-intermediate technique and performance training in jazz dance; flexibility, strength, body alignment, and coordination as foundation for more advanced dance artistry including mobility, musicality, style; warm-up, locomotion, center combinations; may include history of jazz dance. GE: Literary, Visual, and Performing Arts.
- DANC:2025 Intermediate Hip Hop Dance** 2 s.h.  
Continuation of DANC:1125; focus on strengthening and adding to foundations and origins of hip hop and street dance culture; the journey to today's current definitions of hip hop and street dance with introduction to freestyling and groove theory; movement participation is central to learning and activities include viewing videos and written assignments; students are challenged and encouraged to understand and apply historical and practical knowledge of hip hop at an intermediate level. GE: Literary, Visual, and Performing Arts.
- DANC:2029 Intermediate Ballet for Nonmajors** 2 s.h.  
Low-intermediate technique and performance training in ballet; flexibility, strength, body alignment, and coordination as a foundation for more advanced dance artistry including more difficult steps, musicality, mobility, and balance; basic ballet terminology including steps, head, body, and arm positions; variations in timing, changes of facing. GE: Literary, Visual, and Performing Arts.
- DANC:2030 Majors Intermediate Ballet** 3 s.h.  
Concentrated intermediate-level technical and performance training in ballet; topics include flexibility, strength, body alignment, and coordination as a foundation for more advanced dance artistry including more difficult steps, musicality, mobility, and balance; basic ballet terminology including steps, head, body, and arm positions; variations in timing; changes of facing. Requirements: placement by departmental audition.

**DANC:2039 Intermediate Modern Dance for Nonmajors** 2 s.h.

Low-intermediate technique and performance training in modern dance; flexibility, strength, body alignment, and breath as a foundation for more advanced dance artistry including musicality, mobility, balance, and improvisation; variations in timing; changes of facing.

**DANC:2040 Majors Intermediate Contemporary Movement Practices** 3 s.h.

Concentrated intermediate-level technical and performance training in contemporary movement practices; topics include flexibility, strength, body alignment, and breath as a foundation for more advanced dance artistry including musicality, mobility, balance, and improvisation; variations in timing; changes of facing. Requirements: placement by departmental audition. GE: Literary, Visual, and Performing Arts.

**DANC:2050 Introduction to Improvisation and Composition** 3 s.h.

Introduction to movement as research; experimental process as vehicle for invention, creative freedom, aesthetic range; development of kinesthetic imagination, awareness, creative problem solving; introduction to issues of artistic originality and authenticity; practical integration of improvisation and composition through spontaneous manipulation of time, space, and energy; knowledge of creative process supported by reading and individual research.

**DANC:2060 Dance and Society in Global Contexts** 3 s.h.

Dance and other physical endeavors as embodied forms of knowledge and culture; U.S. dance practices; European and African dance cultures; aesthetic and political issues raised by concert dance (i.e., performance, choreography, spectatorship, criticism); ethnographic methods to examine the function of dance in cultural formation (i.e., spiritual, celebratory, social, political contexts); lecture, discussion, viewing, movement workshops, formal and informal writing, field research, and blog construction. GE: Engineering Be Creative; Literary, Visual, and Performing Arts. Same as DPA:2060.

**DANC:2065 Performing Power/Performing Protest: The Body, Identity, and the Image** 3 s.h.

What is the relationship between Beyoncé, Jesse Owens, and Thích Quang Duc?—Protest! Each of these cultural figures put their body on the line using protest as performance to challenge power structures, address social equity, and influence social change; students examine historical and contemporary issues of power, identity, and inclusion, situating protest and dissent as key parts of civic engagement through study of music and performance videos, readings, blogs and other media; students are asked to place themselves in a historical continuum where intersections of class, race, gender, and sexuality are considered. GE: Diversity and Inclusion.

**DANC:2075 Teaching and Using Creative Dance for Children (K-8) in a Variety of Educational Settings** 2 s.h.

Practical and creative approach to understanding and using creative dance as the art of learning by doing, involving all the senses and intelligences; language of movement (i.e., scope, possibilities, movement experiences, resources); guidance and practice in developing comprehensive lesson plans for sequencing, progression, successful presentation, objective observation, and evaluation; creative dance for children and its philosophy, theories, sound pedagogical practices, uses, and benefits; in-class teaching experience and resources for K-8 students.

**DANC:2080 Dance and Social Action** 3 s.h.

Exploration of dance as a means for civic engagement; readings that support theory and practice of dance as social action; practicum experience of facilitating a workshop to girls at the Iowa Juvenile Home.

**DANC:2085 Introduction to African Caribbean Dance Practices** 3 s.h.

Introduction to African Caribbean dance with emphasis on ritual, performance, and music; exploration of basic fundamentals of African Caribbean dances from Trinidad and Tobago, Jamaica, Haiti, and Cuba, as well as musical instruments used to accompany these dances; practical dance training; theoretical basis for understanding geographical, historical, sociological, and political contexts in which dances originated. GE: Diversity and Inclusion.

**DANC:2090 Lighting Design for Engineers and Dancers** 3 s.h.

Introduction to artistic topics that are necessary to produce and enhance dance composition and performance; focus on student exploration of production environment with respect to artistic concerns. GE: Engineering Be Creative.

**DANC:2150 Brazilian Social Dance: The Samba** 2 s.h.

Unique opportunity to actively experience the Samba de Gafieira and samba rock at a low-intermediate level; detailed information and extensive practice to learn social dance skills and choreograph partnering combinations; exposure to historical, social contents, and critical theories of performance; various performative elements related to Afro-Brazilian diaspora; the origins of samba music and its relevance for Brazilian culture.

**DANC:2220 Production Run Crew** 1 s.h.

Hands-on experience in production work for live dance performance.

**DANC:2800 Digital Arts: An Introduction** 3 s.h.

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, CS:2800, DIGA:2800, MUS:2800, THTR:2800.

**DANC:2880 Installations and Interactive Performance** 3 s.h.

Introduction to aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human computer interaction, and engineering; foundations of creating interactive experiences that use digital photos, video, text, real-world objects, sensor data, live bodies moving in space, Kinect 2 sensors, cameras, and multiple video outputs (e.g., projectors, LED displays); use of Isadora, an interactive, node-based programming software, to create immersive mediated performances, interactive installations, embodied user-based experiences, and user-manipulated virtual environments. GE: Engineering Be Creative. Same as DIGA:2880, THTR:2880.

**DANC:2890 Producing and Directing Digital Video 3 s.h.**

Introduction to basic concepts, theories, and practical applications of digital video production for multiple distribution streams, with focus on aesthetic and technical principles; development of proficiency in contemporary approaches to digital media production by understanding the production pipeline from ideation to preproduction, production, postproduction, and through to distribution. GE: Engineering Be Creative. Same as DIGA:2890, INTM:2890, THTR:2890.

**DANC:2981 Dance Repertory and Performance 1 s.h.**

Students broaden their exposure to contemporary concert dance forms through participation in restaging of existing works by UI faculty and nationally or internationally renowned choreographers; in-depth study of particular dance compositions from training and rehearsal process to performance, with consideration to preservation and stewardship of the work for future performances; opportunities to engage in many roles of creation and restaging process. Prerequisites: DANC:1000.

**DANC:3010 Topics in Global Movement Practices 2 s.h.**

Beginning, continuing, or advanced technique of global and non-Western movement practices; topics vary, may include Asia, Latin America, Africa, Pacific Islands, or other regions in historical and cultural context, and classical, folk, traditional, or contemporary forms.

**DANC:3020 Advanced Jazz 2 s.h.**

Advanced technique and performance training in jazz dance; flexibility, strength, body alignment, and coordination as foundation for more advanced dance artistry including mobility, musicality, style; warm-up, locomotion, center combinations; may include history of jazz dance. Requirements: dance major.

**DANC:3030 Major Ballet I 1-3 s.h.**

Builds on DANC:2030; intermediate technical and performance training in ballet; flexibility, strength, body alignment, and coordination as foundation for introduction of more advanced aspects of dance artistry, including steps, musicality, mobility, balance; terminology related to barre and center vocabulary including steps, head, body, and arm positions; practice of steps and combinations, variations in timing, changes of facing. Requirements: audition or promotion.

**DANC:3034 Acting for Dancers 3 s.h.**

Beginning acting for dancers; spontaneity and expression, sources of action and reaction through theater games; emotional journey in effective drama and comedy; drama, comic structure, and tension through character and script analysis.

**DANC:3039 Partnering Class 1 s.h.**

The art of partnering in dance, from salsa to Swan Lake; power sharing on the dance floor, including supported poses, balance, musical and physical timing, unity of movement, eloquence of gesture; for advanced dancers with strong coordination skills.

**DANC:3040 Major Contemporary Movement Practices I 1-3 s.h.**

Builds on DANC:2040; intermediate technical and performance training in contemporary movement practices; physical and mental skills for transition to more advanced dance—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing; basic physical concepts underlying clear and efficient movement; assimilation of new movement material; center of gravity and its role in body mobilization and control; personal movement choices and expressive range. Requirements: audition or promotion.

**DANC:3050 Body/Image: Dance and Media in Discourse and Practice 3 s.h.**

Intersection of body, image, and sound in analog and digital media; relationship to critical and practical texts; written and performative assignments that address fundamental concepts of corporeality in related fields including dance for camera, stage and film performance, and artistic, documentary, and publicity filmmaking and photography.

**DANC:3060 Western Concert Dance History: Romantic to Contemporary 3 s.h.**

Examination of concert dance practices in the United State and Europe from 19th to 21st centuries; changes in dance compositional, performance, viewing, technical, and training practices situated within aesthetic, cultural, social, and political contexts including the Industrial Revolution, Russian imperial court, World War I and World War II, movements for social justice, and aesthetic formations (e.g., romanticism, classicism, modernism, postmodernism); students consider the work of the historian and methodological approaches to formulating historiographic ideas, and put them into practice in individual research projects focused on historical or contemporary dance makers. Prerequisites: DANC:2060.

**DANC:3070 Dance Kinesiology 3 s.h.**

Body science related to demands of dance; structural and muscular analysis for efficient, effective dance training and prevention of injuries; investigation of skeletal and ligamentous structure for working knowledge of how the body produces movement; joint actions and restrictions, common injuries to those sites; attachments of the voluntary muscles, pathways and potential actions; neuromuscular analysis of an action; functional skeletal alignment; how individual differences may affect movement performance. Prerequisites: DANC:1170.

**DANC:3075 Yoga Teacher Training I 3 s.h.**

Exploration of in-depth knowledge of yoga in preparation for teaching through physical practice of yoga postures, study of basic yoga philosophy and texts, personal practice of meditation, yoga for various populations, anatomy of yoga postures, and practice teaching within class structure; two-semester course that results in a 200-hour yoga teacher certification. Requirements: dance major and sophomore or higher standing. Recommendations: prior yoga experience highly recommended. Same as DPA:3075.

**DANC:3076 Yoga Teacher Training II 3 s.h.**

Continuation of DANC:3075; expansion of yoga and/or teaching knowledge, in-depth physical practice of yoga postures, basic yoga philosophy and texts, personal practice of meditation, yoga for various populations, anatomy of yoga postures, and practice teaching within class structure. Prerequisites: DANC:3075. Corequisites: DANC:3070. Requirements: dance major and sophomore or higher standing. Recommendations: experience and knowledge of yoga practice highly recommended.



- DANC:3080 Music Essentials for Dance** 3 s.h.  
Evolution of music and dance forms from early history times to the present; rhythmic analysis and fundamental music theory for dance students.
- DANC:3150 Choreography I** 2 s.h.  
Introduction to theories and practices of creating choreography; locating varied sources for movement; elementary considerations of choreographic form; development of ideas, impulses, and initial inspirations into short works; fundamentals of giving and receiving critical feedback; articulation of thoughts and experience as composers and watchers of choreography; exposure to choreographic concerns supported by video and reading. Prerequisites: DANC:2050.
- DANC:3250 Choreography II** 2 s.h.  
Continuation of DANC:3150; development of intermediate choreographic skills; emphasis on cultivation of individual choreographic voice through expansion of vocabulary, discovery of complex ways to form and arrange, and use of widening range of methods and types of resources. Prerequisites: DANC:2050 and DANC:3150.
- DANC:3251 Choreography II Rehearsal Lab** 1-4 s.h.  
Participation in rehearsals, showings, adjudication, and concert rehearsals and performances; for undergraduate dancers who have been selected through audition for roles in creative research conducted by students enrolled in DANC:3250. Requirements: audition and selection by a student choreographer.
- DANC:3530 Major Ballet II** 1-2 s.h.  
High-intermediate training in ballet technique and performance; physical and mental skills necessary for more advanced work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body. Requirements: audition or promotion to determine placement.
- DANC:3540 Major Contemporary Movement Practices II** 1-2 s.h.  
High-intermediate technical and performance training in contemporary movement practices; physical and mental skills necessary for more advanced work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing; basic physical concepts underlying clear and efficient movement; capacity to assimilate new movement material; awareness of the center of gravity and its role in mobilization and control of the body; consciousness of personal movement choices and expressive range. Requirements: audition or promotion to determine placement.
- DANC:3600 Art, Feminist Practice, and Social Justice** 3 s.h.  
Issues specifically related to gender, women's, and sexuality studies through the arts; exploration of a theme—a broad social issue such as violence, sexual assault, incarceration, reproduction, immigration, labor—and work with community partners to address the theme through social practice in the arts. Recommendations: prior courses in gender, women's, and sexuality studies or social work or art education or studio arts.
- DANC:3700 Dance Pedagogy: Theories, Issues, and Perspectives** 3 s.h.  
Overview of educational practices, ethics, and responsibilities in the dance studio for teaching children and adults; educational histories, philosophies, and methodologies for teaching dance in diverse settings; assignments may include readings, classroom observations, teaching demonstrations, and discussions with leaders in the field.
- DANC:3710 Topics in Intermedia** 4 s.h.  
Performance, writing, reading, observation, physical practice, improvisation, and devising methods; development or expansion of physical practices that articulate with current artistic production. Prerequisites: ARTS:1510 and ARTS:1520 and (CERM:2010 or INTM:2710 or MTLs:2910 or PNTG:2410 or PRNT:2610 or SCLP:2810 or TDSN:2210). Same as INTM:3700.
- DANC:3850 Introduction to Laban Movement Studies** 2-3 s.h.  
Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as DPA:3850, MUS:3850, THTR:3850.
- DANC:3851 Introduction to the Alexander Technique** 3 s.h.  
The Alexander Technique and "self-use"—how movement choices affect results achieved; improvement of physical skills and presence; principles in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting); application to skills in daily life, addressing underpinnings of movement; physical participation (e.g., lying down, rolling, sitting, standing, locomotion). Same as DPA:3851, MUS:3851.
- DANC:3852 Introduction to the Feldenkrais Method: Posture, Perception, and Pain Relief** 3 s.h.  
Introduction to the Feldenkrais Method of Awareness Through Movement; refinement of physical organization and coordination applied toward ordinary actions and functions, as well as athletics and performing arts; non-repetitive lessons on the floor, sitting in a chair, and standing; lessons communicated via auditory cues, no demonstration and imitation of idealized positions; improving awareness toward uncovering postural habits; expanding options for new and more efficient movement; exploring developmental patterns, joint, muscle and postural relationships; cultivating multiple possibilities for achieving the same action; conscious integration of sensing, feeling, thinking, and action.
- DANC:3853 Introduction to Klein Technique** 2 s.h.  
Introduction to principles and practice of Klein Technique to reeducate the body and offer tools for aligning bones, accessing the breath, and working with gravity to find more efficiency and articulation in movement; experiential design supplemented with readings and discussions on founder Susan Klein's writings.
- DANC:3875 Topics in Digital Performing Arts** 3 s.h.  
Advanced techniques in performing with established and new technologies including live cameras in performance, controlling digital avatars, motion capture, virtual and augmented reality, and more. Same as THTR:3875.

**DANC:3876 Video for Performance 3 s.h.**

Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:2890 or THTR:5890 or CINE:1834. GE: Engineering Be Creative. Same as CINE:3876, DIGA:3876, INTM:3876, THTR:3876.

**DANC:3885 Repertory Dance Company 1-3 s.h.**

Advanced repertory studies; learning and performing multiple works by professional guest artists, faculty, and invited graduate students; collaborative creation and performing in community outreach lecture-demonstration throughout Iowa and the region. Requirements: audition.

**DANC:3895 Performance, Art, and New Technologies in Society 3 s.h.**

Students pitch projects and work in interdisciplinary groups to create original live performances and installations based on major technological innovations that have deeply impacted society and live performance in late 20th and early 21st centuries; daily hands-on making; examination of theoretical texts and performances that address impact of technology on human condition to contextualize students' own art/technology projects; exploration and adaptation of technologies/aesthetics for live performance and art including telepresence and liveness, artificial intelligence and big data, augmented and virtual reality. Prerequisites: MUS:2800 or THTR:2880 or CS:1110 or CS:1210 or SCLP:4835. Same as DIGA:3895, THTR:3895.

**DANC:4030 Major Ballet III 1-2 s.h.**

Advanced training in ballet technique and performance; physical and mental skills necessary for professional work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body. Requirements: audition or promotion to determine placement.

**DANC:4034 Ballet Pointe I 1 s.h.**

Intermediate/advanced techniques and training for ballet pointe work; barre and center exercises to strengthen feet/legs/back and ensure proper alignment; review of basic ballet vocabulary; pirouettes and turns commonly performed *en pointe*; learning and performing variations drawn from repertory. Requirements: DANC:2030, or higher placement.

**DANC:4035 Ballet Pointe II 1-2 s.h.**

Intermediate/advanced techniques and training for ballet pointe work; repetition and analysis of steps and combinations, assimilation of new material; barre and center exercises, pirouettes and turns commonly performed *en pointe*, learning and performing variations drawn from repertory. Requirements: DANC:3030.

**DANC:4040 Major Contemporary Movement Practices III 1-2 s.h.**

Advanced technical and performance training in contemporary movement practices; physical and mental skills necessary for professional work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing; basic physical concepts underlying clear and efficient movement; capacity to assimilate new movement material; awareness of the center of gravity and its role in mobilization and control of the body; consciousness of personal movement choices and expressive range; may include partnering exercises for investigation of weight exchange, timing, and expressivity. Requirements: audition or promotion to determine placement.

**DANC:4060 The Contemporary Dance Scene 3 s.h.**

Historical, theoretical, and practical elements of contemporary dance; the term "postmodern" and its associations with dance, performing arts, contemporary culture; relationships between process and product, identity and subjectivity, artistic intent and authorship, meaning and intertextuality; possibility of art as a form of dissent; theory and practice placed in a dialectic; analysis and synthesis of previous research. Same as DPA:4060.

**DANC:4350 Choreography III 2 s.h.**

Continuation of DANC:3250; increased emphasis on invention, clarity, sophistication, and development of complete works; creation of sharply defined mature movement worlds; increasingly thorough consideration of sources and methods, responsibility for applying coursework to self-defined artistic concerns and emerging individual aesthetic; advanced theories and methods through video, reading, choreographic research. Prerequisites: DANC:2050 and DANC:3250.

**DANC:4452 M.F.A. Independent Project Research Lab arr.**

Participation in rehearsals, showings, adjudication, concert rehearsals and performances; for undergraduate dancers who have been selected through audition for graduate independent projects conducted by graduate students enrolled in DANC:6990. Requirements: audition and selection by a M.F.A. student creating a piece for adjudication, showing, and/or performances.

**DANC:4453 M.F.A. Thesis Research Lab arr.**

Participation in rehearsals, showings, adjudication, and concert rehearsals and performances; for undergraduate dancers who have been selected through audition for roles in M.F.A. thesis concerts conducted by graduate students. Requirements: audition and selection by M.F.A. student creating a piece for thesis concert.

**DANC:4454 Faculty Creative Research Lab arr.**

Participation in rehearsals, showings, and concert rehearsals and performances; for students who have been selected through audition for roles in creative research conducted by faculty members. Requirements: audition or selection by faculty member.

**DANC:4535 Elementary Ballet Pedagogy 3 s.h.**

Methods, materials, concepts for teaching ballet techniques.

**DANC:4540 Major Contemporary Movement Practices IV 1 s.h.**

Professional technique and performance training in contemporary dance. Requirements: two semesters of DANC:4030 with a minimum grade of A- or two semesters of DANC:4040 with a minimum grade of A-.

- DANC:4545 Teaching of Modern and Contemporary Dance Forms** 3 s.h.  
Practices of teaching modern dance; information and experience for developing an individualized approach to teaching; educational methodology for defining essential elements of a modern class, approaches for planning and structuring classes.
- DANC:4880 Dance Gala Performance** 1-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concerts. Requirements: audition and/or concert adjudication.
- DANC:4881 Collaborative Dance Performance Concert** 1 s.h.  
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and selection for Collaborative Dance Performance Concert.
- DANC:4882 Graduate/Undergraduate Concert** 1-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.
- DANC:4883 Faculty/Graduate Concert** 1-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert. Requirements: selection by audition and/or concert adjudication.
- DANC:4884 Undergraduate Event** 1-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.
- DANC:4885 M.F.A. Thesis Concert** 0-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert.
- DANC:4886 B.F.A. Concert** 0-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.
- DANC:4887 M.F.A. Event** 1-3 s.h.  
Participation in rehearsals, concert rehearsals, and performances; for graduate dancers who have been selected through audition for roles in the M.F.A. event held during spring semesters. Requirements: selection by audition and/or concert adjudication.
- DANC:4888 Special Project Student Performance** arr.  
Rehearsal hours and performance of dance works created by faculty outside of traditional performance cycle. Requirements: audition or selection by faculty member.
- DANC:4980 B.F.A. Seminar in Dance** 3 s.h.  
Transitioning from college to careers in professional dance; creation and performance of a devised ensemble work; résumé building and personal marketing; how to make the most of auditions, internships, and company intensives; artist portfolios, grant writing skills, arts administration strategies, and discussion of opportunities for graduate study. Requirements: B.F.A. major and junior or senior standing.
- DANC:4981 B.F.A. Devising Ensemble** 1 s.h.  
Students create a devised ensemble work to perform in B.F.A. event at end of semester; each student co-creates work with the ensemble and content is derived from personal experiences, interests, and research; rehearsal process includes exercises in improvisation, storytelling, writing, choreographing, and directing; for senior B.F.A. dance students.
- DANC:4990 Independent Study** arr.  
Credit for an individual student-designed project coordinated with a faculty advisor. Requirements: sophomore or higher standing.
- DANC:4991 Independent Choreography** arr.  
Credit for creation of independent choreographic project, developed under guidance of faculty advisor, that results in production of a dance work.
- DANC:4995 Honors Studies in Dance** arr.  
Choreography, performance, production, Labanotation, dance history, or pedagogy. Prerequisites: a minimum g.p.a. of 3.33. Requirements: g.p.a. of 3.33 or higher.
- DANC:4998 B.F.A. Senior Project in Dance** arr.  
Senior year choreographic/performance capstone to complete B.F.A. in dance under supervision of faculty advisor; culminates in public showing or produced concert. Requirements: admitted to B.F.A. program in dance and senior standing.
- DANC:4999 Honors Project in Dance** arr.  
Research, choreographic, reconstruction, or performance project under guidance of a faculty advisor. Requirements: senior standing.
- DANC:5050 Graduate Improvisation I** 1-2 s.h.  
Dance improvisation.
- DANC:5055 Embodying Voice/Performing Persona** 3 s.h.  
Creation and performance of text from body-based perspectives; working in a spectrum from casual conversation to formal presentation, students research verbal and written language habits, personal access to vocal range in volume and tone, communication through body and gesture, performance of personas, how breath relates to the voice, how voice expresses a sense of self, and how listening relates to speaking; projects include creative research presentations, storytelling, solo/group songs, improvisational scene studies, nonverbal physical theater, and personal performative essay writing. Recommendations: for undergraduates—completion of DANC:4350.
- DANC:5060 Theories of Dance and the Body** 3 s.h.  
Theoretical trends in studies of dance and physical bodies; performative and choreographic aspects of being. Recommendations: M.F.A. major in dance or advanced dance standing. Same as DPA:5060.
- DANC:5085 Graduate African Caribbean Dance Practices** 3 s.h.  
Introduction to African Caribbean dance with emphasis on ritual, performance, and music; exploration of basic fundamentals of African Caribbean dances from Trinidad, Tobago, Jamaica, Haiti, and Cuba; musical instruments used to accompany these dances; practical dance training; theoretical basis for understanding geographical, historical, and political sociology contexts in which dances originated.
- DANC:5530 Graduate Majors Ballet II** 1-3 s.h.  
High intermediate technique and performance training; physical and mental skills necessary for more advanced work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body.

**DANC:5540 Graduate Contemporary Movement Practices II** 1-3 s.h.

High intermediate technical and performance training in contemporary movement practices; physical and mental skills necessary for more advanced work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range.

**DANC:5550 Collaborative Performance** 3-4 s.h.

Collaborative process with advanced dance artists and creative, design, and technical practitioners from varied disciplines that culminates in a devised performance for the general public; emphasis on sharing and investigating ideas, artistic intent, personal vision, and practical application. Same as DPA:5550, THTR:5610.

**DANC:5880 Installations and Interactive Performance** 3 s.h.

Introduction to creating interactive experiences with technology; aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human-computer interaction, and engineering through use of Isadora, an interactive, node-based programming software; students create immersive performances, interactive installations, embodied user experiences, and user-manipulated virtual environments. Same as THTR:5880.

**DANC:5890 Producing and Directing Digital Video** 3 s.h.

Introduction to basic concepts, theories, and practical applications of digital video production for multiple distribution streams with focus on aesthetic and technical principles; development of proficiency in contemporary approaches to digital media production by understanding the production pipeline from ideation to preproduction, production, postproduction, and through to distribution. Same as THTR:5890.

**DANC:6030 Graduate Majors Ballet III** 1-3 s.h.

Advanced ballet technique and performance training for proficient dancers; physical and mental skills necessary for professional work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, understanding of basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body.

**DANC:6040 Graduate Contemporary Movement Practices III** 1-3 s.h.

Advanced technical and performance training in contemporary movement practices; physical and mental skills necessary for professional work—physical stamina, strength, flexibility, articulation, coordination, musicality, phrasing, understanding of basic physical concepts underlying clear and efficient movement, capacity to assimilate new movement material, awareness of the center of gravity and its role in mobilization and control of the body, consciousness of personal movement choices and expressive range.

**DANC:6050 Graduate Improvisation II** 3 s.h.

Advanced concepts in compositional improvisation; students practice through individual exploration and ensemble collaboration; multiple structures and entry points to develop embodied imagination; diverse materials including movement, text, site, objects, and music; creative process as physical research applied to choreographic thinking and spontaneous performance; integration of conceptual and experiential in dancing and dance-making; examination of aesthetic and political frameworks and harmonies with other spontaneous practices.

**DANC:6060 Graduate Seminar in Dance** 2 s.h.

Introduction to areas of study in dance to encourage rigorous research; preparation for artistic, academic, administrative, and socially engaged careers; topics address role of dance in society and higher education, issues of dance administration, and areas of concern to dance artists, educators, and audiences; investigation of cultural, economic, political, and historical role of dance and dance artists in Western and other social contexts; brief history of dance in higher education; current issues and trends of dance programs in higher education.

**DANC:6080 Graduate Production Practicum** 1 s.h.

Scenery and costume design, lighting, audio/video, publicity.

**DANC:6350 Graduate Choreography III** 3 s.h.

Advanced choreography as research; students ask and answer questions through a creative process to produce original choreography and address complex concepts, methods, and applications to produce multiple works; experimentation with movement and structure to formulate artistic questions and produce innovative treatments of generic concepts; exploration of choreography as a directorial process; establishment of context and point-of-view to frame developing and editing processes; individual research within larger choreographic, aesthetic, theoretical, and/or sociocultural contexts; practice of advanced critical response. Requirements: M.F.A. major in dance.

**DANC:6450 Graduate Choreography IV** 3 s.h.

Advanced theories, practices, directing, and arranging of choreography; collaborative process with performers and co-choreographers utilizing analytical and creative connections with bodies of knowledge across the liberal arts and sciences; theorizing through compositional studies; development of multiple works; advanced practice in critical feedback and articulation of ideas about process and product; students turn assignments into research questions that produce original/innovative treatments of generic concept development; independent research to advance individual goals and utilize course content.

**DANC:6540 Graduate Contemporary Movement Practices IV** 1 s.h.

Professional technique and performance training in contemporary movement practices.

**DANC:6880 Dance Gala Performance** 1-4 s.h.

Rehearsal hours and performance of dance works in produced dance concerts. Requirements: audition and/or concert adjudication.

**DANC:6881 Collaborative Dance Performance Concert** arr.

Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and selection for Collaborative Dance Performance Concert.

**DANC:6882 Graduate/Undergraduate Concert** 1-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.

**DANC:6883 Faculty/Graduate Concert** 1-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert. Requirements: selection by audition and/or concert adjudication.

**DANC:6884 Undergraduate Event** 1-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert. Requirements: audition and/or concert adjudication.

**DANC:6885 M.F.A. Thesis Concert** 1-4 s.h.  
Rehearsal hours and performance of dance works in produced dance concert.

**DANC:6887 M.F.A. Event** 1-2 s.h.  
Participation in rehearsals, concert rehearsals, and performances; for graduate dancers who have been selected through audition for roles in the M.F.A. event held during spring semesters. Requirements: selection by audition and/or concert adjudication.

**DANC:6888 Special Project Student Performance** arr.  
Rehearsal hours and performance of dance works created by faculty outside traditional performance cycle. Requirements: graduate standing in dance.

**DANC:6889 Graduate Performance Credit** 1-3 s.h.  
Credit for performances held outside of the department's regular production calendar; for students not already receiving credit for their project. Requirements: M.F.A. major in dance.

**DANC:6990 Graduate Independent Projects** 2 s.h.  
Creation and presentation of an independent choreographic or performance project; students prepare ideas, write an abstract and a proposal, attend progress showings several times during creative process, participate in feedback sessions, and complete a final paper.

**DANC:6991 Graduate Independent Study** arr.  
Credit for individually designed project coordinated with a faculty advisor.

**DANC:6992 Graduate Independent Performance Project** arr.  
Credit for creative participation as a performer in a choreography project, developed under guidance of a faculty advisor, that results in the performance of a dance work.

**DANC:7550 Graduate Contemporary Movement Practicum** 2-3 s.h.  
Advanced, in-depth understanding of teaching dance technique at the college level; emphasis on studio practice of technique through active participation in technique class; individualized research on technical and pedagogical approaches to dance; taken with a faculty member during student's teaching rotation to gain understanding of the teacher's pedagogical approach across three levels of the majors-level technique curriculum. Requirements: completion of one semester of M.F.A. program and good standing.

**DANC:7560 Graduate Ballet Technique Practicum** 2-3 s.h.

Advanced, in-depth understanding of teaching dance technique at the college level; emphasis on studio practice of technique through active participation in technique class; individualized research on technical and pedagogical approaches to dance; taken with a faculty member during student's teaching rotation to gain understanding of the teacher's pedagogical approach across three levels of the majors-level technique curriculum. Requirements: completion of one semester of M.F.A. program and good standing.

**DANC:7990 Thesis** arr.

# Dance, B.A.

Integrating studies in dance and the liberal arts, the Bachelor of Arts degree program establishes foundations for creative and intellectual development, and cultivates multiple approaches to dance, career, and citizenship. Students take daily classes in Western classical and concert dance movement practices, complemented by courses in improvisation, choreography, dance history and theory, multicultural movement practices, global dance studies, digital performing arts, kinesiology, pedagogy, and community engagement.

## Auditions for B.A. Admission

An audition is required to be considered for the B.A. program, as well as for placement in dance classes. An online application is required in order to audition; visit Undergraduate Auditions on the Department of Dance website. Contact the Department of Dance for more information or questions about auditions.

## Learning Outcomes

Students will:

- achieve proficiency in contemporary concert dance movement practices while developing stylistic versatility, expressive range, and efficient body mechanics;
- learn to think critically about the historical, cultural, and social contexts of dance as an art form and cultural practice while developing strong writing skills and effective oral expression;
- master formal compositional elements and improvisational techniques toward the creation of original choreographic work, and learn to articulate and render their creative intentions with clarity, with opportunities to present these works in public performances;
- acquire performance skills, such as interpretation, expressivity, physical agility, and refinement, by participating in auditions, rehearsals, and studio and public performances;
- acquire knowledge of anatomical and kinesiological principles and injury prevention for effective dance training and career longevity; and
- attain an understanding of digital arts tools currently practiced in contemporary dance.

## Requirements

The Bachelor of Arts with a major in dance requires a minimum of 120 s.h., including at least 58 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

In planning coursework, especially electives, students may apply a maximum of 61 s.h. in Department of Dance courses (prefix DANC) toward the minimum 120 s.h. required for the B.A. degree. At least 28 s.h. in major coursework must be earned at the University of Iowa. Any grades earned for coursework are calculated in the grade-point average.

The B.A. with a major in dance requires the following coursework.

Code	Title	Hours
Core Courses		20
Studio Courses		7
Performance and Creative Research Courses		2
Movement Technique Courses		22
Distribution Areas		7-9
Dance Electives		0-3
<b>Total Hours</b>		<b>58-63</b>

## Core Courses

Code	Title	Hours
All of these:		
DANC:1000	First-Year Seminar	1
DANC:1060	Introduction to Dance Studies	1
DANC:1090	Dance Production	3
DANC:1170	Functional Anatomy	1
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
DANC:2220	Production Run Crew (taken twice for 1 s.h. each)	2
DANC:3060	Western Concert Dance History: Romantic to Contemporary	3
DANC:3070	Dance Kinesiology	3
DANC:3080	Music Essentials for Dance	3

## Studio Courses

Code	Title	Hours
All of these:		
DANC:2050	Introduction to Improvisation and Composition	3
DANC:3150	Choreography I	2
DANC:3250	Choreography II	2

## Performance and Creative Research Courses

Code	Title	Hours
2 s.h. from these:		
DANC:3885	Repertory Dance Company	1-3
DANC:4452	M.F.A. Independent Project Research Lab	arr.
DANC:4453	M.F.A. Thesis Research Lab	arr.
DANC:4454	Faculty Creative Research Lab	arr.
DANC:4880	Dance Gala Performance	1-4
DANC:4881	Collaborative Dance Performance Concert	1
DANC:4882	Graduate/Undergraduate Concert	1-4
DANC:4883	Faculty/Graduate Concert	1-4
DANC:4884	Undergraduate Event	1-4
DANC:4885	M.F.A. Thesis Concert	1-4
DANC:4886	B.F.A. Concert	1-4
DANC:4887	M.F.A. Event	1-3
DANC:4888	Special Project Student Performance	arr.

## Movement Technique Courses

Students must complete 22 s.h. from the following.

Code	Title	Hours
10 s.h. of ballet and 10 s.h. of contemporary movement practices from these:		
DANC:2020	Intermediate Jazz	2
DANC:2025	Intermediate Hip Hop Dance	2
DANC:2030	Majors Intermediate Ballet	3
DANC:2040	Majors Intermediate Contemporary Movement Practices	3
DANC:3030	Major Ballet I	1-3
DANC:3040	Major Contemporary Movement Practices I	1-3
DANC:3530	Major Ballet II	1-2
DANC:3540	Major Contemporary Movement Practices II	1-2
DANC:4030	Major Ballet III	1-2
DANC:4034	Ballet Pointe I	1
DANC:4035	Ballet Pointe II	1-2
DANC:4040	Major Contemporary Movement Practices III	1-2
DANC:4540	Major Contemporary Movement Practices IV	1
At least two semesters of one of these with grades of B-minus or higher:		
DANC:3530	Major Ballet II	1-2
DANC:3540	Major Contemporary Movement Practices II	1-2
DANC:4030	Major Ballet III	1-2
DANC:4040	Major Contemporary Movement Practices III	1-2
DANC:4540	Major Contemporary Movement Practices IV	1

## Distribution Areas

Students must complete at least one course from each of the following three areas. These courses may satisfy multiple requirements for the major.

### Dance Somatics

Code	Title	Hours
One of these:		
DANC:3851/ DPA:3851/ MUS:3851	Introduction to the Alexander Technique	3
DANC:3852	Introduction to the Feldenkrais Method: Posture, Perception, and Pain Relief	3
DANC:3853	Introduction to Klein Technique	2

### Global Dance Studies

Code	Title	Hours
One of these:		
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3

DANC:2065	Performing Power/ Performing Protest: The Body, Identity, and the Image	3
DANC:2085	Introduction to African Caribbean Dance Practices	3
DANC:2150	Brazilian Social Dance: The Samba	2
DANC:3010	Topics in Global Movement Practices	2

## Digital Performing Arts

Code	Title	Hours
One of these:		
DANC:2800/ ARTS:2800/ CINE:2800/CS:2800/ DIGA:2800/ MUS:2800/ THTR:2800	Digital Arts: An Introduction	3
DANC:2880/ DIGA:2880/ THTR:2880	Installations and Interactive Performance	3
DANC:2890/ DIGA:2890/ INTM:2890/ THTR:2890	Producing and Directing Digital Video	3
DANC:3050	Body/Image: Dance and Media in Discourse and Practice	3
DANC:3875/ THTR:3875	Topics in Digital Performing Arts	3
DANC:3876/ CINE:3876/ DIGA:3876/ INTM:3876/ THTR:3876	Video for Performance	3
DANC:3895/ DIGA:3895/ THTR:3895	Performance, Art, and New Technologies in Society	3

## Dance Electives

The required number of semester hours in dance electives varies depending on whether a student completes the core with dance courses or with cross-listed courses from another department, or has a core requirement waived.

## Dance Pedagogy and Instruction Track

Dance majors who have a particular interest in the art and practice of teaching dance as passion and/or profession may complete the dance pedagogy and instruction track at the same time as they are completing their degree requirements. This track tailors the knowledge and skills gained in the pursuit of a major in dance toward the preparation of students for life as active members of their communities and society in professions in dance instruction, studio ownership, and as teaching artists within community and dance company outreach and engagement.

Most of the required courses fulfill requirements for the dance major and GE CLAS Core requirements.

The dance pedagogy and instruction track requires 23-24 s.h. from the following.

## Dance Pedagogy Foundations

Code	Title	Hours
This course:		
DANC:3700	Dance Pedagogy: Theories, Issues, and Perspectives	3

## Dance Pedagogy Electives

Code	Title	Hours
5-6 s.h. from these:		
DANC:2075	Teaching and Using Creative Dance for Children (K-8) in a Variety of Educational Settings	2
DANC:3075/ DPA:3075	Yoga Teacher Training I	3
DANC:3076	Yoga Teacher Training II	3
DANC:4535	Elementary Ballet Pedagogy	3
DANC:4545	Teaching of Modern and Contemporary Dance Forms	3

## Education, Learning, and Human Development

Code	Title	Hours
6 s.h. from these:		
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3
PSQF:4133	The Adolescent and Young Adult	3
PSY:1001	Elementary Psychology	3
PSY:2401	Introduction to Developmental Science	3

## Leadership and Entrepreneurship Studies

Code	Title	Hours
3 s.h. from these:		
ARTS:3400	Grant Writing in the Arts	3
DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
ENTR:1350	Foundations in Entrepreneurship	3

## Social Justice Studies

Students may only take either DANC:3600 or GWSS:3600, but not both.

Code	Title	Hours
3 s.h. from these:		
DANC:2065	Performing Power/ Performing Protest: The Body, Identity, and the Image	3
DANC:3600	Art, Feminist Practice, and Social Justice	3
GWSS:3600	Art, Feminist Practice, and Social Justice	3

SJUS:1001/ GWSS:1003	Introduction to Social Justice	3
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## Electives

Students take additional coursework to earn at least 23-24 s.h. needed to complete track requirements from one of the areas listed above: Education, Learning, and Human Development; Leadership and Entrepreneurship Studies; or Social Justice Studies.

## Honors

### Honors in the Major

Majors who maintain a Department of Dance g.p.a. of at least 3.50 and a UI g.p.a. of at least 3.33 are encouraged to pursue honors in dance. It is not necessary for students pursuing honors in dance to be members of the University Honors Program, although honors in dance does satisfy the experiential learning component ("learning by doing") of the University Honors Program.

Students who graduate with honors in their major receive special recognition during commencement, and their transcript and diploma reflect honors designations.

Graduation with honors in dance requires:

- successful completion of 8-10 s.h. of University of Iowa honors courses or honors contract courses in Department of Dance classes, and
- successful completion of an honors project.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the dance major.

## Career Advancement

Careers for dance majors include professional work as performers, choreographers, dance educators, and involvement in related areas such as arts management, technical theater, dance scholarship, or dance and physical therapy. Many graduates from the UI dance program are currently working in arts organizations throughout the United States.

The discipline and creative challenges of dance training transfer well to other careers. Students have combined dance with a second major in another field such as business or communication.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the



major are those required to complete the major; they may be offered by departments other than the major department.

Department of Dance coursework beyond 61 s.h. for B.A. students does not apply toward semester hours required for graduation.

**Before the third semester begins:** 12 s.h. of coursework in the major.

**Before the fifth semester begins:** 24-32 s.h. of coursework in the major.

**Before the seventh semester begins:** 36-48 s.h. of coursework in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 42-50 s.h. of coursework in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Dance, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
An audition is required to be considered for the BA program, as well as for placement in dance classes. An online application is required in order to audition.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
DANC:1000	First-Year Seminar	1
DANC:1060	Introduction to Dance Studies	1
DANC:1090	Dance Production	3
DANC:1170	Functional Anatomy	1
Major: ballet course <sup>b</sup>		3
Major: contemporary movement practices course <sup>b</sup>		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
DANC:2050	Introduction to Improvisation and Composition	3
DANC:2060	Dance and Society in Global Contexts <sup>c</sup>	3
Major: ballet course <sup>b</sup>		3
Major: contemporary movement practices course <sup>b</sup>		3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
DANC:3080	Music Essentials for Dance	3

Major: ballet/contemporary movement practices course <sup>b</sup>		2
Major: global dance studies course <sup>d</sup>		2 - 3
BIOL:1140	Human Biology: Nonmajors <sup>e</sup>	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
<b>Hours</b>		<b>15-17</b>

### Spring

DANC:2220	Production Run Crew	1
Major: ballet/contemporary movement practices course <sup>b</sup>		2
GE CLAS Core: Diversity and Inclusion <sup>d, g</sup>		3
GE CLAS Core: Natural Sciences without Lab		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>h</sup>		3
<b>Hours</b>		<b>16-17</b>

### Third Year

#### Fall

Major: digital performing arts course <sup>i</sup>		3
Major: ballet/contemporary movement practices course <sup>b</sup>		2
GE CLAS Core: Values and Culture <sup>g, j</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>h</sup>		3
<b>Hours</b>		<b>15-16</b>

#### Spring

DANC:3060	Western Concert Dance History: Romantic to Contemporary	3
DANC:3070	Dance Kinesiology	3
Major: ballet/contemporary movement practices course <sup>b</sup>		2
GE CLAS Core: Quantitative or Formal Reasoning <sup>g</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>g</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
<b>Hours</b>		<b>18-20</b>

### Fourth Year

#### Fall

DANC:2220	Production Run Crew	1
DANC:3150	Choreography I	2
Major: dance somatics course <sup>i</sup>		2 - 3
Major: ballet/contemporary movement practices course <sup>b</sup>		2
GE CLAS Core: Historical Perspectives <sup>g</sup>		3
GE CLAS Core: Social Sciences <sup>g</sup>		3
Elective course <sup>h</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Spring

DANC:3250	Choreography II	2
Major: ballet/contemporary movement practices course <sup>b</sup>		2
Major: dance performance and creative research course <sup>i</sup>		2
Major: elective courses (prefix DANC)		3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		3

Elective course<sup>h</sup> 2  
 Degree Application: apply on MyUI before deadline  
 (typically in February for spring, September for fall)  
<sup>k</sup>

<b>Hours</b>	<b>17</b>
<b>Total Hours</b>	<b>129-138</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students must complete 22 s.h. of movement technique courses, including 10 s.h. of ballet, 10 s.h. of contemporary movement practices, and at least two semesters of DANC:3530, DANC:3540, DANC:4030, DANC:4040, or DANC:4540.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d DANC:2065 meets both the GE CLAS Core Diversity and Inclusion requirement and the global dance studies requirement for the major.
- e Recommended course for GE CLAS Core Natural Sciences with Lab, not a major requirement.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- i See General Catalog for list of approved courses.
- j DANC:1150 and DANC:1412 meet the GE CLAS Core Values and Culture requirement.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Dance, B.F.A.

The Bachelor of Fine Arts degree program provides students with a conservatory-like studio experience that is enriched by studies in the liberal arts and sciences. Students train daily in Western classical and concert movement practices, and are afforded ample opportunities to perform in faculty and student creative research and to produce their own choreographic works in the department's concert season. A preprofessional degree, the B.F.A. in dance establishes a strong foundation for creative and intellectual development, and cultivates multiple approaches to dance, career, and citizenship. Studies in movement practices, performance, and choreography are complemented by courses in improvisation, dance history and theory, multicultural movement practices, global dance studies, digital performing arts, kinesiology, pedagogy, and community engagement.

### Auditions for B.F.A. Admission

An audition is required to be considered for the B.F.A. program, as well as for placement in advanced dance classes. Audition materials required include a B.F.A. audition application, two letters of recommendation (one academic, one dance), and current transcripts; visit Undergraduate Auditions on the Department of Dance website.

Students who audition will be required to perform a two minute solo on audition day; it may be self-choreographed or be choreographed by someone else, usually a teacher or mentor.

Contact the Department of Dance for more information or questions about auditions.

### Learning Outcomes

Students will:

- achieve proficiency in contemporary concert dance movement practices while developing stylistic versatility, expressive range, and efficient body mechanics;
- learn to think critically about the historical, cultural, and social contexts of dance as an art form and cultural practice while developing strong writing skills and effective oral expression;
- master formal compositional elements and improvisational techniques toward the creation of original choreographic work, and learn to articulate and render their creative intentions with clarity, with opportunities to present these works in public performances;
- acquire performance skills, such as interpretation, expressivity, physical agility, and refinement, by participating in auditions, rehearsals, and studio and public performances;
- acquire knowledge of anatomical and kinesiological principles and injury prevention for effective dance training and career longevity; and
- attain an understanding of digital arts tools currently practiced in contemporary dance.

### Requirements

The Bachelor of Fine Arts with a major in dance requires a minimum of 120 s.h., including at least 85 s.h. of work for the major. Students must maintain a g.p.a. of at least 3.50 in all courses for the major and in all UI courses for the major. Students must earn at least half of their semester hours in the

major at the University of Iowa. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

In planning coursework, especially electives, students may apply a maximum of 85 s.h. in Department of Dance courses (prefix DANC) toward the minimum 120 s.h. required for the B.F.A. degree. Any grades earned for coursework are calculated in the grade-point average.

In contrast to the B.A. in dance, the B.F.A. program emphasizes choreography and performance. It requires an additional 18 s.h. of choreography, performance, and technique. Students who did not audition for the B.F.A. program prior to entrance to the University of Iowa may subsequently apply for admission to the program during their sophomore year. The strongest candidates are those who have achieved the equivalent of major II technique and show academic and professional promise.

The B.F.A. with a major in dance requires the following coursework.

Code	Title	Hours
Core Courses		24
Studio Courses		9
Performance and Creative Research Courses		8
Movement Technique Courses		32
Distribution Areas		7-9
Dance Specialization Area		3-4
Dance Electives (semester hours could vary depending on previous coursework)		0-1
Senior Project (semester hours could vary)		2
<b>Total Hours</b>		<b>85-89</b>

### Core Courses

Code	Title	Hours
All of these:		
DANC:1000	First-Year Seminar	1
DANC:1060	Introduction to Dance Studies	1
DANC:1090	Dance Production	3
DANC:1170	Functional Anatomy	1
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
DANC:2220	Production Run Crew (taken twice for 1 s.h. each; must complete this requirement by the end of the second year)	2
DANC:2981	Dance Repertory and Performance	1
DANC:3060	Western Concert Dance History: Romantic to Contemporary	3
DANC:3070	Dance Kinesiology	3
DANC:3080	Music Essentials for Dance	3
DANC:4980	B.F.A. Seminar in Dance	3

### Studio Courses

Code	Title	Hours
All of these:		
DANC:2050	Introduction to Improvisation and Composition	3
DANC:3150	Choreography I	2

DANC:3250	Choreography II	2
DANC:4350	Choreography III	2

## Performance and Creative Research Courses

Code	Title	Hours
8 s.h. from these (no more than 3 s.h. of DANC:3885 will count toward the requirement):		
DANC:3885	Repertory Dance Company	1-3
DANC:4452	M.F.A. Independent Project Research Lab	arr.
DANC:4453	M.F.A. Thesis Research Lab	arr.
DANC:4454	Faculty Creative Research Lab	arr.
DANC:4880	Dance Gala Performance	1-4
DANC:4881	Collaborative Dance Performance Concert	1
DANC:4882	Graduate/Undergraduate Concert	1-4
DANC:4883	Faculty/Graduate Concert	1-4
DANC:4884	Undergraduate Event	1-4
DANC:4885	M.F.A. Thesis Concert	1-4
DANC:4886	B.F.A. Concert	1-4
DANC:4887	M.F.A. Event	1-3
DANC:4888	Special Project Student Performance	arr.

## Movement Technique Courses

Students must complete 32 s.h. of movement technique courses, including two semesters of either DANC:4030 Major Ballet III or DANC:4040 Major Contemporary Movement Practices III, and two semesters of DANC:4540 Major Contemporary Movement Practices IV with a grade of B-plus or higher, 14 s.h. of ballet, and 14 s.h. of contemporary movement practices (eligible students may petition to take either DANC:4030 or DANC:4040 concurrently with DANC:4540 for two semesters during their final two semesters in order to satisfy technique requirements; the petition must originate with a student's advisor and be approved by the assigned course instructors).

Code	Title	Hours
32 s.h. from these:		
DANC:3030	Major Ballet I	1-3
DANC:3040	Major Contemporary Movement Practices I	1-3
DANC:3530	Major Ballet II	1-2
DANC:3540	Major Contemporary Movement Practices II	1-2
DANC:4030	Major Ballet III	1-2
DANC:4034	Ballet Pointe I	1
DANC:4035	Ballet Pointe II	1-2
DANC:4040	Major Contemporary Movement Practices III	1-2
DANC:4540	Major Contemporary Movement Practices IV	1

## Distribution Areas

Students must complete at least one course from each of the following three areas. These courses may satisfy other requirements for the major.

### Dance Somatics

Code	Title	Hours
One of these:		
DANC:3851/ DPA:3851/ MUS:3851	Introduction to the Alexander Technique	3
DANC:3852	Introduction to the Feldenkrais Method: Posture, Perception, and Pain Relief	3
DANC:3853	Introduction to Klein Technique	2

### Global Dance Studies

Code	Title	Hours
One of these:		
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
DANC:2065	Performing Power/Performing Protest: The Body, Identity, and the Image	3
DANC:2085	Introduction to African Caribbean Dance Practices	3
DANC:2150	Brazilian Social Dance: The Samba	2
DANC:3010	Topics in Global Movement Practices	2

### Digital Performing Arts

Code	Title	Hours
One of these:		
DANC:2800/ ARTS:2800/ CINE:2800/CS:2800/ DIGA:2800/ MUS:2800/ THTR:2800	Digital Arts: An Introduction	3
DANC:2880/ DIGA:2880/ THTR:2880	Installations and Interactive Performance	3
DANC:2890/ DIGA:2890/ INTM:2890/ THTR:2890	Producing and Directing Digital Video	3
DANC:3050	Body/Image: Dance and Media in Discourse and Practice	3
DANC:3875/ THTR:3875	Topics in Digital Performing Arts	3
DANC:3876/ CINE:3876/ DIGA:3876/ INTM:3876/ THTR:3876	Video for Performance	3

DANC:3895/ DIGA:3895/ THTR:3895	Performance, Art, and New Technologies in Society	3
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## Dance Specialization Areas

Students choose advanced-level elective coursework by selecting one of the following three options.

### Option 1—Pedagogy

Code	Title	Hours
One of these:		
DANC:4535	Elementary Ballet Pedagogy	3
DANC:4545	Teaching of Modern and Contemporary Dance Forms	3

### Option 2—Advanced History or Theory

Code	Title	Hours
One of these:		
DANC:4060/ DPA:4060	The Contemporary Dance Scene	3
DANC:5060/ DPA:5060	Theories of Dance and the Body	3

### Option 3—Choreography

Code	Title	Hours
Both of these:		
DANC:4991	Independent Choreography	1
DANC:6450	Graduate Choreography IV	3

## Dance Electives

The required number of semester hours in dance electives varies depending on whether a student completes the core with dance courses or with cross-listed courses from another department, or has a core requirement waived.

## Senior Project

Students culminate their experience with senior projects in choreography or performance. They may earn honors credit for this project by enrolling in DANC:4999 Honors Project in Dance (enrollment requires membership in the University of Iowa Honors Program or special permission from the instructor). Other students must complete DANC:4998 B.F.A. Senior Project in Dance.

Code	Title	Hours
One of these:		
DANC:4998	B.F.A. Senior Project in Dance	2
DANC:4999	Honors Project in Dance	2

## Dance Pedagogy and Instruction Track

Dance majors who have a particular interest in the art and practice of teaching dance as passion and/or profession may complete the dance pedagogy and instruction track at the same time as they are completing their degree requirements. This track tailors the knowledge and skills gained in the pursuit of a major in dance toward the preparation of students for life as active members of their communities and society in professions in dance instruction, studio ownership, and

as teaching artists within community and dance company outreach and engagement.

Most of the required courses fulfill requirements for the dance major and GE CLAS Core requirements.

The dance pedagogy and instruction track requires 23-24 s.h. from the following.

## Dance Pedagogy Foundations

Code	Title	Hours
This course:		
DANC:3700	Dance Pedagogy: Theories, Issues, and Perspectives	3

## Dance Pedagogy Electives

Code	Title	Hours
5-6 s.h. from these:		
DANC:2075	Teaching and Using Creative Dance for Children (K-8) in a Variety of Educational Settings	2
DANC:3075/ DPA:3075	Yoga Teacher Training I	3
DANC:3076	Yoga Teacher Training II	3
DANC:4535	Elementary Ballet Pedagogy	3
DANC:4545	Teaching of Modern and Contemporary Dance Forms	3

## Education, Learning, and Human Development

Code	Title	Hours
6 s.h. from these:		
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3
PSQF:4133	The Adolescent and Young Adult	3
PSY:1001	Elementary Psychology	3
PSY:2401	Introduction to Developmental Science	3

## Leadership and Entrepreneurship Studies

Code	Title	Hours
3 s.h. from these:		
ARTS:3400	Grant Writing in the Arts	3
DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
ENTR:1350	Foundations in Entrepreneurship	3

## Social Justice Studies

Students may only take DANC:3600 or GWSS:3600, but not both.

Code	Title	Hours
3 s.h. from these:		
DANC:2065	Performing Power/ Performing Protest: The Body, Identity, and the Image	3

DANC:3600	Art, Feminist Practice, and Social Justice	3
GWSS:3600	Art, Feminist Practice, and Social Justice	3
SJUS:1001/ GWSS:1003	Introduction to Social Justice	3

## Electives

Students take additional coursework to earn at least 23-24 s.h. to complete track requirements from one of the areas listed above: Education, Learning and Human Development; Leadership and Entrepreneurship Studies; or Social Justice Studies.

## Honors

### Honors in the Major

Majors who maintain a Department of Dance g.p.a. of at least 3.50 and a UI g.p.a. of at least 3.33 are encouraged to pursue honors in dance. It is not necessary for students pursuing honors in dance to be members of the University Honors Program, although honors in dance does satisfy the experiential learning component ("learning by doing") of the University Honors Program.

Students who graduate with honors in their major receive special recognition during commencement, and their transcript and diploma reflect honors designations.

Graduation with honors in dance requires:

- successful completion of 8-10 s.h. of University of Iowa honors courses or honors contract courses in Department of Dance classes, and
- successful completion of an honors project.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the dance major.

## Career Advancement

Careers for dance majors include professional work in performing, choreography, education, private teaching, and related areas such as arts management, technical theater, or dance and physical therapy. Many graduates from the UI dance program are currently working in arts organizations throughout the United States.

The discipline and creative challenges of dance training transfer well to other careers. Students have combined dance with a second major in another field such as business or communication.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Department of Dance coursework beyond 82 s.h. for B.F.A. students does not apply toward semester hours required for graduation.

**Before the third semester begins:** 16 s.h. of coursework in the major.

**Before the fifth semester begins:** 25-40 s.h. of coursework in the major.

**Before the seventh semester begins:** 45-60 s.h. of coursework in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 57-75 s.h. of coursework in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Dance, B.F.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students must maintain a GPA of at least 3.50 in all courses for the major and in all UI courses for the major.		
An audition is required to be considered for the BFA program, as well as for placement in advanced dance classes. Audition materials required include a BFA audition application, two letters of recommendation, and current transcripts.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
DANC:1000	First-Year Seminar	1
DANC:1060	Introduction to Dance Studies	1
DANC:1090	Dance Production	3
DANC:1170	Functional Anatomy	1
Major: ballet course <sup>b</sup>		3
Major: contemporary movement practices course <sup>b</sup>		3
Major: performance and creative research <sup>c</sup>		1
RHET:1030	Rhetoric	3 - 4
or ENGL:1200 or The Interpretation of Literature		
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>18-19</b>

**Spring**

DANC:2050	Introduction to Improvisation and Composition	3
DANC:2060	Dance and Society in Global Contexts <sup>d</sup>	3
DANC:2220	Production Run Crew <sup>e</sup>	1
Major: ballet course <sup>b</sup>		3
Major: contemporary movement practices course <sup>b</sup>		3
Major: performance and creative research <sup>c</sup>		1
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
<b>Hours</b>		<b>17-18</b>

**Second Year****Fall**

DANC:3080	Music Essentials for Dance	3
Major: performance and creative research <sup>c</sup>		1
Major: contemporary movement practices course <sup>b</sup>		2
Major: ballet course <sup>b</sup>		2
Major: dance elective course <sup>f</sup>		2
BIOL:1140	Human Biology: Nonmajors <sup>g</sup>	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
<b>Hours</b>		<b>18-19</b>

**Spring**

DANC:2220	Production Run Crew <sup>e</sup>	1
DANC:2981	Dance Repertory and Performance	1
Major: ballet course <sup>b</sup>		2
Major: contemporary movement practices course <sup>b</sup>		2
Major: performance and creative research <sup>c</sup>		1
GE CLAS Core: Diversity and Inclusion <sup>i,j</sup>		3
GE CLAS Core: Natural Sciences without Lab		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
<b>Hours</b>		<b>17-18</b>

**Third Year****Fall**

Major: performance and creative research <sup>c</sup>		1
DANC:3150	Choreography I	2
Major: digital performing arts course <sup>k</sup>		3
Major: ballet course <sup>b</sup>		2
Major: contemporary movement practices course <sup>b</sup>		2
Major: global dance studies course <sup>i,l</sup>		2 - 3
GE CLAS Core: Values and Culture <sup>j,l</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
<b>Hours</b>		<b>19-21</b>

**Spring**

DANC:3060	Western Concert Dance History: Romantic to Contemporary	3
DANC:3070	Dance Kinesiology <sup>m</sup>	3
DANC:3250	Choreography II	2
Major: ballet course <sup>b</sup>		2
Major: contemporary movement practices or other technique course <sup>b</sup>		2
Major: performance and creative research <sup>c</sup>		1
GE CLAS Core: Quantitative or Formal Reasoning <sup>j</sup>		3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>h</sup> 4 - 5

**Hours** **20-21**

**Fourth Year****Fall**

DANC:4540	Major Contemporary Movement Practices IV <sup>b</sup>	1
DANC:4350	Choreography III	2
DANC:4980	B.F.A. Seminar in Dance	3
Major: specialization area/advanced elective course		3
Major: ballet or contemporary movement practices course <sup>b</sup>		2
Major: performance and creative research <sup>c</sup>		1
Major: dance somatics course <sup>k</sup>		2 - 3
GE CLAS Core: Historical Perspectives <sup>j</sup>		3
<b>Hours</b>		<b>17-18</b>

**Spring**

DANC:4540	Major Contemporary Movement Practices IV <sup>b</sup>	1
DANC:4998 or DANC:4999	B.F.A. Senior Project in Dance or Honors Project in Dance	3
Major: ballet or contemporary movement practices course <sup>b</sup>		2
Major: performance and creative research <sup>c</sup>		1
GE CLAS Core: Social Sciences <sup>j</sup>		3
GE CLAS Core: International and Global Issues <sup>j</sup>		3
Elective course <sup>n</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)		

**Hours** **16**

**Total Hours** **142-150**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students must complete 32 s.h. of movement technique courses, including two semesters of either DANC:4030 or DANC:4040, and two semesters of DANC:4540 with a grade of B+ or higher, 14 s.h. of ballet, and 14 s.h. of contemporary movement practices.

c Students must complete 8 s.h. performance and creative research courses. No more than 3 s.h. of DANC:3885 will count toward this requirement.

d Fulfills a major requirement and may fulfill a GE requirement.

e Students must complete 2 s.h. of DANC:2220 by the end of the second year.

f The required number of semester hours in dance electives varies depending on whether a student completes the core with dance courses or with cross-listed courses from another department, or has a core requirement waived.

g Recommended course for GE CLAS Core Natural Sciences with Lab, not a major requirement.

h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

- i DANC:2065 meets both the GE CLAS Core Diversity and Inclusion requirement and the global dance studies requirement for the major.
- j GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- k See General Catalog for list of approved courses.
- l DANC:1150 meets both the GE CLAS Core Values and Culture requirement and the global dance studies requirement for the major.
- m Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- n Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- o Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Dance, Minor

## Requirements

The undergraduate minor in dance requires a minimum of 15 s.h. in University of Iowa Department of Dance courses. Students must maintain a cumulative g.p.a. of 3.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

## Auditions for Admission to the Minor

An audition is required to be considered for the minor in dance, as well as for placement in dance classes. An online application is required in order to audition; visit Undergraduate Auditions on the Department of Dance website. Contact the Department of Dance for more information or questions about auditions.

## Required Coursework

The minor in dance requires the following coursework. Students must complete all prerequisites for the courses they choose for the minor. In order to enroll in DANC:3530 Major Ballet II, students must have taken at least two semesters of DANC:3030 Major Ballet I; to enroll in DANC:3540 Major Contemporary Movement Practices II, students must have taken at least two semesters of DANC:3040 Major Contemporary Movement Practices I.

Code	Title	Hours
This course:		
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
One of these:		
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
DANC:2065	Performing Power/ Performing Protest: The Body, Identity, and the Image	3
DANC:2085	Introduction to African Caribbean Dance Practices	3
Students select the remaining dance courses for the minor from these, to total 15 s.h.:		
DANC:1170	Functional Anatomy	1
DANC:2020	Intermediate Jazz (maximum of 6 s.h. of all intermediate-level coursework will count toward the minor)	2
DANC:2025	Intermediate Hip Hop Dance (maximum of 6 s.h. of all intermediate-level coursework will count toward the minor)	2
DANC:2029	Intermediate Ballet for Nonmajors (maximum of 6 s.h. of all intermediate-level coursework will count toward the minor)	2

DANC:2030	Majors Intermediate Ballet (maximum of 6 s.h. of all intermediate-level coursework will count toward the minor)	3
DANC:2040	Majors Intermediate Contemporary Movement Practices (maximum of 6 s.h. of all intermediate-level coursework will count toward the minor)	3
DANC:2050	Introduction to Improvisation and Composition	3
DANC:2150	Brazilian Social Dance: The Samba	2
DANC:3010	Topics in Global Movement Practices	2
DANC:3030	Major Ballet I (mandatory Department of Dance audition; enrollment is limited to the fall semester)	1-3
DANC:3039	Partnering Class	1
DANC:3040	Major Contemporary Movement Practices I (mandatory Department of Dance audition; enrollment is limited to the fall semester)	1-3
DANC:3050	Body/Image: Dance and Media in Discourse and Practice	3
DANC:3060	Western Concert Dance History: Romantic to Contemporary	3
DANC:3070	Dance Kinesiology	3
DANC:3150	Choreography I	2
DANC:3530	Major Ballet II (mandatory Department of Dance audition; enrollment is limited to the fall semester)	1-2
DANC:3540	Major Contemporary Movement Practices II (mandatory Department of Dance audition; enrollment is limited to the fall semester)	1-2
DANC:3700	Dance Pedagogy: Theories, Issues, and Perspectives	3
DANC:3710	Topics in Intermedia	4
DANC:3851/ DPA:3851/ MUS:3851	Introduction to the Alexander Technique	3
DANC:3852	Introduction to the Feldenkrais Method: Posture, Perception, and Pain Relief	3
DANC:3853	Introduction to Klein Technique	2
DANC:4030	Major Ballet III	1-2
DANC:4034	Ballet Pointe I	1
DANC:4035	Ballet Pointe II	1-2
DANC:4040	Major Contemporary Movement Practices III	1-2

DANC:4452	M.F.A. Independent Project Research Lab	arr.
DANC:4453	M.F.A. Thesis Research Lab	arr.
DANC:4454	Faculty Creative Research Lab	arr.
DANC:4540	Major Contemporary Movement Practices IV	1
DANC:4880	Dance Gala Performance	1-4
DANC:4881	Collaborative Dance Performance Concert	1
DANC:4882	Graduate/Undergraduate Concert	1-4
DANC:4883	Faculty/Graduate Concert	1-4
DANC:4884	Undergraduate Event	1-4
DANC:4885	M.F.A. Thesis Concert	1-4
DANC:4886	B.F.A. Concert	1-4
DANC:4887	M.F.A. Event	1-2
DANC:4888	Special Project Student Performance	arr.

## Dance, M.F.A.

The Master of Fine Arts program in dance offers two emphasis areas in choreography or performance. Students must first complete the online application and then be selected to interview and audition to be considered for admission.

### Learning Outcomes

- Movement expertise: achieve professional-level expertise in contemporary movement practices and techniques as a means to advanced, body-based creative research and teaching.
- Creative research: establish individualized creative research trajectories that couple dance theories and practices and foster coherent aesthetic points of view in both scholarly and performative contexts.
- Communication: demonstrate skilled communication through artistic process and product, and through verbal, written, digital, pedagogical, and emerging artistic forms.
- Artistic citizenship: understand and develop the combined artistic, social, and organizational skills of the artist-citizen who, in humane ways, contributes to the local, national, and global dialogues about dance and contemporary culture, and to the evolution of the professional field.
- Career readiness and sustainability: understand the diverse and ever-changing nature of the field of dance and develop the relevant agility to hold significant roles in a sustained, lifelong career.

### Requirements

The Master of Fine Arts program in dance requires a minimum of 60 s.h. of graduate credit. The program is designed to be completed in four to six semesters in residence. Students must maintain a cumulative g.p.a. of at least 3.00.

Students who demonstrate accomplishment in dance performance and/or choreography may apply for admission to the M.F.A. program. Applicants select the choreography or the performance emphasis before they are admitted.

The M.F.A. with a major in dance requires the following coursework.

### Dance Core

A total of 26 s.h. of core coursework is required for students in each emphasis area.

Code	Title	Hours
One of these:		
DANC:4535	Elementary Ballet Pedagogy	3
DANC:4545	Teaching of Modern and Contemporary Dance Forms	3
All of these:		
DANC:4060/ DPA:4060	The Contemporary Dance Scene	3
DANC:5060/ DPA:5060	Theories of Dance and the Body	3
DANC:6050	Graduate Improvisation II	3
DANC:6060	Graduate Seminar in Dance	2
DANC:6080	Graduate Production Practicum	1
DANC:6350	Graduate Choreography III	3
DANC:7990	Thesis (8 s.h. required)	8

## Movement Technique

Choreography emphasis students select 8 s.h. and performance emphasis students select 14 s.h. from the following.

Code	Title	Hours
DANC:3030	Major Ballet I	1-3
DANC:3040	Major Contemporary Movement Practices I	1-3
DANC:5085	Graduate African Caribbean Dance Practices	3
DANC:5530	Graduate Majors Ballet II	1-3
DANC:5540	Graduate Contemporary Movement Practices II	1-3
DANC:6030	Graduate Majors Ballet III	1-3
DANC:6040	Graduate Contemporary Movement Practices III	1-3
DANC:6540	Graduate Contemporary Movement Practices IV	1
DANC:7550	Graduate Contemporary Movement Practicum	2-3
DANC:7560	Graduate Ballet Technique Practicum	2-3

## Emphasis Courses

Students select courses from their emphasis area below.

### Choreography Emphasis

Choreography emphasis students complete 14 s.h. from the following.

Code	Title	Hours
All of these:		
DANC:5550/ DPA:5550/ THTR:5610	Collaborative Performance	3
DANC:6450	Graduate Choreography IV	3
DANC:6990	Graduate Independent Projects (6 s.h. required; 2 s.h. for each project)	6
2 s.h. from these (1 s.h. for each performance):		
DANC:6880	Dance Gala Performance	1-4
DANC:6881	Collaborative Dance Performance Concert	1
DANC:6882	Graduate/Undergraduate Concert	1-4
DANC:6883	Faculty/Graduate Concert	1-4
DANC:6884	Undergraduate Event	1-4
DANC:6885	M.F.A. Thesis Concert	1-4
DANC:6887	M.F.A. Event	1-2
DANC:6888	Special Project Student Performance	arr.
DANC:6889	Graduate Performance Credit	1-3

### Performance Emphasis

Performance emphasis students complete 14 s.h. from the following.

Code	Title	Hours
Both of these:		
DANC:5055	Embodying Voice/Performing Persona	3
DANC:6990	Graduate Independent Projects (4 s.h. required, 2 s.h. for each project)	4
Minimum of 7 s.h. from these:		
DANC:3885	Repertory Dance Company	1-3
DANC:6880	Dance Gala Performance	1-4
DANC:6881	Collaborative Dance Performance Concert	1-4
DANC:6882	Graduate/Undergraduate Concert	1-4
DANC:6883	Faculty/Graduate Concert	1-4
DANC:6884	Undergraduate Event	1-4
DANC:6885	M.F.A. Thesis Concert	1-4
DANC:6887	M.F.A. Event	1-2
DANC:6888	Special Project Student Performance	arr.
DANC:6889	Graduate Performance Credit	1-3

## Electives

Choreography emphasis students select 12 s.h. of electives, including one course from the digital performing arts area; performance emphasis students select 6 s.h., including one course from the digital performing arts area.

## Digital Performing Arts

Code	Title	Hours
One of these:		
DANC:3050	Body/Image: Dance and Media in Discourse and Practice	3
DANC:3875/ THTR:3875	Topics in Digital Performing Arts	3
DANC:3895/ DIGA:3895/ THTR:3895	Performance, Art, and New Technologies in Society	3
THTR:3876/ CINE:3876/ DANC:3876/ DIGA:3876/ INTM:3876	Video for Performance	3
DANC:5880	Installations and Interactive Performance	3
DANC:5890	Producing and Directing Digital Video	3

## Additional Electives

All students should consult their advisor for approval of elective coursework.

Code	Title	Hours
Courses numbered 3000 or above		

## Admission

Admission is based on a review of submitted choreographic and performance work, letters of recommendation, transcripts, teaching application, statement of purpose,

and curriculum vitae. Selected applicants participate in an interview and audition which includes a solo dance, a teaching audition, and when possible, an on-campus visit that includes advanced classes in ballet and contemporary movement practices to determine class placement level.

Demonstrated accomplishment in performance or choreography is a prerequisite for admission to the program. For more information, see Graduate Program on the Department of Dance website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

Graduates establish successful, professional careers as professors in higher education and as dance-makers and artistic directors, performers in regional and national companies, writers who contribute to knowledge in the field, and teachers for the next generation of dancers.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Dance, M.F.A.

### Choreography Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
60 s.h. must be graduate level coursework; ; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
DANC:5060	Theories of Dance and the Body <sup>c</sup>	3
DANC:6050	Graduate Improvisation II <sup>c</sup>	3
DANC:6080	Graduate Production Practicum <sup>c</sup>	1
DANC:6350	Graduate Choreography III	3
DANC:6990	Graduate Independent Projects <sup>d, e</sup>	2
		<b>Hours</b>
		<b>12</b>
<b>Spring</b>		
DANC:6060	Graduate Seminar in Dance <sup>c</sup>	2
DANC:6450	Graduate Choreography IV <sup>e</sup>	3
DANC:6990	Graduate Independent Projects <sup>d, e</sup>	2
		Movement Technique course <sup>f</sup>
		1
		Digital Performing Arts course <sup>g</sup>
		3
		<b>Hours</b>
		<b>11</b>
<b>Second Year</b>		
<b>Fall</b>		
DANC:4060	The Contemporary Dance Scene <sup>c</sup>	3
DANC:4535	Elementary Ballet Pedagogy <sup>c</sup>	3
or DANC:4545	or Teaching of Modern and Contemporary Dance Forms	

DANC:6990	Graduate Independent Projects <sup>d, e</sup>	2
	Movement Technique course <sup>f</sup>	1
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
	Dance Performance course <sup>h</sup>	1
	Movement Technique course <sup>f</sup>	3
	Elective course <sup>i</sup>	3
	Elective course <sup>i</sup>	3
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Fall</b>		
DANC:5550	Collaborative Performance <sup>e</sup>	3
	Dance Performance course <sup>h</sup>	1
	Movement Technique course <sup>f</sup>	2
	Elective course <sup>i</sup>	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
DANC:7990	Thesis <sup>j</sup>	8
	Movement Technique course <sup>f</sup>	1
	Final Exam <sup>k</sup>	
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>60</b>

a The program is designed to be completed in four to six semesters in residence.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Typically this course is offered every other year. Check MyUI for course availability since offerings are subject to change.

d Complete a total of 6 s.h. (2 s.h. for each choreography project).

e Choreography emphasis required course.

f Complete at least 8 s.h. of movement technique coursework. See the General Catalog for list of approved courses.

g See the General Catalog for list of approved courses.

h Complete a total of 2 s.h. (1 s.h. for each performance) to satisfy the choreography emphasis. See the General Catalog for list of approved courses.

i Complete at least 9 s.h. of electives. Work with faculty advisor to determine appropriate coursework and sequence.

j A minimum total of at least 8 s.h. of thesis credit is required.

k Thesis defense.

# Data Science

## Chair, Department of Statistics and Actuarial Science

- Kung-Sik Chan

## Director of Undergraduate Studies, Data Science

- Sanvesh Srivastava

## Director of Graduate Studies

- Aixin Tan

**Undergraduate major:** data science (B.S.)

**Graduate degree:** M.S. in data science

**Website:** <https://stat.uiowa.edu>

The B.S. in data science produces graduates with the sophisticated analytical and computational skills required to thrive in a quantitative world where new problems are encountered at an ever-increasing rate. The major emphasizes the statistical/probabilistic and algorithmic methods that underlie the preparation, analysis, and communication of complex data. With focus on technical foundations, the data science program promotes skills useful for creating and implementing new or special-purpose analysis and visualization tools. It also promotes a fundamental understanding of how to best handle uncertainty when making data-driven decisions.

The M.S. in data science trains the next generation of data scientists who have the analytical and technical skills to explore, formulate, and solve complex data-driven problems in science, industry, business, and government. The program focuses on the theory, methodology, application, and ethics for working with and learning from data. With an emphasis on statistical thinking and foundations, the program rigorously prepares its graduates with the abilities to develop and implement new or special purpose analysis and visualization tools. It promotes a fundamental understanding of how to quantify uncertainty in data-driven decision-making.

Students develop data preparation skills including writing software to obtain, extract, merge, clean, and/or transform the raw data. Analysis or information extraction methods include machine and statistical learning, statistical modeling and inference, and algorithm efficiency analysis. Data visualization, report writing, and oral presentations are important communication methods. The major includes two capstone courses that emphasize communication, ethics, and teamwork.

The B.S. and M.S. in data science are administered by the Department of Statistics and Actuarial Science [p. 1134].

## Programs

### Undergraduate Program of Study Major

- Major in Data Science (Bachelor of Science) [p. 383]

### Graduate Program of Study Major

- Master of Science in Data Science [p. 387]

# Data Science, B.S.

## Learning Outcomes

### Data Curation Skills

Graduates will be able to:

- understand issues associated with data collection, management, provenance, storage, merging, sharing, and preparation;
- work with multiple-source, multiple-format data;
- investigate the quality of the data; and
- have a basic understanding of ethical and confidentiality issues associated with data collection, storage, merging, and sharing.

### Computational Skills

Graduates will be able to:

- use critical thinking skills to translate substantive questions into well-defined computational problems and choose appropriate computational techniques for a given problem;
- understand the foundational software skills and associated algorithmic and computational problem-solving methods used in computer science;
- be proficient in computational methods for collecting, managing, storing, preparing, sharing, and describing data numerically and graphically from a variety of sources to design and carry out basic simulation studies; and
- use professional statistical software and understand the principles of programming and algorithmic problem solving that underlie these packages.

### Statistical/Probabilistic Skills

Graduates will be able to:

- use critical thinking skills to translate substantive questions into well-defined statistical or probability problems and choose the appropriate graphical or numerical descriptive and/or inferential statistical techniques for a given problem;
- understand the importance of, and issues related to, the choice of the study design, such as designed experiment versus probability sample versus convenience sample, used to produce data;
- understand that uncertainty, variability, and randomness play significant roles in data-driven decision making;
- understand how to measure and display uncertainty, the effect of randomness, confidence/credibility, and the likelihood of incorrect inferences;
- understand and be able to explain common misperceptions, paradoxes, and fallacies of probability and statistics; and
- understand basic regression, prediction, simulation, and visualization methods.

### Mathematical Skills

Graduates will:

- have a firm grasp of the mathematical tools underlying statistical and computational methods which are primarily based on ideas in calculus, linear algebra, and discrete mathematics, including distribution theory, uncertainty quantification (e.g., probability theory), the

probabilistic basis of formal statistical inference, models, and algorithms, and combinatorial analysis and recursion, which are used for algorithmic analysis, design, and for distribution theory.

### Communication Skills

Graduates will be able to:

- clearly justify and communicate study results to a nontechnical audience;
- write accurate and meaningful reports that describe the statistical and computational analyses and summarize important findings; and
- work effectively as part of a team to address substantive questions that can be handled using statistical and computational methods.

## Requirements

The Bachelor of Science with a major in data science requires a minimum of 120 s.h., including at least 59 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Data science majors may not earn a major or minor in computer science or statistics, a major in computer science and engineering, or the Certificate in Social Science Analytics.

The B.S. with a major in data science requires the following coursework.

Code	Title	Hours
Prerequisite Courses		12-16
Core Courses		26
Advanced Courses		9
Advanced Electives		9
Capstone Courses		3
<b>Total Hours</b>		<b>59-63</b>

## Prerequisite Courses

Students choose one of the following sequences.

Code	Title	Hours
These:		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:2700	Introduction to Linear Algebra	4
Or these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4

## Core Courses

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4

CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:3330	Algorithms	3
STAT:2010	Statistical Methods and Computing	3
STAT:3100/ IGPI:3100	Introduction to Mathematical Statistics I	3
STAT:3101/ IGPI:3101	Introduction to Mathematical Statistics II	3
STAT:3200/ IGPI:3200/ISE:3760	Applied Linear Regression	3

## Advanced Courses

Code	Title	Hours
Both of these:		
CS:4400	Database Systems	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
One of these:		
CS:5430	Machine Learning	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3

## Advanced Electives

Code	Title	Hours
Three of these, with at least one computer science course and one statistics course:		
CS:4440	Web Mining	3
CS:4470	Health Data Analytics	3
CS:4510	Human-Computer Interaction for Computer Science	3
CS:4630	Mobile Computing	3
CS:4700/ MATH:4860	High Performance and Parallel Computing	3
CS:5630	Cloud Computing Technology	3
STAT:3210	Experimental Design and Analysis	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4560	Statistics for Risk Modeling I	3
STAT:5810/ BIOS:5310/ IGPI:5310	Research Data Management	3

Other advanced computer science or statistics courses approved by advisor

## Capstone Courses

Code	Title	Hours
Both of these:		
DATA:4880	Data Science Creative Component	1
DATA:4890	Data Science Practicum	2

The Department of Statistics and Actuarial Science [p. 1134] and the Department of Computer Science [p. 319] collaborate to offer the major in data science.

## Honors

### Honors in the Major

Students majoring in data science have the opportunity to graduate with honors in the major. They must maintain a g.p.a. of at least 3.67 in their major and a cumulative University of Iowa g.p.a. of at least 3.33. Students must complete an honors thesis.

Students are responsible for finding a faculty member willing to supervise their honors project. The faculty member must approve the proposed project and a timetable for the work. Credit for thesis work must be earned in either CS:3990 Honors in Computer Science or Informatics for work supervised by a computer science faculty member or an honors course supervised by a statistics and actuarial science faculty member.

Honors in data science also satisfies the 12 s.h. experiential learning requirement for University of Iowa honors students.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the data science major.

## Career Advancement

Today, nearly every business, government, social media platform, and educational institution collects and analyzes data about its users, logistics and operations, and media presence in the hope of extracting valuable insights and utilizing the resulting efficiencies.

As an example, Amazon is the company most closely identified with a data-driven business model. Starting just over 25 years ago as an online book seller with a relatively crude crowdsourced book review platform and simple recommender system technology, it was subsequently augmented with extensive tracking of customer page views, advertising hits, data about prior purchases, and an aggressive emphasis on data-driven operational efficiencies. Amazon has become the major player in U.S. retail and a prime example of the strategic value of big data.

Data science graduates may pursue careers as data scientists. This position allows them to apply their understanding of statistics, as well as algorithm and software design, to create and develop the next generation of data analysis tools.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.



## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to students majoring in data science. Students work with their advisors on individual graduation plans.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Data Science, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:1210	Computer Science I: Fundamentals	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1550	Engineering Mathematics I: Single Variable Calculus <sup>b</sup>	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17-19</b>
<b>Spring</b>		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
STAT:2010	Statistical Methods and Computing	3
CS:2210	Discrete Structures	3
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>17-19</b>
<b>Second Year</b>		
<b>Fall</b>		
STAT:3200	Applied Linear Regression	3
CS:2230	Computer Science II: Data Structures	4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
CS:3330	Algorithms	3
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5

Elective course <sup>e</sup>	3
<b>Hours</b>	<b>17-18</b>

#### Third Year

<b>Fall</b>		
STAT:3100	Introduction to Mathematical Statistics I <sup>f</sup>	3
CS:4400	Database Systems	3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16</b>

#### Spring

STAT:4540 or CS:5430	Statistical Learning <sup>g</sup> or Machine Learning	3
STAT:3101	Introduction to Mathematical Statistics II <sup>h</sup>	3
STAT:4580	Data Visualization and Data Technologies <sup>h</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

#### Fourth Year

<b>Fall</b>		
DATA:4880	Data Science Creative Component	1
Major: advanced elective I course <sup>i</sup>		3
Major: advanced elective II course <sup>i</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>13</b>

#### Spring

DATA:4890	Data Science Practicum	2
Major: advanced elective III course <sup>i</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>e</sup>		1
Elective course <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		

<b>Hours</b>		<b>12</b>
<b>Total Hours</b>		<b>124-130</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

- f Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- g Typically STAT:4540 is offered in fall semesters only and CS:5430 is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- i Students should select at least one computer science course and one statistics course for their advanced electives.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Data Science, M.S.

## Learning Outcomes

Graduates will be able to:

- understand the fundamental concepts in probability and statistics that underlie commonly used data science algorithms;
- write efficient Python and R codes for data processing and data wrangling (data storage, access, and management) and computing for data analysis and modeling;
- use visualization techniques to display salient data features;
- use data technologies to process complex data;
- correctly and effectively implement appropriate algorithms for learning with data;
- identify and criticize inappropriate/unethical uses of data and/or algorithms;
- acquire effective communication skills for disseminating findings; and
- work with data stakeholders to help collect and analyze data.

## Requirements

The Master of Science program in data science requires 30 s.h. of graduate credit. Students must maintain a g.p.a. of at least 3.00 in all work toward the degree and in additional relevant course work.

The program aims to train the next generation of data scientists with the analytical and technical skills to explore, formulate, and solve complex data-driven problems in science, industry, business, and government. The program focuses on the theory, methodology, application, and ethics for working with and learning from data. Students acquire the abilities to develop and implement new or special purpose analysis and visualization tools, and a fundamental understanding of how to quantify uncertainty in data-driven decision making.

Coursework includes core courses covering the fundamentals of data science including probability and statistics; data storage, access, and management; and data visualization, exploration, modeling, analysis, and uncertainty quantification. Students acquire hands-on experience in solving real-world problems, communication skills, and data ethics via a required capstone project. Students choose electives from a wide variety of courses on specialized data science topics offered by the Department of Statistics and Actuarial Science, Computer Science, Business Analytics, and Biostatistics to enhance their skill set, based on their interests and career goals.

The M.S. with a major in data science requires the following coursework.

Code	Title	Hours
All of these:		
DATA:4750	Probabilistic Statistical Learning	3
DATA:5890	M.S. Data Science Practicum	2
STAT:3120/ DATA:3120/ IGPI:3120	Probability and Statistics	4

STAT:3200/ IGPI:3200/ISE:3760	Applied Linear Regression	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
At least 9 s.h. from these:		
STAT:3210	Experimental Design and Analysis	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4560	Statistics for Risk Modeling I	3
STAT:5810/ BIOS:5310/ IGPI:5310	Research Data Management	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6550/ BIOS:6310/ IGPI:6310	Introductory Longitudinal Data Analysis	3
STAT:6560	Applied Time Series Analysis	3
BAIS:6100	Text Analytics	3
BAIS:6130	Applied Optimization	3
BAIS:6210	Data Leadership and Management	3
BIOS:6720	Statistical Machine Learning for Biomedical and Public Health Data	3
CS:4310	Design and Implementation of Algorithms	3
CS:4400	Database Systems	3
CS:4470	Health Data Analytics	3
CS:5110/IGPI:5110	Introduction to Informatics	3
CS:5430	Machine Learning	3
CS:5630	Cloud Computing Technology	3

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

The program prepares graduates for careers in academe, industry, business, or government that involve data visualization and modeling, managing reproducible data analysis workflows, and collaborating and communicating with scientists and other data stakeholders.

## Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Data Science, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
STAT:3120	Probability and Statistics	4
STAT:3200	Applied Linear Regression	3
STAT:4540	Statistical Learning	3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
DATA:4750	Probabilistic Statistical Learning	3
STAT:4580	Data Visualization and Data Technologies	3
STAT:5400	Computing in Statistics	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
DATA:5890	M.S. Data Science Practicum	2
Final Exam <sup>c</sup>		
<b>Hours</b>		<b>2</b>
<b>Total Hours</b>		<b>30</b>

<sup>a</sup> Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

<sup>b</sup> Work with faculty advisor to select appropriate coursework.

<sup>c</sup> Completion of capstone project.

# Disability Studies

## Chair, Department of Health and Human Physiology

- Warren G. Darling

## Coordinator, Disability Studies

- Kristina M. Gordon (Health and Human Physiology)

**Undergraduate certificate:** disability studies  
**Website:** <https://clas.uiowa.edu/hhp/undergraduate/disability-studies-certificate>

Disability studies examines disability as a social, cultural, historical, and political phenomenon rather than focusing on its clinical, medical, or therapeutic aspects. It is an interdisciplinary and multidisciplinary field that draws on scholarship from diverse disciplines, including anthropology, architecture, the arts, communication and media studies, cultural studies, economics, gender studies, geography, global studies, history, law, literature, medicine, nursing, philosophy, policy studies, political science, religious studies, social work, and sociology.

The certificate program helps students expand their knowledge and awareness of disability issues and prepare for careers in a variety of fields. Its multidisciplinary nature makes disability studies a good complement to a broad range of undergraduate majors.

Students who complete the certificate develop:

- understanding of the history of disabilities in America;
- awareness of how culture and society define disability;
- the ability to interact with individuals from diverse backgrounds;
- a personal philosophy of treating people fairly, equitably, and thoughtfully; and
- greater understanding of and concern for public policy issues and active citizenship.

The certificate program in disability studies is administered by the Department of Health and Human Physiology [p. 633].

## Programs

## Undergraduate Program of Study Certificate

- Certificate in Disability Studies [p. 390]

## Courses

## Disability Studies Courses

**DST:1000 First-Year Seminar** **1 s.h.**  
 Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements:  
 first- or second-semester standing.

**DST:1101 Introduction to Disability Studies** **3 s.h.**  
 Introduction and overview of important topics and discussions that pertain to the experience of being disabled; contrast between medical and social models of disability; focus on how disability has been constructed historically, socially, and politically in an effort to distinguish myth and stigma from reality; perspective that disability is part of human experience and touches everyone; interdisciplinary with many academic areas that offer narratives about experience of disability. GE: Diversity and Inclusion.

**DST:1200 Disabilities and Inclusion in Writing and Film Around the World** **3 s.h.**  
 Exploration of human experiences of dis/ability and exclusion/inclusion. Taught in English. GE: Diversity and Inclusion. Same as GHS:1200, GRMN:1200, WLLC:1200.

**DST:3102 Culture and Community in Human Services** **2-3 s.h.**  
 Influence of social issues (e.g., diversity, equity) on human services; values, beliefs, lifestyles, and attitudes of individuals and diverse groups found in a pluralistic society; recognition of dehumanizing biases and their impact on interpersonal relations; translation of knowledge of culture into attitudes, skills, and techniques that result in favorable experiences for human services consumers; recognition of ways in which dehumanizing biases may be reflected in everyday encounters and understanding how these interactions may influence populations served by human service practitioners.

**DST:3103 Eugenics** **3 s.h.**  
 The eugenics movement specifically is part of disability studies to the extent that it was an influential "scientific" approach to determining who was and was not disabled (inferior) during the Progressive Era (1880-1920) although its influence extended through WWII; vestiges of eugenics remain today, though no longer identified as eugenics; how eugenics was quickly adopted by the United States where it found a receptive and well-financed audience of aristocrats, scientists, and philanthropists; many negative eugenic practices resulted —marriage restriction, sterilization, euthanasia, immigration restriction, and segregation/institutionalization.

**DST:3200 Bioethics, Health, and Disability** **arr.**  
 There is always room for learning to think more carefully about any ethical dilemmas that might be encountered in potential future roles as health care or social service professionals; students take a more fundamental look at issues affecting health care and social services access for people with disabilities than presently occurs.

**DST:4198 Practicum in Therapeutic Recreation** **1-3 s.h.**  
 Educational opportunity in inclusive and therapeutic recreation professional settings; development of skills, techniques, and proficiencies under guidance of experienced professionals and academic supervisors; students gain experience with various populations and differing abilities; academic research, in-class preparation, and off-campus work with designated agency. Same as TR:4197.

# Disability Studies, Certificate

## Requirements

The undergraduate Certificate in Disability Studies requires a minimum of 19 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

The Certificate in Disability Studies requires the following coursework.

## Core Courses

Students earn 11-12 s.h. by taking the following four core courses.

Code	Title	Hours
Both of these:		
DST:1101	Introduction to Disability Studies	3
RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3
One of these:		
EDTL:4940	Characteristics of Disabilities	3
TR:3162	Therapeutic Recreation: Clientele	3
And one of these:		
EDTL:2073	Finding Your Comfort Zone: Secrets to Success	3
EDTL:4967	Integrated Disability Studies Practicum	2

## Focused Elective Courses

Students earn a minimum of 7-8 s.h. in focused electives to earn a total of at least 19 s.h. for the certificate, which they select from courses in at least two of the following lists (maximum of 6 s.h. from any one list). They may count a maximum of 3 s.h. earned in courses numbered below 3000 toward this requirement.

Code	Title	Hours
<b>Aging Studies</b>		
ASP:3170	Health and Aging	3
ASP:4165/CSD:4165	Communication Disorders and Aging	1-2
<b>American Sign Language</b>		
ASL:3200	Topics in Deaf Studies	3
ASL:3400	Issues in ASL and Deaf Studies	3
ASL:3500	Deafness in the Media	3
ASL:3700	Deaf Gain: Reframing Deaf People, Cultures, and Languages	3
ASL:4201/ HIST:4201	History of the American Deaf Community	3-4

### American Studies

AMST:2025	Diversity in American Culture	3
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### Anthropology

ANTH:3152/ ASP:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ANTH:3308	Human Variation	3

### Cinematic Arts

CINE:1195	Video Games and Identity	3
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### Classics

CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:3105/ GHS:3105/ GRMN:3105/ GWSS:3105/ WLLC:3105	Contraception Across Time and Cultures	3

### College of Public Health

CPH:2400	The U.S. Health System in a Global Context	3
CPH:3230	Human Genetics and Public Health	3

### Communication Sciences and Disorders

CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
CSD:3185	Hearing Loss and Audiometry	3
CSD:4114	Introduction to Voice Disorders	2
CSD:4145	Developmental Language Disorders	3
CSD:4148	Developmental Speech Disorders	3

### Communications

COMM:2020	Health Communication	3
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### Computer Science

CS:3980	Topics in Computer Science I	3
CS:4980	Topics in Computer Science II (when topic is research and development of accessible computing technologies)	3

### Counselor Education, Teaching and Learning, and Educational Policy and Leadership Studies

CSED:4113	Sleep, Sleep Deprivation, and Sleep Disorders	3
CSED:4132	Introduction to Addictions and Impulse Control Disorders	3
CSED:4179	Sexuality Within the Helping Professions	3
CSED:4185	Introduction to Substance Abuse	3
CSED:4197	Citizenship in a Multicultural Society	3
EDTL:2963/ THTR:2605	Monsters, Victims, and Villains: Changing Perceptions	3

EDTL:3130	Adaptive Physical Education for the Elementary Classroom Teacher	2	PSY:1501	Everyone's a Little Bit Biased: The Science Behind Prejudice	3
EDTL:4900	Foundations of Special Education	3	PSY:3320	Abnormal Psychology	3
EDTL:4950	Behavioral and Social Interventions	3	<b>Religious Studies</b>		
EDTL:4987/ CSED:4187	Introduction to Assistive Technology	3	RELS:3580/ ANTH:3113/	Religion and Healing	3
EDTL:4990	Interdisciplinary Issues in Disabilities	1-3	ASIA:3561/ GHS:3113		
EPLS:4180	Human Relations for the Classroom Teacher	3	<b>School of Social Work</b>		
EPLS:4200	Diversity and Inclusion in Athletics	3	SSW:3729	Substance Use and Abuse	2-3
<b>Criminology</b>			SSW:3847	Discrimination, Oppression, and Diversity	3
CRIM:3250	Drugs, Deviance, and Social Control	3	SSW:4100	Social Work in the Criminal Justice System	3
<b>Disability Studies</b>			<b>Sociology and Criminology</b>		
DST:1200/ GHS:1200/ GRMN:1200/ WLLC:1200	Disabilities and Inclusion in Writing and Film Around the World	3	SOC:3510	Medical Sociology	3
DST:3102	Culture and Community in Human Services	2-3	<b>Therapeutic Recreation</b>		
DST:3200	Bioethics, Health, and Disability	arr.	TR:3261	Inclusive Recreation	3
<b>Gender, Women's, and Sexuality Studies</b>			TR:4197/DST:4198	Practicum in Therapeutic Recreation	1-3
GWSS:2700	Transgender People, Politics, and Cultures	3			
GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3			
<b>Geography</b>					
GEOG:3110/ GHS:3111	Geography of Health	3			
<b>Global Health Studies</b>					
GHS:2260/ RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3			
GHS:2265/ ASP:2265/ RELS:2265	Hard Cases in Healthcare at the End of Life	3			
GHS:4205/ SPAN:4205	Culture, Language, and Health	3			
<b>Health Management and Policy</b>					
HMP:4000	Introduction to the U.S. Health Care System	3			
<b>History</b>					
HIST:4203	Disability in American History	3			
<b>International Studies</b>					
IS:3555/GHS:3555/ HIST:3755	Understanding Health and Disease in Africa	3			
<b>Psychological and Quantitative Foundations</b>					
PSQF:2116	Applied Child and Adolescent Psychology	3			
PSQF:3104	Multicultural Issues in Counseling and Psychology	3			
<b>Psychology</b>					

# Division of Interdisciplinary Programs

## Director

- Cornelia C. Lang (Physics and Astronomy)

**Website:** <https://interdisciplinaryprograms.uiowa.edu/>

The Division of Interdisciplinary Programs includes four academic units: Enterprise Leadership, Global Health Studies, Interdepartmental Studies, and Latina/o/x Studies.

The academic units within the division offer three B.A. degrees, one B.S. degree, two minors, and a certificate.

Enterprise Leadership [p. 465] provides an option for students who want to focus on entrepreneurial business leadership. The major presents a unique blend of skills, theory, and content, encouraging students to apply their knowledge and skills to entrepreneurial and growing organizations. It is designed to prepare students for career success—whether they desire to be an innovator inside a large organization or aspire to be an entrepreneur and launch their own business one day. The program offers a combination of business and liberal arts approaches and allows students to hone their skills in innovation, entrepreneurship, communication, critical thinking, problem solving, and leadership. Enterprise Leadership offers a B.A. degree.

The Global Health Studies Program [p. 612] builds upon the humanities, social sciences, and health sciences to help students understand underlying forces—such as history, culture, gender and sexuality, economics, politics, race and ethnicity, the environment, law, and technology—which lead to health disparities worldwide. This program offers a B.A. degree, a B.S. degree, a minor, and an undergraduate and graduate certificate.

Interdepartmental Studies [p. 713] provides an alternative to traditional undergraduate majors. It gives students the opportunity to design an individualized plan of study or to choose a preapproved plan in applied human services, business studies, or health science. Each track includes coursework from a variety of departments. Interdepartmental Studies offers a B.A. degree.

Latina/o/x Studies [p. 801] offers an interdisciplinary perspective on the history, culture, politics, and experiences of Latina/o/x populations in the United States. Latina/o/x Studies introduces the peoples that have a long-term presence in the United States and in the Midwest and who are increasingly neighbors, classmates, and coworkers. This program offers an undergraduate minor.



# Division of Performing Arts

## Coordinator

- Roland Racevskis

**Website:** <https://dpa.uiowa.edu/>

The Division of Performing Arts includes the Department of Dance [p. 357], the School of Music [p. 858], and the Department of Theatre Arts [p. 1159]. The division fosters interdisciplinary collaboration among these units, coordinates artistic and academic activities, and sponsors a full array of performances and symposia. Performances are supported by professional staff in the division's Performing Arts Production Unit.

Each of the division's individual academic units offers undergraduate and graduate courses and degree programs in creative, performance, scholarly, and theoretical areas. Together they present an extensive schedule of dance productions, faculty and student recitals, ensemble concerts, and mainstage and gallery theater productions. The division also collaborates with the arts outreach program, Arts Share.

For information about the division and its programs and events, visit the Division of Performing Arts website.

## Courses

### Division of Performing Arts Courses

- DPA:1000 First-Year Seminar** **1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.
- DPA:1412 The Arts in Performance** **3 s.h.**  
GE: Literary, Visual, and Performing Arts; Values and Culture. Same as DANC:1412, THTR:1412.
- DPA:1800 World of the Beatles** **3 s.h.**  
How the Beatles' music was influenced by American pop music, the drug culture, and the avant-garde, nonwestern instruments and philosophy, anti-war sentiments, world politics, and so forth; Beatlemania's impact on British and American cultures and its role in opening Eastern Europe to the West. GE: Literary, Visual, and Performing Arts. Same as MUS:1800.
- DPA:2060 Dance and Society in Global Contexts** **3 s.h.**  
Dance and other physical endeavors as embodied forms of knowledge and culture; U.S. dance practices; European and African dance cultures; aesthetic and political issues raised by concert dance (i.e., performance, choreography, spectatorship, criticism); ethnographic methods to examine the function of dance in cultural formation (i.e., spiritual, celebratory, social, political contexts); lecture, discussion, viewing, movement workshops, formal and informal writing, field research, and blog construction. GE: Engineering Be Creative; Literary, Visual, and Performing Arts. Same as DANC:2060.
- DPA:3075 Yoga Teacher Training I** **3 s.h.**  
Exploration of in-depth knowledge of yoga in preparation for teaching through physical practice of yoga postures, study of basic yoga philosophy and texts, personal practice of meditation, yoga for various populations, anatomy of yoga postures, and practice teaching within class structure; two-semester course that results in a 200-hour yoga teacher certification. Requirements: dance major and sophomore or higher standing. Recommendations: prior yoga experience highly recommended. Same as DANC:3075.
- DPA:3210 Makeup Design for the Stage** **3 s.h.**  
GE: Engineering Be Creative. Same as THTR:3210.
- DPA:3510 Introduction to Arts Management** **3 s.h.**  
Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as INTD:3510, THTR:3510.
- DPA:3526 The Business of Writing** **3 s.h.**  
Students learn how to hone their writing skills and successfully transition into the workforce; objectives include developing the ability to pitch articles, establish personal brands, and navigate the world of freelance writing and editing; students network with professionals and explore writing-centric jobs. Same as WRIT:3526.
- DPA:3850 Introduction to Laban Movement Studies** **2-3 s.h.**  
Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as DANC:3850, MUS:3850, THTR:3850.
- DPA:3851 Introduction to the Alexander Technique** **3 s.h.**  
The Alexander Technique and "self-use"—how movement choices affect results achieved; improvement of physical skills and presence; principles in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting); application to skills in daily life, addressing underpinnings of movement; physical participation (e.g., lying down, rolling, sitting, standing, locomotion). Same as DANC:3851, MUS:3851.
- DPA:4060 The Contemporary Dance Scene** **3 s.h.**  
Historical, theoretical, and practical elements of contemporary dance; the term "postmodern" and its associations with dance, performing arts, contemporary culture; relationships between process and product, identity and subjectivity, artistic intent and authorship, meaning and intertextuality; possibility of art as a form of dissent; theory and practice placed in a dialectic; analysis and synthesis of previous research. Same as DANC:4060.
- DPA:4510 Arts Leadership Seminar** **3 s.h.**  
Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Prerequisites: THTR:3510 or ENTR:2000. Same as ENTR:4510, INTD:4510, THTR:4510.

**DPA:5060 Theories of Dance and the Body 3 s.h.**

Theoretical trends in studies of dance and physical bodies; performative and choreographic aspects of being. Recommendations: M.F.A. major in dance or advanced dance standing. Same as DANC:5060.

**DPA:5550 Collaborative Performance 3-4 s.h.**

Collaborative process with advanced dance artists and creative, design, and technical practitioners from varied disciplines that culminates in a devised performance for the general public; emphasis on sharing and investigating ideas, artistic intent, personal vision, and practical application. Same as DANC:5550, THTR:5610.

# Division of World Languages, Literatures and Cultures

## Director

- Jill N. Beckman (Linguistics)

**Faculty:** <https://dwllic.uiowa.edu/people>

**Website:** <https://dwllic.uiowa.edu/>

The Division of World Languages, Literatures and Cultures includes several academic units: the Departments of Asian and Slavic Languages and Literatures, French and Italian, German, Linguistics, and Spanish and Portuguese, and the programs in American Sign Language, International Studies, Latin American Studies, Second Language Acquisition, and Translation. In addition to providing administrative leadership for all of its units, the division fosters interdisciplinary scholarship in languages, literatures, and cultures. It encourages synergy and collaboration among its faculty and enhances opportunities for cross-cultural course development and research.

Undergraduate and graduate programs in the division serve students with varied interests and career aspirations. Students are educated to become global citizens who understand and are understood by diverse populations. They are trained to be critical thinkers and problem solvers who are also capable scholars, lucid writers, and proficient speakers.

The division offers instruction in numerous fields related to language, literature, and culture.

- American Sign Language Program [p. 50]: American Sign Language
- Department of Asian and Slavic Languages and Literatures [p. 159]: Chinese, Japanese, Korean, Russian
- Department of French and Italian [p. 514]: Arabic, French, Italian, Swahili
- Department of German [p. 601]: German
- Department of Linguistics [p. 805]: Linguistics
- Department of Spanish and Portuguese [p. 1103]: Portuguese, Spanish

The Division of World Languages, Literatures and Cultures also serves as the administrative home for International Studies [p. 749], Latin American Studies [p. 795], Second Language Acquisition [p. 1042], and Translation [p. 1184].

The Department of Linguistics [p. 805] provides scientific study of familiar languages, as well as less well-known languages. The division's Second Language Acquisition Program [p. 1042] brings multidisciplinary resources together to examine the processes that underlie non-native-language learning. The Translation [p. 1184] programs of study explore the literary, cultural, and historical contexts of work and their linguistic, aesthetic, and ideological dimensions while it builds skills for translating works from one language to another.

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC), five All-In-One Studios/small group study rooms equipped with

video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignALL lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

## Courses

### World Languages, Literatures and Cultures Courses

Most Division of World Languages, Literatures and Cultures courses are offered by the division's departments and programs. They are listed and described in the corresponding General Catalog sections.

#### **CL:1240 World Literature in Translation I** **3 s.h.**

Reading and analysis of major literary texts from writing's origins to 1700 in the Mediterranean, Asia, and Africa; interrelationship of literature and history. Taught in English. GE: Literary, Visual, and Performing Arts. Same as CLSA:1040, TRNS:1240.

#### **CL:1241 World Literature: 1700 to Present** **3 s.h.**

Reading and analysis of major literary texts from 18th century to present in chronological sequence; emphasis on interrelationship of literature and history. Requirements: completion of GE CLAS Core Rhetoric. GE: Literary, Visual, and Performing Arts. Same as TRNS:1241.

#### **CL:2248 The Invention of Writing: From Cuneiform to Computers** **3 s.h.**

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

#### **CL:3222 City as Text/Text as City** **3 s.h.**

Ways of reading cities: how built environments are shaped by history; how European cities differ from American or postcolonial cities; how to map, inhabit, remember, touch, smell, and experience a city; what is a global city; what is a sustainable city; how city spaces are felt in terms of gender, class, race, and ethnicity; models that architects, planners, politicians, and designers use to create habitable spaces; how to think of texts as cities (i.e., as spaces where people congregate, meet, live); research paper that combines class readings with independent research on a city of students' choice.

- CL:4800 Seminar in Comparative Literature** 3 s.h.  
Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Taught in English. Same as GRMN:4800, GWSS:4800, TRNS:4800, WLLC:4801.
- CL:4900 Independent Study** arr.
- WLLC:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.
- WLLC:1016 Classical Chinese Short Fiction** 1 s.h.  
Reading and discussion of classical Chinese short fiction in English translation. Taught in English. Recommendations: completion of required ESL courses. Same as ASIA:1016.
- WLLC:1131 Introduction to Russian Culture** 3 s.h.  
Development of cultural history in Russia during the Romanov period (1613-1917); painting, music, architecture, and literature viewed against their political, historical, and social settings. Taught in English. GE: Values and Culture. Same as RUSS:1131.
- WLLC:1200 Disabilities and Inclusion in Writing and Film Around the World** 3 s.h.  
Exploration of human experiences of dis/ability and exclusion/inclusion. Taught in English. GE: Diversity and Inclusion. Same as DST:1200, GHS:1200, GRMN:1200.
- WLLC:1355 Approaches to Global Cultural Studies** 3 s.h.  
Framework for thinking about global perspectives on culture; examination of themes within a transnational context; analysis of cultural expression from national and linguistic contexts.
- WLLC:1510 Ghost Stories and Tales of the Weird in Premodern Chinese Literature** 3 s.h.  
Reading of Chinese literature concerning ghosts, marvels, and supernatural from the first millennium B.C.E. through the 1800s; readings analyzed against changing historical and religious contexts. Taught in English. Recommendations: completion of all required ESL courses. GE: Interpretation of Literature. Same as ASIA:1510.
- WLLC:1600 Wonder Woman Unleashed: A Hero for Our Times** 3 s.h.  
Development of the woman warrior archetype in mythology (Athena/Minerva and Artemis/Diana), literature (Camilla from *The Aeneid* by Virgil), and history (Artemisia and Joan of Arc); focus on the development of Amazon narratives in *Metamorphoses* by Ovid, *The Book of the City of Ladies* by Christine de Pizzan, and *On Famous Women* by Boccaccio; students read *Wonder Woman Chronicles* and one or two critical studies on the subject, which may include *The Secret History of Wonder Woman* by Jill Lepore. Same as GWSS:1600.
- WLLC:2001 Global Science Fiction** 3 s.h.  
Science fiction from around the world; spanning poetry, fiction, drama, film, television, comics, mobile phone games, and music; produced on six continents. Taught in English. GE: Diversity and Inclusion. Same as ASIA:2001, FREN:2010, RUSS:2001, SPAN:2001, TRNS:2001.
- WLLC:2006 Transnational Solidarities** 3-4 s.h.  
Examination of connections forged by intellectuals, activists, and political thinkers in struggles against systems of colonialism, imperialism, capitalism, and state violence throughout the 20th century; opportunities to make connection with other struggles against racism, supremacy, patriarchy, and domination; optional discussion section taught in Arabic. Taught in English. Requirements: for 4 s.h. option—ARAB:1002. Same as ARAB:2006.
- WLLC:2050 Women from an Unknown Land: The Fight for Independence** 3 s.h.  
Exploration of past and current issues related to the Caucasus—a mountainous region located where Europe, the Middle East, and Asia meet—forming a geographical and cultural crossroad; topics include those related to women's rights, causes of poverty and ethnic conflicts, and foreign policy including terrorism in the region, the fight for freedom, and the struggle over natural resources. Taught in English. GE: International and Global Issues. Same as RUSS:2050.
- WLLC:2222 Women in Premodern East Asian Literature** 3 s.h.  
Reading of East Asian literature portraying women from the first millennium B.C.E. through the 1800s; discussion of issues related to representations of women and conventional social, familial roles in premodern China, Korea, and Japan; cross-cultural comparison of different perceptions and portrayals of women in premodern East Asian literary traditions. Taught in English. Recommendations: completion of all ESL courses. GE: Diversity and Inclusion. Same as ASIA:2222, GWSS:2222.
- WLLC:2248 The Invention of Writing: From Cuneiform to Computers** 3 s.h.  
Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248.
- WLLC:2473 Cinderella** 3 s.h.  
Comparative analysis of Cinderella stories from around the world including Asia, Europe, Africa, South America; readings, discussion, workshops, and writing; consideration of visual and material presentation of Cinderella stories in physical books.
- WLLC:2550 Mardi Gras and More: Cultures of Carnival** 3-4 s.h.  
Literature and customs associated with carnival from the Renaissance through present day; readings on theories of carnivalesque; survey of various carnival cultures ranging from Nuremberg carnival plays around 1450 to current traditions in Rio de Janeiro, Trinidad, New Orleans, and elsewhere. Taught in English. GE: Values and Culture. Same as GRMN:2550.
- WLLC:2618 Film and Literature of the Holocaust** 3-4 s.h.  
European and American films (e.g., documentaries, feature films); literature of the Holocaust in English translation (e.g., survivor memoirs, testimony, poetry, philosophical essays, graphic novels). Taught in English. GE: Values and Culture. Same as GRMN:2618.

- WLLC:2620 Anne Frank and Her Story** 3-4 s.h.  
Analysis of the *Diary of Anne Frank*, its media adaptations, and related materials (e.g., fictionalizations, additional first-hand accounts); examination of Holocaust in the Netherlands, Belgium, and other countries outside Germany; anti-Semitism, discrimination, tolerance, resistance, identity formation, human aspiration and belief. Taught in English. GE: Diversity and Inclusion. Same as GRMN:2620.
- WLLC:2666 Pact with the Devil** 3-4 s.h.  
Since early modern times, the pact with the devil has served as a metaphor for humankind's desire to surpass the limits of knowledge and power; students explore a variety of works from German, British, and Russian literature and culture from early modern time to the present, and critique different twists that fascination with the forbidden takes in regard to women. Taught in English. GE: Literary, Visual, and Performing Arts. Same as GRMN:2666.
- WLLC:3000 Big Ten Academic Alliance CourseShare: Lower-Level Language** 0-5 s.h.  
Opportunity for students from universities across the Big Ten to participate in language courses together; part of the Big Ten Academic Alliance (BTAA) CourseShare program; not an elementary/intermediate language sequence.
- WLLC:3001 Big Ten Academic Alliance CourseShare: Elementary I** 1-6 s.h.  
Opportunity for students from universities across the Big Ten to participate in courses together; part of the Big Ten Academic Alliance (BTAA) CourseShare program; first in a language sequence.
- WLLC:3002 Big Ten Academic Alliance CourseShare: Elementary II** 1-6 s.h.  
Opportunity for students from universities across the Big Ten to participate in courses together; part of the Big Ten Academic Alliance (BTAA) CourseShare program; second in a language sequence. Requirements: WLLC:3001 or equivalent language background.
- WLLC:3003 Big Ten Academic Alliance CourseShare: Intermediate I** 1-6 s.h.  
Opportunity for students from universities across the Big Ten to participate in courses together; part of the Big Ten Academic Alliance (BTAA) CourseShare program; third in a language sequence. Requirements: WLLC:3002 or equivalent language background.
- WLLC:3004 Big Ten Academic Alliance CourseShare: Intermediate II** 1-6 s.h.  
Opportunity for students from universities across the Big Ten to participate in courses together; part of the Big Ten Academic Alliance (BTAA) CourseShare program; fourth in a language sequence. Requirements: WLLC:3003 or equivalent language background.
- WLLC:3005 Big Ten Academic Alliance CourseShare: Upper-Level Language** 1-6 s.h.  
Opportunity for students from universities across the Big Ten to participate in language courses together; part of the Big Ten Academic Alliance (BTAA) CourseShare program. Requirements: WLLC:3004 or equivalent language background.
- WLLC:3090 Autonomous Language Learning Network (ALLNet)** 0 s.h.  
Autonomous language learning through learner goal driven instruction, and autonomous study through web-based and print resources; focus on development of language (e.g., speaking, listening, reading, writing) and cultural competency skills in target language.
- WLLC:3105 Contraception Across Time and Cultures** 3 s.h.  
Methods and history of contraception; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Taught in English. Same as CLSA:3105, GHS:3105, GRMN:3105, GWSS:3105.
- WLLC:3122 Tolstoy and Dostoevsky** 3-4 s.h.  
Tolstoy's *War and Peace* and *Anna Karenina*; Dostoevsky's *Crime and Punishment*, *The Demons*, and short stories. Taught in English. Same as RUSS:3122, TRNS:3122.
- WLLC:3185 Global Women's Cinema** 3 s.h.  
Introduction to contemporary women's cinema and feminist filmmaking from around the world; emphasis on post-1968 period and cinema produced outside the United States. Same as GWSS:3185.
- WLLC:3191 International Literature Today** 1,3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3595, IWP:3191, TRNS:3191.
- WLLC:3202 Russian Literature in Translation 1860-1917** 3 s.h.  
Survey of major works, figures, and trends of 19th- and early 20th-century Russian literature; age of the Russian novel; works of Turgenev (*Fathers and Sons*), Tolstoy (*Confession*), Dostoevsky (*The Idiot*, *The Brothers Karamazov*), and Chekhov (plays). Taught in English. Same as HIST:3492, RUSS:3202, TRNS:3203.
- WLLC:3208 Classical Chinese Literature Through Translation** 3 s.h.  
Reading of English translations of classical Chinese literature; discussion of special features of classical Chinese as a source language for translation; issues in translation practice and theory with focus on trends in translation of Classical Chinese literary works to English. Taught in English. Recommendations: completion of required ESL courses. Same as ASIA:3208, TRNS:3208.
- WLLC:3210 Comparative Arts** 3 s.h.  
Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Taught in English. Same as ASIA:3210, FREN:3210, IWP:3210, SPAN:3211.
- WLLC:3700 Topics in Global Cinema** 3 s.h.  
Identification of new models and methods to investigate cinema's relationship to current global issues beyond traditional scholarly focus in Western Europe and the United States; exploration of an emerging field, moving away from the paradigm of national cinema and bringing together shared theoretical frameworks while acknowledging different historical and cultural contexts. Taught in English. Same as ASIA:3700, JPNS:3700, TRNS:3700.
- WLLC:3991 Cultural Studies Conference** 1 s.h.  
Attendance and participation in a conference of importance to world and cultural studies; discussion of preparatory readings in weekly meetings.
- WLLC:4131 Critical Reading** 3 s.h.  
Analysis of different types of texts—theoretical, cultural, political, philosophical, literary, poetic—and exploration of varying ways to frame and read them. Same as TRNS:4131.

**WLLC:4210 Slavery Museums, Memorials, and Statues in the United States, Europe, and the Global South** 3-4 s.h.

Comparative study of museums, memorials, statues, performances, and artistic works that encapsulate the entangled history and memory of transoceanic slave trades and slavery in the United States, the Caribbean, the Indian Ocean, Sub-Saharan Africa, and Europe (France and the United Kingdom); critical tools to analyze public debates over politically charged monuments; exploration of transnational and political predicaments of the contemporary world; approaches include trauma theories, memory studies, history, postcolonial ecocriticism, cultural anthropology, heritage studies and museology, and Francophone cultural critique. Taught in English. Requirements: for 4 s.h. option —prior enrollment in FREN:3060 and FREN:3300. Same as FREN:4210, MUSM:4310.

**WLLC:4512 Topics in Global and Transnational Culture** 3-4 s.h.

In-depth look at a theme in cultural expression arising from interactions between countries and regions; focus on contemporary or historical issues; use of materials ranging from literature and the visual arts to music, mass media, and more; general processes through which cultures are formed in mutual and uneven relationships; research project. Taught in English. Recommendations: completion of a GE CLAS Core International and Global Issues course. Same as ARAB:4512, GRMN:4512.

**WLLC:4800 Topics in Global and Transnational Culture** arr.

In-depth look at a theme in cultural expression arising from interactions between countries and regions; focus on contemporary or historical issues; material from literature, visual arts, music, mass media, and more; general process through which cultures are formed in mutual and uneven relationships; original research project. Requirements: GE CLAS Core International and Global Issues course.

**WLLC:4801 Seminar in Comparative Literature** 3 s.h.

Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Taught in English. Same as CL:4800, GRMN:4800, GWSS:4800, TRNS:4800.

**WLLC:4990 Independent Study** arr.

Special work arranged with faculty advisor.

**WLLC:5000 Teaching and Learning Languages** 3 s.h.

Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Taught in English. Same as FREN:5000, GRMN:5001, SLA:5000, SPAN:5000.

**WLLC:5005 Heritage and Dual Language Teaching** 3 s.h.

Theoretical issues (e.g., ideological, educational, linguistic) of heritage language teaching and learning; pedagogical issues including curriculum development and assessment for dual language programs in the United States; focus on teaching heritage language learners (those who learned a language other than English at home) or dual language education (those who develop academic skills in their native language while building skills in a different language) in the United States. Taught in English. Same as SPAN:5005.

**WLLC:6320 Topics in Contemporary Critical Theory** 3 s.h.

Focused discussion of critical discourses and paradigms that have contributed to development of contemporary literary and cultural theory.

**WLLC:6965 Topics in Second Language Acquisition: Writing** 3 s.h.

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as RHET:6965, SPAN:6965.

# Earth and Environmental Sciences

## Chair

- David W. Peate

**Undergraduate major:** geoscience (B.A., B.S.)

**Undergraduate minor:** geoscience

**Graduate degrees:** M.S. in geoscience; Ph.D. in geoscience

**Faculty:** <https://clas.uiowa.edu/ees/people>

**Website:** <https://clas.uiowa.edu/ees/>

Faculty and students in the Department of Earth and Environmental Sciences study the physical, chemical, and biological systems of Earth. Using modern observational, analytical, and computational methods, they examine how the planet's interior, surface, hydrosphere, biosphere, and atmosphere have evolved since Earth was born in the solar system 4.6 billion years ago. Topics commonly studied in the department include how plate movements cause earthquakes, volcanoes, and mountain building; global climate change and how climate change and catastrophic events cause changes in biodiversity; mass extinctions and patterns of evolution through Earth history; how and where economic resources are generated on Earth; and how these resources are located and used in modern society.

The earth and environmental sciences curriculum provides students with hands-on experience analyzing rocks, minerals, fossils, soils, and waters, generally in a small classroom setting. Much of this experience is obtained in laboratory and field courses. Field courses include travel to other states or countries to view Earth's materials and fossils in the context of their natural surroundings.

The department offers a variety of courses appropriate for nonmajors, including several approved for the Natural Sciences requirement of the GE CLAS Core [p. 20]; see "Courses for Nonmajors" below.

## Courses for Nonmajors

Each year more than 1,800 students enroll in Department of Earth and Environmental Sciences introductory courses that are approved for GE CLAS Core; look for courses with the prefix EES under "Natural Sciences" in the GE CLAS Core section of the Catalog.

The department also offers the following upper-level courses with few or no prerequisites.

Code	Title	Hours
EES:3020	Earth Surface Processes	3
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3100	Earth and Planetary Remote Sensing	4
EES:3210	Principles of Paleontology	3

## Cooperative Activities

The department does collaborative work with the Iowa Geological Survey and the Office of the State Archaeologist of Iowa. Earth and environmental sciences students sometimes work on projects for the survey.

The Departments of Anthropology, Biology, Chemistry, Civil and Environmental Engineering, Earth and Environmental Sciences, and Geographical and Sustainability Sciences share services, expertise, joint instruction, and equipment. The Department of Earth and Environmental Sciences is an important participant in the Iowa Quaternary Studies group, an interdisciplinary program that promotes projects combining work in anthropology, biology, geography, geology, and statistics. Coursework, degree programs, and facilities are shared among departments. The Department of Earth and Environmental Sciences and its faculty also support and actively participate in the interdisciplinary Environmental Sciences Program [p. 486], which offers two undergraduate majors and a minor, and a number of the department's courses satisfy requirements of the undergraduate Certificate in Sustainability [p. 2225].

## Field Trips

Field trips are integral parts of several courses in earth and environmental sciences. The geology of the Iowa City region is characterized by Quaternary glacial sediments on a largely Paleozoic sedimentary section a few hundred meters thick, overlying a Precambrian crystalline basement. Marine and terrestrial fossil assemblages, extensive reefs, and unique geode sites are located within a few hours' drive. Numerous Pleistocene glaciations are represented in Iowa, and field studies of landforms, exposures, and cores continue to yield information on sedimentology, stratigraphy, soil formation, paleopedology, and fossil biotas from both glacial and interglacial deposits.

Spring break and summer provide time for longer trips, which are open to all earth and environmental sciences students. In recent years, students have traveled to the southern Appalachians, Arizona, China, Death Valley, the Dominican Republic, the Florida Keys, Hawaii, New Mexico, the Ozarks, Puerto Rico, and Texas. Advanced classes have visited California, Colorado, Kansas, Montana, Oklahoma, Wisconsin, and Ontario, Canada.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Geoscience (Bachelor of Arts) [p. 406]
- Major in Geoscience (Bachelor of Science) [p. 410]

#### Minor

- Minor in Geoscience [p. 415]

### Graduate Programs of Study

#### Majors

- Master of Science in Geoscience [p. 416]
- Doctor of Philosophy in Geoscience [p. 418]

## Facilities

Resources and equipment available for research in the Department of Earth and Environmental Sciences include the following.

**Computer facilities:** three teaching classrooms with 10-12 networked PC workstations; a computing classroom with

20 PCs and 10 Mac workstations with GIS, GMS, remote sensing, image analysis, and specialized computational software packages; a student computer room with six PCs and two Macs; and a number of multiprocessor workstations in research laboratories.

**Electron microprobe:** JOEL JXA-8230 electron probe microanalyzer with five wavelength-dispersive spectrometers capable of quantitatively analyzing a full spectrum of elements in solid materials to a spot size as small as one micron.

**Environmental and Hydrogeology Laboratory:** permeameters and tensionometers; pumping and slug/bail test units with transducers and data-loggers; water-quality analysis facility; advanced groundwater modeling and geostatistics software; advanced data logging systems for field research; 3D sensor arrays (wind and water systems); and facilities for field instrumentation design and construction.

**Environmental instrumentation laboratories:** storage, testing, and teaching facility focusing on field instrumentation; assembly, housing, and testing of climatic, meteorological, fluvial, water quality and associated environmental instrumentation data recording systems and sampling systems.

**Geomorphic Computing Laboratory:** high-end visualization, digitizing, remote sensing and GIS systems; and high-end multiprocessor workstations.

**Mineral Separation and Geochronology Preparation Facility:** jaw crushers, disk pulverizer, shaker table, electromagnetic separators and heavy liquid separation equipment for mineral separation; core drill apparatus and saws for removing grains from thin sections and slabs; microscopes and digital imaging for grain selection and characterization; polishing equipment for slabs, thin section stubs, and grain mounts; natural standards for co-mounting with unknowns prior to analysis at a variety of geochronology facilities.

**Morphometric laboratories:** reflex microscope and microscope for capturing 3D data; high-resolution digital cameras and microscopes for 2D image analysis; and laboratories for micro- and macro-fossil preparation.

**Paleontological Repository:** more than a million specimens, including some 25,000 type and referred specimens, with 6,000-7,000 primary types; invertebrate, vertebrate, and plant fossils of all geologic ages, and more than 90 percent Paleozoic invertebrates; one of the largest university collections in North America.

**Petrology and geochemistry laboratories:** laser-ablation inductively coupled plasma mass spectrometer (LA-ICPMS); clean laboratory for preparation of samples for elemental and isotopic analysis; alpha- and gamma-spectrometry laboratories; image analysis; petrographic microscopes; photo microscopy; wet-chemistry facilities; rock preparation and mineral separation; UNIX, Windows, and Mac workstations for data analysis and modeling; and one atm gas-mixing furnace for melt inclusion homogenization.

**Quaternary Materials Laboratory:** pipette grain-size analysis apparatus; chittick apparatus; Sedigraph 5100 X-ray particle-size analyzer; Horiba Camsizer L digital image particle analyzer; wet-chemistry facilities; C-H-N element analyzer; a Flotech flotation system; and a Giddings drill rig.

**Scanning electron microscope:** Hitachi S-3400N, a variable-pressure scanning electron microscope (SEM) equipped with a motorized stage, large chamber, and digital

image capture; capable of imaging specimens with no metal coating, or specimens that are slightly hydrated or porous, as well as conventionally processed specimens; equipped with a Bruker AXS Quantax 400 X-ray microanalysis system; XFlash silicon drift detector with excellent energy resolution and light element detection, providing ultra-fast acquisition of line scans and elemental maps; and a Gatan ChromaCL cathodoluminescence detector system for imaging grain textures.

**Sedimentary geology laboratories:** water ion chromatograph; image analysis; Sedigraph X-ray particle-size analyzer; Horiba Camsizer L digital image particle analyzer; and a soil/sediment characterization laboratory.

**Thin-Section and Rock Preparation Laboratory:** diamond saws and specialized grinding equipment used to prepare ultrathin slices (30 microns thick) of rocks and fossils for microscopic and electron microprobe analysis.

## Courses

### Earth and Environmental Sciences Courses

Not all courses are offered every year.

- EES:1000 First-Year Seminar** **1-2 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- EES:1021 Spring Break Service Learning Trip** **1 s.h.**  
Special topics, directed research.
- EES:1030 Introduction to Earth Science** **3-4 s.h.**  
Relationships between plate tectonics, geologic time, and the rock cycle with volcanoes and igneous, sedimentary, metamorphic rocks; fossils; radioactive isotopes; landscape evolution; mountain building; natural resources; their impacts on civilization. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as CEE:1030.
- EES:1031 Introduction to Earth Science Laboratory** **1 s.h.**  
Laboratory component of EES:1030. Requirements: completion of 3 s.h. in EES:1030 or CEE:1030. GE: Natural Sciences Lab only. Same as CEE:1031.
- EES:1040 Evolution and the History of Life** **3-4 s.h.**  
Fossils over the past 3.5 billion years, origin and evolution of life, evolutionary radiations and mass extinctions, the invasion of land, dinosaurs, the age of mammals, relationship between biological systems and environmental change in earth history. GE: Natural Sciences with Lab; Natural Sciences without Lab.
- EES:1050 Introduction to Geology** **4 s.h.**  
Minerals, rocks, and rock-forming processes (including volcanoes and sedimentary environments); surface processes (rivers, groundwater, glaciers, deserts, ocean shorelines), major earth processes (continental drift, plate tectonics, earthquakes, mountain building); impact on civilization. Offered fall semesters. GE: Natural Sciences with Lab.
- EES:1060 Big Ideas: Origins of the Universe, Earth, and Life** **3 s.h.**  
Origin of the universe, the biochemistry of life, and the origin of life on Earth; for non-science majors. Recommendations: first-year or sophomore standing. GE: Natural Sciences without Lab. Same as ASTR:1060, BIOL:1060.



- EES:1070 Age of Dinosaurs** 4 s.h.  
Origin and evolutionary history of dinosaurs; diversity of dinosaurian groups, their geographic distributions and paleoecology; origins of flight among dinosaurs; environmental context, including other animals and plants that lived alongside dinosaurs; the so-called extinction of dinosaurs and radiation of modern forms; the role dinosaurs play in the interaction between science and the popular media. Offered fall semesters. GE: Natural Sciences with Lab.
- EES:1080 Introduction to Environmental Science** 3-4 s.h.  
Biological and physical character of the Earth; interaction of humans with the environment, including impacts on ecosystems, climate, natural processes, resources; alternative options, including sustainability, waste management, energy, land reform. GE: Sustainability. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as ENVS:1080.
- EES:1081 Introduction to Environmental Sciences Laboratory** 1 s.h.  
Laboratory component of EES:1080. Requirements: completion of 3 s.h. in EES:1080 or ENVS:1080; or 3 s.h. of transfer equivalent. GE: Natural Sciences Lab only. Same as ENVS:1081.
- EES:1085 Fundamentals of Environmental Science** 4 s.h.  
Interdisciplinary study of how Earth's natural systems interact, how these systems affect society, and how they respond to human activity; how environmental problems can be solved and avoided by drawing upon knowledge in disciplines as diverse as ecology, anthropology, economics, chemistry, and political science; blended instructional environment, including traditional lectures, discussions in TILE classrooms, laboratory, online learning, peer-reviewed writing exercises, and service learning. Offered fall semesters. GE: Sustainability. GE: Natural Sciences with Lab. Same as ENVS:1085.
- EES:1086 Fundamentals of Environmental Science Lab** 1 s.h.  
Laboratory component of EES:1085. Prerequisites: EES:1085 or ENVS:1085.
- EES:1115 The History and Science of Oil** 3 s.h.  
Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Sustainability. GE: Historical Perspectives. Same as ENVS:1115, GEOG:1115, HIST:1115.
- EES:1170 Geology of the U.S. National Parks** 2 s.h.  
Geologic features, geologic history, important biological and archaeological characteristics, with emphasis on features that caused certain areas to be included in national park system.
- EES:1179 Geology of National Parks: Preparation and Planning** 1 s.h.  
Preparation for a national park field trip offered in EES:1180; students learn about locations; basic safety rules; camping skills; administrative work, including defensive driver training; investigation of national parks, national monuments, and protected lands; basic geology.
- EES:1180 Geology of National Parks: Field Trip** 2 s.h.  
Observation, interpretation of prominent geologic, geomorphic, biological features; semester-break or semester-end visits to different parks or groups of parks each year. Offered spring semesters. Prerequisites: EES:1179.
- EES:1290 Energy and the Environment** 3 s.h.  
Scientific concepts related to potentially significant energy sources of the 21st century; environmental impacts, positive and negative, of each energy source as well as geologic and geographical distributions and applications. GE: Natural Sciences without Lab.
- EES:1400 Natural Disasters** 3 s.h.  
How earth-atmosphere-hydrosphere-space systems produce events catastrophic to humans on the scale of individual lives to civilizations; root causes of earthquakes, landslides, volcanic eruptions, floods, hurricanes, tsunamis, tornadoes, and asteroid impact, and their local, national, and global impact; spatial and temporal occurrences of these hazards; methods and processes for hazard preparedness, response, and recovery; social, economic, and policy aspects that affect and compound the magnitude of disasters associated with natural phenomena; case studies drawn from contemporary and ancient societies. GE: Natural Sciences without Lab.
- EES:2001 Second-Year Field Trip for Earth and Environmental Sciences** 1 s.h.  
Opportunity for students to begin developing an appreciation of earth system and earth history scales; application of classroom learning to field-based inquiry; real-world examples of introductory course material in an outdoor classroom setting. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080. Requirements: geoscience or environmental sciences major. Same as ENVS:2001.
- EES:2010 Interdisciplinary Environmental Seminar** 1 s.h.  
Discover research, explore careers, and build connections. Requirements: first- or second-year standing. Same as ENVS:2010, GEOG:2010.
- EES:2190 Directed Study** arr.  
Special topics, independent research.
- EES:2200 Historical Geology** 4 s.h.  
Framework of earth history that is essential to understand how the earth system works; investigation of physical, biological, atmospheric, oceanographic, and chemical history of the earth to prepare for further earth and environmental science courses. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:1085 or ENVS:1085. Same as ENVS:2200.
- EES:2310 Introduction to Climatology** 3 s.h.  
Introduction to atmospheric processes that determine weather and climate; flow of energy through the atmosphere, distribution and movement of moisture and air, and atmospheric disturbances such as cyclones, hurricanes and tornadoes, and climate change. Recommendations: GEOG:1020 or similar earth systems science course. Same as GEOG:2310.
- EES:2410 Mineralogy** 4 s.h.  
Physical, chemical, and optical properties of minerals; phase relations; structures; associations; diagnostic features for identification. Offered fall semesters. Prerequisites: (CHEM:1110 or CHEM:1070) and (EES:1050 or EES:1030).
- EES:2831 Geologic Field Methods** 3 s.h.  
Basic methods of geologic fieldwork in southwest Montana using topographic maps and GPS to locate oneself, identifying geologic map units (including superficial deposits), recognizing geologic contacts, constructing stratigraphic sections, measuring planar structures, and making geologic maps complete with a legend and cross-section. Offered summer sessions. Prerequisites: EES:1400 or EES:1080 or EES:1030 or EES:1050.

- EES:3000 Geologic Training Assignment** 1-3 s.h.  
Practical experience.
- EES:3001 Third-Year Field Trip for Earth and Environmental Sciences** 1 s.h.  
Opportunity for students to apply their major coursework to real-world problems; field trip to visit parks, mines, and/or quarries in Missouri and Arkansas that illustrate many of the lessons learned in EES:2410 and EES:3500. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:2410. Requirements: geoscience or environmental sciences major, and junior standing. Same as ENVS:3001.
- EES:3003 Natural History Research Collections** 3 s.h.  
Techniques, methods, and issues specific to natural history research collections; practice in preparing and cleaning specimens; role of natural history specimens in modern scientific research. Recommendations: basic understanding of the diversity of plants and animals and natural history museum collections, MUSM:3001 or MUSM:3200, and BIOL:1411 or BIOL:1412; or other experience. Same as MUSM:3003.
- EES:3010 Interdisciplinary Environmental Seminar** 1 s.h.  
Role of sciences in environmental issues and problems; progression from observation to evaluation to design of better questions and experiments. Requirements: third- or fourth-year standing. Same as ENVS:3010, GEOG:3003.
- EES:3020 Earth Surface Processes** 3 s.h.  
Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Recommendations: EES:1050 or EES:1080 or ENVS:1080 or GEOG:1020 or EES:1085 or ENVS:1085. Same as ENVS:3020, GEOG:3020.
- EES:3030 Conservation Paleobiology** 4 s.h.  
Exploration of how near- and deep-time geologic record pertains to conservation; restoration targets; best practices for conservation of ecosystems; human impacts. Same as ENVS:3030.
- EES:3050 Geology of Iowa** 2 s.h.  
Exploration of geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; background of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms, utilizing natural landscapes in Iowa. Same as ENVS:3050.
- EES:3051 Geology of Iowa Field Trip** 1 s.h.  
Exploration of the geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; field-based examples of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms utilizing the natural landscapes in Iowa. Recommendations: EES:3050. Same as ENVS:3051.
- EES:3060 Ecology and Natural History of Iowa** 3 s.h.  
Plant and animal communities, landforms, and geologic history of Iowa; local area fieldwork; students learn identification and survey techniques, and interact with local naturalists.
- EES:3070 Marine Ecosystems and Conservation** 3 s.h.  
Introduction to ocean ecosystems, including coral reefs, mangroves, estuaries and salt marshes, sandy and rocky shores, seagrass and kelp beds, the deep sea, plankton; biodiversity of each ecosystem; interrelationship of biota and physical/chemical environment; interactions among organisms, including food webs and symbiosis; local and global threats such as overfishing, pollution, ocean acidification, global warming, sea level change; ongoing biodiversity crisis, solutions for conservation problems.
- EES:3080 Introduction to Oceanography** 2 s.h.  
Descriptive, chemical, physical, biological, geological aspects of oceans; impact on weather, climate, shorelines, food supply, other aspects of civilization. Offered spring semesters. Recommendations: knowledge of basic chemistry, biology, physics, earth science.
- EES:3100 Earth and Planetary Remote Sensing** 4 s.h.  
Remote sensing of the earth's surface from aircraft, satellites; aerial photograph interpretation; remote sensing systems, methods, data analysis using electromagnetic spectrum and digital processing techniques, including visible, infrared, microwave radiation; remote sensing applied to geologic and environmental problems. Prerequisites: EES:1030 or EES:1050 or EES:1080 or EES:1085. Same as ENVS:3100.
- EES:3110 Chemical Evolution of the Oceans** 3 s.h.  
Investigation of various physicochemical states oceans have assumed over the past four billion years of Earth history; use of isotope geochemistry as a proxy for ancient ocean conditions; focus on integrated Earth system science, paleoceanographic and paleoclimate modeling, role of chemical stratigraphy in deciphering past climate states of ocean-atmosphere system; relationship between chemical changes in ocean/atmosphere and biological systems of the Earth. Same as ENVS:3110.
- EES:3130 Career Path Planning for Earth and Environmental Sciences** 1 s.h.  
Opportunity to cultivate a sense of what employers deem as important skills beyond the technical requirements, develop a set of polished application materials and practice interviewing skills, and investigate a wide variety of potential career paths through interaction with department alumni.
- EES:3150 Sustainability Project** arr.  
Individual or collective project related to sustainability under the direction and supervision of a faculty member; involves regularly scheduled meetings, data collection and interpretation, and a final project report.
- EES:3160 Field Trip** 1-3 s.h.  
Field trip to an area of geologic interest, such as localities in the Midwest, Hawaii, Grand Canyon (Arizona), Rio Grande Rift (New Mexico), Death Valley (California, Nevada), Appalachian Mountains (Virginia), as well as international destinations such as the Caribbean and China; preceded by weekly discussions of destination's geology.
- EES:3190 Directed Study** arr.  
Special topics, independent research.
- EES:3200 Collection Care and Management** 3 s.h.  
How a museum's management policy relates to its administrative, legal, and ethical obligations to its collections; acquisitions, deaccessions, collection use, data standards, storage environment, health, safety, documentation. Same as MUSM:3200.

- EES:3210 Principles of Paleontology** 3 s.h.  
Patterns of evolution in fossil record; species and analysis of their evolutionary relationships; paleoecology, paleocommunity evolution; evolutionary radiation and mass extinctions; large-scale relationships between biodiversity and climatic change. Offered fall semesters.
- EES:3220 Evolution of the Vertebrates** 4 s.h.  
Evolutionary history of vertebrates revealed by fossils and information from living animals; biogeographic, stratigraphic, paleoecological aspects of selected groups, especially mammals and dinosaurs; transitions from aquatic to terrestrial life, origins of flight, major events in vertebrate history (including mass extinctions and explosive radiations). Requirements: introductory course in geoscience, bioscience, or physical anthropology.
- EES:3260 Wetlands: Function, Geography, and Management** 3 s.h.  
Hydrological, geomorphological, and ecological processes and their interaction in wetlands; geographic differences in wetlands based on climate and hydrology; wetlands, lakes, and rivers; role of wetlands in drainage basin hydrology and flooding; values and valuation of wetlands; wetland law and wetland delineation; wetlands and water resources. Prerequisites: GEOG:2310 or GEOG:2374. Same as GEOG:3320.
- EES:3300 Sedimentary Geology** 4 s.h.  
Basic concepts of sedimentology, stratigraphy, depositional environments, sedimentary petrology; hands-on analyses of sediments and sedimentary rocks, including thin-section petrography; lecture/laboratory. Offered fall semesters.
- EES:3350 Active Tectonics** 3 s.h.  
Exploration of current topics in active tectonics and earthquake research through applications of earthquake physics, earthquake seismology, geodesy, paleoseismology, tectonic geomorphology, and earthquake hazards assessment.
- EES:3360 Soil Genesis and Geomorphology** 3 s.h.  
Introduction to soil genesis, soil geomorphology, and classification including the basics of soil profile description and soil-landscape, soil-vegetation, and soil-climate relationships; emphasis on study of soils as the interface between living and non-living Earth systems and the role of soils in sustaining ecosystems and human societies; short field excursions and a weekend field trip. Requirements: college earth science and chemistry. Same as GEOG:3360.
- EES:3380 Fluvial Geomorphology** 3 s.h.  
Hydrologic principles, stream channel processes, and fluvial geomorphology within drainage basin systems; spatial and temporal variations in water distribution, analysis of hydrological data, flow mechanisms, sediment transport, forecasting procedures, hydrograph construction, modeling. Requirements: EES:3020 or another 3000-level geology or hydraulics course. Same as CEE:3328.
- EES:3390 Integrated Watershed Analysis** 3 s.h.  
Integration of existing knowledge of physical, hydrological, and environmental processes with management issues and challenges in water resources and environmental management; aspects of water quantity and quality, water use and treatment; basin management issues related to forestry, agriculture, urbanization, floods, droughts.
- EES:3500 Igneous and Metamorphic Petrology** 4 s.h.  
Nature, origin, and petrography of igneous and metamorphic rocks in hand specimen and thin-section. Offered spring semesters. Prerequisites: (MATH:1010 or MATH:0100 or MATH:1020 or MATH:1850) and (EES:1050 or EES:1030) and (CHEM:1110 or CHEM:1070) and EES:2410.
- EES:3770 Global Stratigraphy** 3 s.h.  
Types of stratigraphy (e.g., biostratigraphy, lithostratigraphy, sequence stratigraphy, chemostratigraphy, magnetostratigraphy, cyclostratigraphy, chronostratigraphy) that share a number of procedures and practices and how differences cloud understanding of Earth history; central role of stratigraphy in modern geoscience pursuits; issue of time in stratigraphic record as an organizing theme for investigation of comparative stratigraphy.
- EES:3840 Structural Geology** 4 s.h.  
Rock deformation; description, classification of geologic structures such as faults and folds; processes that generate geologic structures; solution of structural problems; interpretation of geologic maps. Prerequisites: EES:1030 or EES:1050.
- EES:4001 Fourth-Year Field Trip for Earth and Environmental Sciences** 2 s.h.  
Application of core course learning to real-world examples; students develop a broader understanding of interrelated aspects of earth and environmental sciences as truly integrated scientific endeavors; field trip to Big Bend National Park to highlight a wide range of geoscience and environmental science studies and provide students an opportunity to apply all aspects of their training to the amazing geologic landscape of southwest Texas; capstone field experience for students heading into their senior year. Prerequisites: EES:2831. Requirements: geoscience or environmental sciences major, and senior standing. Same as ENVS:4001.
- EES:4156 Scanning Electron Microscopy and X-Ray Microanalysis** arr.  
Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as ACB:4156, CBE:4156.
- EES:4200 Museum Object Preservation** 3 s.h.  
Detailed study of specific types of museum objects, their materials, and care; topics include care, storage, and preservation of paper, books, photographs, works of art, electronic media, textiles, furniture, archaeological artifacts, and natural history specimens; students complete a curatorial project and gain hands-on practice in basic object cleaning and making enclosures and supports; for students planning museum careers or taking care of collections as part of their professional responsibilities. Same as MUSM:4200.
- EES:4230 Special Topics** 1-3 s.h.  
Contemporary issues in earth sciences.
- EES:4300 Quantitative Methods in the Geosciences** 3 s.h.  
Quantitative data analysis and introduction to scientific computing in the geosciences.

- EES:4410 Analytical Methods Seminar** 2 s.h.  
Theory and practice of analyzing chemical, isotopic, and mineralogical compositions of rocks, inorganic materials, and waters; use of modern analytical instruments. Offered spring semesters. Prerequisites: CHEM:1070 or CHEM:1110.
- EES:4490 Elements of Geochemistry** 3 s.h.  
Introduction to application of chemical principles to solution of geologic problems concerning earth and environmental processes; origin of elements, chemical differentiation of Earth and the solar system, geochronology, application of radiogenic and stable isotopes, chemical equilibrium, elementary thermodynamics and kinetics, carbonate and silicate stability relationships, chemical weathering, adsorption, trace element behavior, oxidation-reduction reactions, characterization of surface and ground waters, and ocean chemistry. Prerequisites: (EES:1030 or EES:1050) and (CHEM:1070 or CHEM:1110).
- EES:4520 Isotope Geochemistry** 3 s.h.  
Radiogenic and stable isotope systematics, applications to geological, cosmological, and environmental problems. Prerequisites: (EES:1030 or EES:1050) and (CHEM:1070 or CHEM:1110). Recommendations: EES:2410.
- EES:4530 Volcanology** 3 s.h.  
Comprehensive overview of the process of volcanism; principles of physical volcanology. Prerequisites: EES:2410 and EES:3500.
- EES:4630 Hydrogeology** 4 s.h.  
Foundational concepts of physical hydrogeology including water cycle and hydrologic balance, hydrogeologic properties of porous media and fractured rock, Darcy's law, flow systems, and hydrogeologic characterization methods; students practice quantitatively evaluating groundwater flow problems through regular problem sets and hands-on labs. Prerequisites: MATH:1850 or MATH:1550.
- EES:4640 Contaminant Hydrogeology** 3 s.h.  
Introduction to controls on contaminant transport in groundwater systems (e.g., advection, dispersion, diffusion, reaction/transformation); variety of models used to practice quantitatively evaluating contaminant behavior; survey of common contaminants in groundwater through discussion of published case studies; overview of standard and leading edge characterization and remediation methods.
- EES:4660 Groundwater Modeling** 3 s.h.  
Groundwater flow and contaminant transport modeling; numerical methods, applications of groundwater modeling to water supply, groundwater resources evaluation, remediation design using software; GMS (MODFLOW, MODPATH, and MT3D). Prerequisites: MATH:1860 and EES:4630. Same as CEE:4104.
- EES:4680 Field Methods in Hydrologic Science** 3 s.h.  
Collection and interpretation of physical hydrology and hydraulics field measurements; basic data quality assurance and quality control; hands-on experience with field equipment and data collection. Prerequisites: EES:4720 or EES:2831 or EES:3020 or EES:3360 or EES:3300 or EES:3380 or ENGR:2510 or EES:4800 or EES:4630 or CEE:3371 or EES:4790 or EES:3390.
- EES:4700 Evolution of Ecosystems** 3 s.h.  
Evolutionary history of terrestrial and marine ecosystems; ecological processes from population to ecosystem levels; community assembly, trophic levels, networks, biodiversity dynamics; practical aspects of paleoecological data collection, statistical analysis, modeling. Requirements: two courses in geoscience, biology, environmental sciences, anthropology, or geography. Same as ENVS:4700.
- EES:4710 Evolution of Plants** 3 s.h.  
Evolutionary history of plants over geologic time: relationships, morphology, and fossil record of major plant lineages; patterns and processes in evolution of plant morphology and diversity; ecological innovations and evolution of terrestrial ecosystems; relationships between biotic and environmental change; paleobotanical tools in stratigraphy, paleoclimatology, sedimentology; practical aspects of paleobotanical data collection, statistical analysis, modeling; field trip. Requirements: two courses in geoscience, anthropology, biology, environmental science, or geography.
- EES:4720 Paleoclimatology** 3 s.h.  
Introduction to glaciers and glacial and interglacial Earth systems; linkages among glacial, oceanic, and atmospheric systems and their effects on landscapes and biota over the past two million years; how oceans, atmosphere, and glaciers interact and landscape effects of past glacial and interglacial cycles. Requirements: physical geology or physical geography or anthropology.
- EES:4750 Mineral and Petroleum Exploration Geology** 3 s.h.  
Fundamentals of resource exploration philosophy and methods, with project-based presentation of techniques and strategies for mineral exploration and petroleum exploration; integration and evaluation of geological, geochemical, and geophysical techniques for mineral exploration; hydrocarbon systems and seismic interpretation for petroleum exploration. Corequisites: EES:3500 and EES:3840.
- EES:4790 Applied Environmental Geology** 3 s.h.  
Application of geology, water, and earth processes to civil and environmental engineering practice; physical properties of rock and soil, geologic mapping and surveying, groundwater supplies and wells, stream engineering, watershed management, site investigations for environmental assessment, and geologic hazards. Prerequisites: EES:1030 or EES:1080 or EES:1050.
- EES:4800 Global Geophysics** 3 s.h.  
Geophysics is the broad geoscience field interested in discovering the unseen characteristics of the Earth and other planets, including the internal structure of the Earth, the current motions of tectonic plates, the sources and causes of geological disasters, and the locations of economic resources; methods to accomplish these goals include seismology, gravity and magnetic studies, geodesy, and measurements of heat; course offers a broad introduction to these topics that is rooted in current and growing fields of active research. Requirements: introductory geology or physics.
- EES:4820 Tectonics and Basin Analysis** 3 s.h.  
Dynamic processes responsible for crustal genesis, plate movements, mountain building; plate boundary zones; sedimentologic, structural, petrologic, geophysical characteristics of major tectonic settings; multidisciplinary approach; week-long field trip. Corequisites: EES:3840.

- EES:4832 Geologic Field Analysis** **3 s.h.**  
Structural, stratigraphic, and regional analysis of geology in the Rocky Mountains of Montana; emphasis on making reasonable geologic interpretations from field relationships; mapping projects in vicinity of Dillon, Montana that build on experience gained in EES:2831; capstone experience dedicated to synthesizing the geology of a fold-and-thrust belt near Glacier National Park. Offered summer session. Prerequisites: EES:2831 and EES:3840.
- EES:4990 Senior Thesis in Geoscience** **arr.**  
Independent research resulting in a senior thesis. Requirements: senior standing.
- EES:4999 Honors Thesis in Geoscience** **arr.**  
Independent research resulting in an honors thesis. Requirements: honors standing.
- EES:5010 Geoscience Seminar Series** **1 s.h.**  
Scholarly work and research in geoscience.
- EES:5015 American Association of Petroleum Geologists Fall Field Trip** **1 s.h.**  
Resource-related topics in mineral and hydrocarbon exploration; tectonic settings for resources. Requirements: AAPG student chapter member or graduate standing, and basic understanding of mineralogy, petrology, and structural geology.
- EES:5380 Process Geomorphology Seminar** **1-3 s.h.**  
Topics in process geomorphology ranging from fluvial dynamics to mass movement to sediment transport and related environmental processes.
- EES:5530 Geochronology** **3 s.h.**  
How to evaluate published ages, and assumptions/errors involved; how to select and sample suitable materials for dating, and choose a suitable dating method and analytical technique; opportunity to develop skills for research and professional careers. Prerequisites: EES:4490 or EES:4520.
- EES:5550 Metamorphic Petrology** **3 s.h.**  
Interpretation of metamorphic rocks using hand specimens, thin sections, field relationships, mineralogical composition, texture, geochronology, isotope geochemistry, thermodynamics, kinetics, and tectonic setting; phase equilibria in pelitic, mafic, and carbonate rocks; thermobarometry, petrogenetic grids, P-T-X relationships, and pseudosections; kinetic models of metamorphic textures, heat-flow modeling, P-T-t paths, and tectonic evolution of metamorphic rocks. Prerequisites: EES:3500.
- EES:6190 Directed Study** **arr.**  
Independent research.
- EES:6230 Special Topics** **1-3 s.h.**  
Contemporary issues in earth sciences.
- EES:6250 Paleontology Seminar** **1-3 s.h.**  
Current controversial issues in paleontology. Recommendations: EES:3210.
- EES:6390 Advanced Watershed Analysis Seminar** **1-3 s.h.**  
Integration of existing knowledge of physical, hydrological, and environmental processes with management issues and challenges in water resources and environmental management; aspects of water quantity and quality, water use and treatment, and basin management issues related to forestry, agriculture, urbanization, floods, droughts.
- EES:6570 Tectonics and Petrology Seminar** **1-2 s.h.**  
Topics in tectonics, structural geology, petrology.
- EES:7270 Geologic Orientation, Scholarly Integrity, and Responsible Conduct of Research** **1 s.h.**  
Department degree requirements, programs; field survey of local geology; scholarly integrity; responsible conduct of research; tips for TAs; introduction to specialized facilities; for new graduate students.
- EES:7604 Principles of Scholarly Integrity** **0 s.h.**  
Training in responsible conduct of research and scholarly activities; student/mentor responsibilities, authorship, plagiarism/falsification/fabrication of data, intellectual property, conflict of interest; fiscal, institutional, and societal; data handling. Requirements: postdoctoral standing in geoscience.
- EES:7990 Research: Geoscience** **arr.**  
Independent research related to theses or dissertations in geoscience.

# Geoscience, B.A.

The B.A. in geoscience offers students a background in the Earth sciences and related scientific disciplines, and is designed for flexibility in potential career paths. The department focuses training in the areas of environmental geology, geochemistry, geophysics, paleontology, stratigraphy, tectonics, basin analysis, surficial processes, petrology, and volcanology. Students gain field experience along with classroom learning.

## Learning Outcomes

Geoscience B.A. graduates will:

- understand the structure, composition, and physical processes of the Earth;
- understand the coevolution of the Earth-Life System;
- have experience interpreting the geologic record in the field;
- understand natural resources and resource sustainability; and
- develop a quantitative analytical skill set to integrate the diverse array of Earth sciences and related disciplines.

## Requirements

The Bachelor of Arts with a major in geoscience requires a minimum of 120 s.h., including at least 56 s.h. of work for the major (at least 37 s.h. in earth and environmental sciences courses, at least 16 s.h. in supporting disciplines, and a field requirement course). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must complete a minimum of 15 s.h. of coursework in the Department of Earth and Environmental Sciences.

The geoscience major for the B.A. is designed to provide students with a varied background in geology and a broader choice of electives than is practical in the Bachelor of Science program. It is intended for students who are interested in the fundamentals of geology or earth science teaching (see "Teacher Licensure" below). Completing the minimum requirements for this degree may not adequately prepare a student for an entry-level professional job in geology.

The department recommends that students fulfill the GE CLAS Core World Languages requirement with French, German, Russian, or Spanish and the Social Sciences requirement with approved coursework in economics, geography, or anthropology.

The B.A. with a major in geoscience requires the following coursework.

Code	Title	Hours
	Earth and Environmental Sciences Required Courses	25-28
	Earth and Environmental Sciences Electives	12
	Mathematics Courses	10
	Chemistry Courses	6-8
	Field Requirement	3-4
<b>Total Hours</b>		<b>56-62</b>

## Earth and Environmental Sciences Required Courses

Code	Title	Hours
Both of these:		
EES:2200	Historical Geology	4
EES:2410	Mineralogy	4
One of these:		
EES:1030	Introduction to Earth Science	4
EES:1050	Introduction to Geology	4
One or both of these:		
EES:1040	Evolution and the History of Life	4
EES:3210	Principles of Paleontology	3
At least three of these:		
EES:3300	Sedimentary Geology	4
EES:3360	Soil Genesis and Geomorphology	3
EES:3380	Fluvial Geomorphology	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4630	Hydrogeology	4
And:		
Earth and environmental sciences electives numbered EES:3000 or above		12

## Mathematics

Students must complete the following coursework in mathematics.

Code	Title	Hours
	College-level mathematics (may include computer science and statistics), excluding MATH:1210	10

## Chemistry

Students must complete at least two college-level chemistry courses as a sequence, as follows. Chemistry courses numbered below CHEM:1070 General Chemistry I do not count toward this requirement.

Code	Title	Hours
One of these sequences:		
CHEM:1070 & CHEM:1080	General Chemistry I-II	6
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8

## Field Requirement

To complete the major, students must have field experience. They may take at least 4 s.h. of EES:1179 Geology of National Parks: Preparation and Planning/EES:1180 Geology of National Parks: Field Trip and/or EES:3160 Field Trip to satisfy this requirement. Either EES:1179/EES:1180 or EES:3160 may be repeated and/or combined to fulfill the necessary semester hours. Or they may take one semester of EES:2831 Geologic Field Methods or the Iowa Lakeside Laboratory [p. 2184] session for 3 s.h.

Code	Title	Hours
At least 4 s.h. from these:		
EES:1179-EES:1180	Geology of National Parks: Preparation and Planning - Geology of National Parks: Field Trip	3
EES:3160	Field Trip	2
Or 3 s.h. from one of these:		
EES:2831	Geologic Field Methods	3
One natural science session at Iowa Lakeside Laboratory for a minimum of 3 s.h.		3

## Independent Research Option for Geoscience Majors

A junior or senior who is ready to pursue independent research for credit in geoscience may assist a faculty member or graduate student with a current research project in EES:2190 Directed Study or may initiate a small-scale project involving a combination of field, laboratory, and library investigation in EES:3190 Directed Study. Independent study is encouraged and may lead to an honors thesis in EES:4999 Honors Thesis in Geoscience or a senior thesis in EES:4990 Senior Thesis in Geoscience that may be published subsequently.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative g.p.a. of at least 3.33 in all University of Iowa coursework and in all geoscience courses. Students must complete a senior thesis, registering in EES:4999 Honors Thesis in Geoscience. They must obtain approval of their honors thesis contract from their advisor and the department's undergraduate committee, and they must earn a grade of B or higher in EES:4999.

### National Honor Society

The department sponsors a chapter of Sigma Gamma Epsilon National Honor Society for the Earth Sciences. Students with an overall g.p.a. of at least 2.80 and at least 3.20 in geoscience courses are considered for membership after they have completed a minimum of 16 s.h. of coursework in geoscience. Consult the departmental honors advisor for more information.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the geoscience major.

## Career Advancement

The B.A. in geoscience is designed to prepare students for employment after graduation or for admission to graduate study in an allied field of earth and environmental sciences, such as public policy, environmental engineering, law, business, archaeology, or science education. Nearly all University of Iowa geoscience graduates gain employment or move on to graduate programs following completion of their degree.

Graduates are typically employed in environmental corporations or consulting agencies; nongovernmental organizations; law firms; and local, state, and federal agencies, in career fields that include education, conservation, urban planning, natural resources, and water resource management.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

These checkpoints show the range of required coursework. The major requires field trip experiences, many of which take place during breaks in or between semesters or during the summer session. These checkpoints do not include the field trip requirements.

**Before the third semester begins:** competence in math through trigonometry and the first required chemistry course.

**Before the fifth semester begins:** three to five courses in the major, including the remainder of the chemistry requirement and continuation of the mathematics requirement.

**Before the seventh semester begins:** 7-11 courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 10-14 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Geoscience, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Research: students are strongly encouraged to be active participants in research within the department.		
While only one field course is required, students are encouraged to participate in additional field experiences, whenever possible.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
EES:1050 or EES:1030	Introduction to Geology <sup>b</sup> or Introduction to Earth Science	4
CHEM:1070	General Chemistry I <sup>b</sup>	3
Major: math/statistics/computer science course <sup>b, c</sup>		3 - 4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
EES:2200	Historical Geology	4
CHEM:1080	General Chemistry II	3
Major: math/statistics/computer science course <sup>c</sup>		3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Second Year</b>		
<b>Fall</b>		
EES:3210 or EES:1040	Principles of Paleontology <sup>e</sup> or Evolution and the History of Life	4
EES:2410	Mineralogy	4
Major: math/statistics/computer science course <sup>c</sup>		4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
EES:2001	Second-Year Field Trip for Earth and Environmental Sciences <sup>g</sup>	1
Major: geoscience "choose three" course <sup>h</sup>		3 - 4
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
<b>Hours</b>		<b>14-16</b>
<b>Summer</b>		
EES:2831	Geologic Field Methods <sup>i</sup>	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
EES:3001	Third-Year Field Trip for Earth and Environmental Sciences <sup>g</sup>	1
Major: geoscience "choose three" course <sup>h</sup>		3 - 4

GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>14-16</b>
<b>Spring</b>		
EES:3130	Career Path Planning for Earth and Environmental Sciences	1
Major: geoscience "choose three" course <sup>h</sup>		3 - 4
GE CLAS Core: Social Sciences <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>14-16</b>
<b>Fourth Year</b>		
<b>Fall</b>		
EES:4001	Fourth-Year Field Trip for Earth and Environmental Sciences <sup>g</sup>	2
Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>14-16</b>
<b>Spring</b>		
Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>k</sup>		
<b>Hours</b>		<b>15-17</b>
<b>Total Hours</b>		<b>121-136</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students must complete 10 s.h. in college-level mathematics courses (may include computer science and statistics). Students should choose at least one course that will also complete the Quantitative or Formal Reasoning GE CLAS Core requirement.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e If EES:1040 is chosen, it must be taken with the lab for 4 s.h.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world



- languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Recommended but not required to complete Geoscience BA degree requirements.
  - h Choose from EES:3300, EES:3360, EES:3380, EES:3500, EES:3840, or EES:4630.
  - i To complete the major, students must have field experience. They may take at least 4 s.h. of EES:1179/ EES:1180 and/or EES:3160 to satisfy this requirement. Either EES:1179/EES:1180 or EES:3160 may be repeated and/or combined to fulfill the necessary semester hours. Or they may take one semester of EES:2831 or the Iowa Lakeside Laboratory session for 3 s.h.
  - j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
  - k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Geoscience, B.S.

The B.S. in geoscience offers students an extensive and comprehensive background in the Earth sciences and related scientific disciplines, and is geared toward a career in the geosciences. Strengths of the department include environmental geology, geochemistry, geophysics, paleontology, stratigraphy, tectonics, basin analysis, surficial processes, petrology, and volcanology. Students gain extensive field experience and training, and are able to integrate field studies and analytical research, with knowledge gained in the classroom. Opportunities are provided for local, regional, and international field experiences as well as for individual research projects.

### Learning Outcomes

Geoscience B.S. graduates will:

- understand the structure, composition, and physical processes of the Earth;
- understand the coevolution of the Earth-Life System;
- have the ability to interpret the geologic record in the field;
- understand how to assess and utilize our natural resources in a sustainable manner; and
- develop a quantitative analytical skill set to integrate the diverse array of Earth sciences and related disciplines.

### Requirements

The Bachelor of Science with a major in geoscience requires a minimum of 120 s.h., including at least 76 s.h. of work for the major (at least 45 s.h. in earth and environmental sciences courses and at least 31 s.h. in supporting disciplines). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must complete a minimum of 15 s.h. of coursework in the Department of Earth and Environmental Sciences.

The department recommends that students fulfill the GE CLAS Core World Languages requirement with French, German, Russian, or Spanish and the Social Sciences requirement with approved coursework in economics, geography, or anthropology.

The B.S. with a major in geoscience requires the following coursework.

Code	Title	Hours
	Earth and Environmental Sciences Courses	45-50
	Mathematics Courses	11-12
	Chemistry Courses	8
	Physics Courses	8
	Biology Course	4
	Independent Research Option	
<b>Total Hours</b>		<b>76-82</b>

## Earth and Environmental Sciences

Code	Title	Hours
One of these:		
EES:1030	Introduction to Earth Science	4
EES:1050	Introduction to Geology (preferred)	4
All of these:		
EES:1040	Evolution and the History of Life	4
EES:2200	Historical Geology	4
EES:2410	Mineralogy	4
EES:2831	Geologic Field Methods	3
EES:3300	Sedimentary Geology	4
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4832	Geologic Field Analysis	3
One of these:		
EES:3210	Principles of Paleontology	3
EES:4490	Elements of Geochemistry	3
EES:4630	Hydrogeology	4
EES:4790	Applied Environmental Geology	3
EES:4800	Global Geophysics	3
And:		
Three earth and environmental sciences electives numbered EES:3000 or above, except for the field trip courses EES:3001, EES:3160, or EES:4001; see "Recommended Electives" below		8-12

### Mathematics

Code	Title	Hours
One of these:		
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
One of these:		
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4
MATH:1860	Calculus II	4
And:		
An additional mathematics course numbered MATH:2000 or above, or a computer science course numbered CS:1110 or above, or a statistics course numbered STAT:2010 or above, or EES:3100, or EES:4300 (if the EES courses are not used to satisfy the earth and environmental sciences electives requirement)		3-4

### Chemistry

Students must complete at least 8 s.h. of college-level chemistry, including the following sequence or equivalent courses or more advanced courses. Chemistry courses numbered below CHEM:1110 Principles of Chemistry I do not count toward this requirement.

Code	Title	Hours
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8

## Physics

Students must complete at least 8 s.h. of college-level physics, as follows. Physics courses numbered below PHYS:1511 College Physics I do not count toward this requirement.

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8

## Biology

Students must complete at least one biology course that includes a laboratory (4 s.h.). Students with an interest in paleontology are encouraged to take BIOL:1411 Foundations of Biology and BIOL:1412 Diversity of Form and Function.

Code	Title	Hours
One biology course (includes a lab)		4

## Recommended Electives

All students should take elective courses from the following groups in order to broaden their undergraduate experience and prepare themselves for graduate study or professional employment. Students who have clear career goals are advised to take three or more elective courses from the group that fits their needs most closely. Students also may seek a broad education in geoscience by choosing elective courses from a number of groups.

### Quaternary Geology

Code	Title	Hours
EES:3020	Earth Surface Processes	3
EES:3060	Ecology and Natural History of Iowa	3
EES:3100	Earth and Planetary Remote Sensing	4
EES:3360	Soil Genesis and Geomorphology	3
EES:3380	Fluvial Geomorphology	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4630	Hydrogeology	4
EES:4640	Contaminant Hydrogeology	3
EES:4720	Paleoclimatology	3
EES:4790	Applied Environmental Geology	3

### Environmental Geology

Code	Title	Hours
EES:3060	Ecology and Natural History of Iowa	3
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2

EES:3100	Earth and Planetary Remote Sensing	4
EES:3380	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4630	Hydrogeology	4
EES:4640	Contaminant Hydrogeology	3
EES:4680	Field Methods in Hydrologic Science	3
EES:4790	Applied Environmental Geology	3
EES:4800	Global Geophysics	3

## Geochemistry

Code	Title	Hours
EES:4410	Analytical Methods Seminar	2
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4630	Hydrogeology	4
EES:4640	Contaminant Hydrogeology	3
EES:4820	Tectonics and Basin Analysis	3

## Tectonics/Petrology

Code	Title	Hours
EES:3350	Active Tectonics	3
EES:4410	Analytical Methods Seminar	2
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4530	Volcanology	3
EES:4750	Mineral and Petroleum Exploration Geology	3
EES:4800	Global Geophysics	3
EES:4820	Tectonics and Basin Analysis	3

## Sedimentary Geology

Code	Title	Hours
EES:3080	Introduction to Oceanography	2
EES:3300	Sedimentary Geology	4
EES:3380	Fluvial Geomorphology	3
EES:3770	Global Stratigraphy	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4750	Mineral and Petroleum Exploration Geology	3
EES:4820	Tectonics and Basin Analysis	3

## Paleobiology

Code	Title	Hours
EES:3030	Conservation Paleobiology	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3210	Principles of Paleontology	3
EES:3220	Evolution of the Vertebrates	4
EES:3300	Sedimentary Geology	4

EES:3770	Global Stratigraphy	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4700	Evolution of Ecosystems	3
EES:4710	Evolution of Plants	3
EES:4820	Tectonics and Basin Analysis	3

## Independent Research Option

A junior or senior who is ready to pursue independent research for credit in geoscience may assist a faculty member or graduate student with a current research project EES:2190 Directed Study or may initiate a small-scale project involving a combination of field, laboratory, and library investigation in EES:3190 Directed Study. Independent study is encouraged and may lead to an honors thesis in EES:4999 Honors Thesis in Geoscience or a senior thesis in EES:4990 Senior Thesis in Geoscience that may be published subsequently.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative g.p.a. of at least 3.33 in all University of Iowa coursework and in all geoscience courses. Students must complete a senior thesis, registering in EES:4999 Honors Thesis in Geoscience. They must obtain approval of their honors thesis contract from their advisor and the department's undergraduate committee, and they must earn a grade of B or higher in EES:4999.

### National Honor Society

The department sponsors a chapter of Sigma Gamma Epsilon National Honor Society for the Earth Sciences. Students with an overall g.p.a. of at least 2.80 and at least 3.20 in geoscience courses are considered for membership after they have completed a minimum of 16 s.h. of coursework in geoscience. Consult the departmental honors advisor for more information.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the geoscience major.

## Career Advancement

The B.S. in geoscience is designed to prepare students for immediate employment after graduation or for admission to graduate study in earth and environmental sciences. Degree recipients also have been employed in the ancillary fields of public policy, environmental engineering, law, business, archaeology, science education, museum curation, and other allied fields. Nearly all University of Iowa geoscience graduates gain employment or move on to graduate programs following completion of their degree.

Employment opportunities for graduates are typically in environmental corporations and consulting agencies; natural resource corporations; local, state, and federal agencies, such as geological surveys, educational institutions, conservation agencies, museums, and departments of urban planning, natural resources, and water resource management; nonprofit organizations; research institutions; and ecotourism. Companies such as ExxonMobil recruit Iowa graduates on campus.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

These checkpoints show the range of required coursework. The major requires field trip experiences, many of which take place during breaks in or between semesters or during the summer session. These checkpoints do not include the field trip requirements.

**Before the third semester begins:** competence in math through trigonometry and the first required chemistry course.

**Before the fifth semester begins:** three to five courses in the major, including the remainder of the chemistry requirement and continuation of the mathematics requirement.

**Before the seventh semester begins:** 7-11 courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 10-14 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Geoscience, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Research: students are strongly encouraged to be active participants in research within the department.

While only two field courses are required (EES:2831 Geologic Field Methods and EES:4832 Geologic Field Analysis), students are encouraged to participate in additional field experiences, whenever possible.

GE CLAS Core: Sustainability <sup>a</sup>

Hours	0
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### First Year

#### Fall

EES:1050 or EES:1030	Introduction to Geology <sup>b, c</sup> or Introduction to Earth Science	4
CHEM:1110	Principles of Chemistry I <sup>c, d</sup>	4
MATH:1850	Calculus I <sup>c, e</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSI:1600	Success at Iowa	2

**Hours 17-18**

#### Spring

EES:2200	Historical Geology	4
CHEM:1120	Principles of Chemistry II	4
MATH:1860	Calculus II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4

**Hours 15-16**

### Second Year

#### Fall

EES:2410	Mineralogy	4
EES:1040	Evolution and the History of Life	4
PHYS:1611	Introductory Physics I	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 16-17**

#### Spring

EES:2001	Second-Year Field Trip for Earth and Environmental Sciences <sup>g</sup>	1
EES:3500	Igneous and Metamorphic Petrology	4
PHYS:1612	Introductory Physics II	4
GE CLAS Core: Diversity and Inclusion <sup>h</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 16-17**

#### Summer

EES:2831	Geologic Field Methods	3
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**Hours 3**

### Third Year

#### Fall

EES:3001	Third-Year Field Trip for Earth and Environmental Sciences <sup>g</sup>	1
EES:3300	Sedimentary Geology	4

Major: geoscience elective course prefix EES numbered 3000 or above 3 - 4

GE CLAS Core: Historical Perspectives <sup>h</sup> 3

GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup> 4 - 5

**Hours 15-17**

#### Spring

EES:3130	Career Path Planning for Earth and Environmental Sciences <sup>g</sup>	1
EES:3840	Structural Geology	4
Major: biology lab science course (prefix BIOL)		4
GE CLAS Core: Social Sciences <sup>h</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 16-17**

#### Summer

EES:4832	Geologic Field Analysis	3
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**Hours 3**

### Fourth Year

#### Fall

EES:4001	Fourth-Year Field Trip for Earth and Environmental Sciences <sup>g</sup>	2
Major: math/statistics/computer science course <sup>i</sup>		3 - 4
Major: geoscience elective course prefix EES numbered 3000 or above		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>h</sup>		3
GE CLAS Core: International and Global Issues <sup>h</sup>		3

**Hours 14-16**

#### Spring

Major: geoscience "select one" course <sup>j</sup>		3 - 4
Major: geoscience elective course prefix EES numbered 3000 or above		2 - 4
GE CLAS Core: Values and Culture <sup>h</sup>		3
Elective course <sup>k</sup>		3
Elective course <sup>k</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>l</sup>		

**Hours 14-17**

**Total Hours 129-141**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b EES:1050 is preferred.

c Fulfills a major requirement and may fulfill a GE requirement.

d Enrollment in chemistry courses requires completion of a placement exam.

e Enrollment in math courses requires completion of a placement exam.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Recommended but not required to complete Geoscience BS degree requirements.

- h GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- i Choose from a MATH course numbered 2000 or above, a CS course numbered 1110 or above, a STAT course numbered 2010 or above, or EES:3100 or EES:4300 (if the EES courses are not used to satisfy the earth and environmental sciences electives requirement).
- j Choose from EES:3210, EES:4490, EES:4630, EES:4790, or EES:4800.
- k Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Geoscience, Minor

## Requirements

The undergraduate minor in geoscience requires a minimum of 15 s.h. in earth and environmental sciences courses, including 12 s.h. in courses considered advanced for the minor offered by the Department of Earth and Environmental Sciences at the University of Iowa. EES:2410 Mineralogy, EES:2831 Geologic Field Methods, and all earth and environmental sciences courses numbered 3000 or above are considered advanced for the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

College-level courses in mathematics, physics, chemistry, and biology usually are required as collateral work for geoscience students. Those seeking a minor in geoscience should be sufficiently prepared in the areas of supporting sciences before they take advanced courses in geoscience.

Recommended advanced courses in earth and environmental sciences that deal with important areas of earth materials and earth processes are as follows.

Code	Title	Hours
EES:2410	Mineralogy	4
EES:2831	Geologic Field Methods	3
EES:3020	Earth Surface Processes	3
EES:3060	Ecology and Natural History of Iowa	3
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3100	Earth and Planetary Remote Sensing	4
EES:3210	Principles of Paleontology	3
EES:3300	Sedimentary Geology	4
EES:3350	Active Tectonics	3
EES:3360	Soil Genesis and Geomorphology	3
EES:3380	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4490	Elements of Geochemistry	3
EES:4530	Volcanology	3
EES:4790	Applied Environmental Geology	3
EES:4800	Global Geophysics	3
EES:4820	Tectonics and Basin Analysis	3

## Geoscience, M.S.

The M.S. degree in geoscience is regarded by most hiring agencies as the working degree. The master's program in geoscience prepares students for employment in industry or for doctoral study.

### Learning Outcomes

Graduates will demonstrate the ability to:

- develop subject matter expertise and broad knowledge in the field of geoscience;
- conduct research under the direction of a faculty member and interact successfully with other members of a research team;
- effectively communicate research findings in both written and oral formats;
- conduct all aspects of research and teaching with the highest ethical standards; and
- be prepared for career options in academia, industry, government, or other relevant fields.

### Requirements

The Master of Science program in geoscience requires a minimum of 30 s.h. of graduate credit. Students may count up to 8 s.h. of research credit toward the 30 s.h. required for the degree. They must earn at least 24 s.h. toward the degree in University of Iowa courses taken after they enroll in the program. Throughout their graduate study, students must maintain a g.p.a. of at least 3.00 in all coursework required for their degree and in all graduate-level geoscience coursework. Students whose grade-point average drops below 3.00 are placed on academic probation.

All entering students are required to enroll in EES:7270 Geologic Orientation, Scholarly Integrity, and Responsible Conduct of Research during the fall semester of their first year in the graduate program. Students also must complete EES:5010 Geoscience Seminar Series each semester until they defend their thesis.

During the second semester of study, each student should propose an advisory committee of at least three faculty members to the department chair for approval. Thesis students are responsible for obtaining their advisory committee's approval of a suitable program of coursework and for satisfactory development of research plans as outlined in a thesis proposal, which should be completed and approved by the department chair before the end of the second semester of full-time study. The thesis typically has depth and breadth similar to those of a published research paper. Thesis students must deliver a half-hour public presentation of their thesis, followed by an oral defense.

Students are encouraged to present their research at local, regional, national, or international meetings. The department provides partial funding for travel to such meetings.

Detailed information about graduate degree requirements and timelines for making satisfactory progress toward a degree is available; see Graduate Student Guidelines on the Department of Earth and Environmental Sciences Graduate Program website.

### Admission

All geoscience graduate students must meet the admission and degree requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website (particularly sections IX, X, and XII). They also should acquaint themselves with the University calendar, for deadline dates and so forth.

### Career Advancement

Career opportunities are readily available for geoscience graduates. Professional geologists work in resource companies, environmental corporations, educational institutions, conservation agencies, urban planning, state and federal geological surveys, and government resource and research organizations. Companies such as ExxonMobil routinely recruit Iowa graduates on campus.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Geoscience, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
EES:7270	Geologic Orientation, Scholarly Integrity, and Responsible Conduct of Research <sup>b</sup>	1
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES Elective course <sup>d</sup>		4
EES Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES Elective course <sup>d</sup>		3
EES Elective course <sup>d</sup>		3
EES Elective course <sup>d</sup>		2
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES:7990	Research: Geoscience <sup>e</sup>	4
EES Elective course <sup>d</sup>		1
<b>Hours</b>		<b>6</b>



**Spring**

EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES:7990	Research: Geoscience <sup>e</sup>	4
EES Elective course <sup>d</sup>		1
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>30</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Complete during first year fall semester.

c Complete each semester until degree completion.

d Courses selected should reflect the individual needs, interests and talents of the student; work with faculty advisor to determine appropriate graduate elective coursework and sequence.

e Maximum total of 8 s.h. for thesis research credit allowed.

f Consists of a half-hour public presentation of thesis followed by an oral defense.

# Geoscience, Ph.D.

A Ph.D. degree in geoscience is designed to bring students to the forefront of a specialized area of geoscience for future employment in higher education or in industry or government research.

## Learning Outcomes

Graduates will demonstrate the ability to:

- develop broad knowledge in the field of geoscience and identify important research problems through development of subject matter expertise;
- develop a research framework including testable hypotheses, and conduct original independent research that contributes new knowledge to the field of study;
- effectively communicate research findings in both written and oral formats;
- conduct all aspects of research and teaching with the highest ethical standards; and
- be prepared for career options in academia, industry, government, or other relevant fields.

## Requirements

The Doctor of Philosophy program in geoscience requires a minimum of 72 s.h. of graduate credit. The Ph.D. requires a dissertation, which has the approximate research content of three published papers. Throughout their graduate study, Ph.D. students must maintain a g.p.a. of at least 3.00 in all coursework required for their degree and in all graduate-level geoscience coursework. Students whose grade-point average drops below 3.00 are placed on academic probation.

Students usually enter the program with established fields of interest and a research advisor already selected. Under exceptional circumstances, a student may be admitted to the Ph.D. program without an established field of interest.

Entering students must consult with a research advisor or the department's director of graduate study before they enroll in courses. By the first month of their second semester of doctoral study, all students must select an advisor. Each student also must select a thesis topic and forward it to the department chair for approval by the end of the first month of the second semester of doctoral study.

Within broad limits, students should select courses that reflect their individual needs, interests, and talents; their advisor and advisory committee must approve their course selections.

During the second semester of doctoral study, each student should propose an advisory committee of at least five faculty members to the department chair for approval. Before the end of the second semester, students must obtain their committee's approval of a suitable plan of study to be submitted to the department chair for approval. In consultation with the advisor and other faculty members, each doctoral candidate prepares a formal dissertation proposal approved by their committee and submitted to the department chair for approval by the end of the candidate's third semester of doctoral study.

Students are required to include in their plan of study at least 18 s.h. of regular coursework taught by tenured or tenure-track faculty members in the Department of Earth and Environmental Sciences. Students must earn the 18 s.h. after being admitted to and enrolling in the Ph.D. program. Directed

study and research credit do not count toward the required 18 s.h.

All entering students are required to enroll in EES:7270 Geologic Orientation, Scholarly Integrity, and Responsible Conduct of Research during the fall semester of their first year in the graduate program. Students must enroll in EES:5010 Geoscience Seminar Series each semester they are registered until they successfully defend their dissertation, or for two consecutive semesters after the semester in which they pass their comprehensive examination, whichever comes first.

After earning their first 24 s.h. of graduate credit, students must be enrolled at least two consecutive semesters in full-time study (at least 9 s.h. per semester) at the University of Iowa; or they must be enrolled three consecutive semesters for at least 6 s.h. per semester at the University, during which time they hold at least a one-quarter-time assistantship that is certified by the department as contributing to their doctoral program.

Students should complete most of their coursework before taking the comprehensive examination, which consists of both written and oral portions and which must be passed before the end of the fourth semester of doctoral study.

Once candidates have passed the comprehensive examination, they are required to register each semester until they receive the degree. Those who have completed their plan of study may register for GRAD:6002 Doctoral Continuous Registration or GRAD:6003 Doctoral Final Registration.

Students must submit their written dissertation to the committee at least two weeks before the final examination. All candidates must deliver a one-hour public presentation associated with the dissertation defense. They also are required to submit a manuscript presenting the results of their graduate research to a refereed journal or other publication approved by the department chair before they may defend their dissertation.

Students are encouraged to present their research at local, regional, national, or international meetings. The department provides partial funding for travel to such meetings.

Detailed information about graduate degree requirements and timelines for making satisfactory progress toward a degree is available; see Graduate Student Guidelines on the Department of Earth and Environmental Sciences Graduate Program website.

## Admission

All geoscience graduate students must meet the admission and degree requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website (particularly sections IX, X, and XII). They also should acquaint themselves with the University calendar, for deadline dates and so forth.

## Career Advancement

The doctoral degree is required for college and university faculty positions and for some research positions in industry.

Career opportunities are readily available for geoscience graduates. Professional geologists work in resource companies, environmental corporations, educational institutions, conservation agencies, urban planning, state and federal geological surveys, and government resource and research organizations.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Geoscience, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
EES:7270	Geologic Orientation, Scholarly Integrity, and Responsible Conduct of Research <sup>b</sup>	1
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES Required elective course <sup>d</sup>		3
EES Required elective course <sup>d</sup>		3
EES Elective course <sup>e</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES Required elective course <sup>d</sup>		3
EES Required elective course <sup>d</sup>		3
EES Elective course <sup>e</sup>		3
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>f</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES Required elective course <sup>d</sup>		3
EES Required elective course <sup>d</sup>		3
EES Elective course <sup>e</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES Elective course <sup>e</sup>		3
EES Elective course <sup>e</sup>		3
EES Elective course <sup>e</sup>		2
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Fall</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES:7990	Research: Geoscience	3
EES Elective course <sup>e</sup>		3

EES Elective course <sup>e</sup>		2
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES:7990	Research: Geoscience	3
EES Elective course <sup>e</sup>		3
EES Elective course <sup>e</sup>		2
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES:7990	Research: Geoscience	3
EES Elective course <sup>e</sup>		3
<b>Hours</b>		<b>7</b>
<b>Spring</b>		
EES:5010	Geoscience Seminar Series <sup>c</sup>	1
EES:7990	Research: Geoscience	3
EES Elective course <sup>e</sup>		3
Final Exam: Dissertation Defense <sup>g</sup>		
<b>Hours</b>		<b>7</b>
<b>Total Hours</b>		<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Complete during first year fall semester.

c Complete each semester until degree completion.

d Complete at least 18 s.h. of regular coursework (not including directed study or research credits) taught by tenured or tenure-track faculty members in the Earth and Environmental Sciences department; work with faculty advisor to determine appropriate graduate coursework and sequence.

e Courses selected should reflect the individual needs, interests and talents of the student; work with faculty advisor to determine appropriate graduate elective coursework and sequence.

f Written and oral exam to be completed by the end of second year.

g Students must deliver a one-hour public presentation associated with their dissertation defense. In addition, prior to defending their dissertation, all students are required to present their research at a professional meeting and submit a manuscript of their graduate research results to a refereed journal or other publication outlet approved by the department chair.

# English

## Chair

- Loren D. Glass

**Undergraduate majors:** English (B.A.); English and creative writing (B.A.)

**Undergraduate minor:** English

**Graduate degrees:** M.A. in English; M.F.A. in English (creative writing, nonfiction writing); Ph.D. in English

**Faculty:** <https://english.uiowa.edu/people>

**Website:** <https://english.uiowa.edu>

The Department of English offers courses in literature, cultural studies, language, and critical and creative writing. In these courses, students read poetry, fiction, essays, criticism, and theory to acquire methods for understanding literature and culture and respond creatively to the texts. In addition to providing these essential elements of a liberal arts and sciences education, the department's courses can augment students' specialized interests in other fields. Visit the Department of English website to learn more about courses and upcoming events.

Many undergraduate and graduate students enroll in the department's degree programs. Most Ph.D. students in English are preparing for careers as teachers and scholars, and many M.F.A. students in the creative writing program and the nonfiction writing program are preparing for lives as published writers. The B.A. and M.A. programs provide valuable training for careers in a variety of fields. Students who have earned English degrees from the University of Iowa write for advertising firms, newspapers, the entertainment industry and book publishers; teach in primary and secondary schools; practice law and medicine; work in business, industry, and nonprofits; and participate in state and federal government. Many students who earn a B.A. go on to pursue a M.F.A. in creative writing fields. As much as possible, each student's course of study is arranged to meet individual needs and objectives.

The Department of English participates in several of the University's interdisciplinary units: the Departments of American Studies, Cinematic Arts, and Gender, Women's, and Sexuality Studies; the African American Studies Program; the Native American and Indigenous Studies Program; and the Center for the Book.

## Creative Writing Programs

For the past 75 years, the University of Iowa has been a national leader in all areas of creative writing. The University offers graduate degrees in creative writing, with specializations in fiction, nonfiction, and poetry. Undergraduate students may declare a major in English and creative writing. All qualified undergraduates in other majors may enroll in many of the creative writing courses offered by the Department of English.

View creative writing courses (prefixes CW, CNW, and ENGL) under Courses [p. 421] in this section of the Catalog. See which ones are offered in certain semesters by searching for course subjects CW, CNW, and ENGL on MyUI.

## GE CLAS Core

Students earning a degree from the College of Liberal Arts and Sciences must satisfy the Interpretation of Literature GE CLAS Core [p. 20] requirement. Most students take ENGL:1200 The Interpretation of Literature; however, English majors

should substitute a course from the Literary, Visual, and Performing Arts area of the GE CLAS Core, excluding MUS:1001 Group Piano I: Non-Music Majors, MUS:1020 Performance Instruction for Nonmajors, and DANC:1010 Beginning Tap through DANC:2040 Majors Intermediate Contemporary Movement Practices.

The Interpretation of Literature (ENGL:1200), or its equivalent by examination or as a transfer course, is prerequisite for courses ENGL:1320 Heroes and Villains through ENGL:1350 Literature and Sexualities. The pass/nonpass option is available only for students in the Colleges of Nursing and Engineering with consent of a student's advisor and the instructor.

## Department of English Opportunities

Several periodicals are published under the department's aegis. The Iowa Review, Walt Whitman Quarterly Review, and Philological Quarterly offer opportunities for especially qualified graduate students to work as research assistants or editorial associates, and pursue some undergraduate volunteer opportunities.

The Department of English, the Nonfiction Writing Program, and the Iowa Writers' Workshop sponsor a rich and extensive series of readings and lectures by poets, fiction writers, and scholars, all open to students in the department.

The English Society, a student organization for those focusing on literatures in English, creative writing, and related areas, is open to all students and organizes events of interest throughout the year. The Department of English also collaborates with Alpha Tau Iota, the University of Iowa chapter of Sigma Tau Delta, the International English Honors Society. Sigma Tau Delta's central purpose is to confer distinction for high achievement in English language, literature, and writing.

The Association of Graduate Students in English sponsors social and intellectual events during the year and provides a forum for student opinion. All graduate students in the department are members.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in English (Bachelor of Arts) [p. 436]
- Major in English and Creative Writing (Bachelor of Arts) [p. 446]

#### Minor

- Minor in English [p. 452]

### Graduate Programs of Study

#### Majors

- Master of Arts in English [p. 453]
- Master of Fine Arts in English (creative writing) [p. 455]
- Master of Fine Arts in English (nonfiction writing) [p. 456]
- Doctor of Philosophy in English [p. 458]

## Facilities

The University of Iowa Libraries collection is strong in all areas of English and American literature. Partly because of the influence of the Iowa Writers' Workshop, University Libraries has particular strengths in 20th-century fiction and poetry, including manuscript collections of 20th-century authors.

## Courses

- English Courses [p. 421]
- Creative Nonfiction Writing Courses [p. 431]
- Creative Writing [p. 433]- [p. 433]Writers' Workshop Courses [p. 433]

## English Courses

Individual descriptions for most English courses are not included because content and emphasis may vary considerably from one semester to the next. For detailed descriptions of each semester's courses, visit the University's MyUI website.

English department courses are open to all undergraduates who have satisfied the rhetoric requirement. Undergraduates are encouraged to complete the required course ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures as soon as they declare the English major. Students also are encouraged to take a required course in reading and writing about a genre (ENGL:2012-ENGL:2016) at an early stage in their studies.

Courses ENGL:4000 English Honors Seminar, ENGL:4040 Undergraduate Honors Project, and ENGL:4010 Special Project for Undergraduates may be repeated. Most courses with the prefix ENGL may not be repeated. Occasionally, with written consent from the department's Undergraduate Advising Office, a student may repeat a course if the course's subject matter is different from that of a course the student already has taken.

**ENGL:1000 First-Year Seminar 1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**ENGL:1100 City of Literature 3 s.h.**  
Literary history of Iowa City from the founding of Writers' Workshop to its designation as a UNESCO City of Literature. GE: Literary, Visual, and Performing Arts.

**ENGL:1150 Flashwrite: Young Writers, No Borders 1 s.h.**  
Opportunity for aspiring writers to engage in the study and practice of poetry and prose under the guidance of University of Iowa faculty.

**ENGL:1200 The Interpretation of Literature 3 s.h.**  
Ways of reading; focus on reader, text, contexts; poetry, short fiction, drama, novels. GE: Interpretation of Literature.

**ENGL:1320 Heroes and Villains 3 s.h.**  
Heroes, heroines, and villains as products of the imagination; literary representations of heroes, heroines, and villains in varied social and historical situations; how their representation shapes our understanding of heroism and of villainy. Prerequisites: ENGL:1200. Requirements: successful completion of GE CLAS Core Rhetoric and then ENGL:1200.

**ENGL:1330 The Art of Storytelling 3 s.h.**  
Selected masterpieces and recent developments in the art of storytelling in poetry and prose. Prerequisites: ENGL:1200. Requirements: successful completion of GE CLAS Core Rhetoric and then ENGL:1200.

**ENGL:1345 American Lives 3 s.h.**  
Major works of American literature. Prerequisites: ENGL:1200. Requirements: successful completion of GE CLAS Core Rhetoric and then ENGL:1200.

**ENGL:1350 Literature and Sexualities 3 s.h.**  
Works from various genres, time periods, cultures that reflect and construct a wide range of sexual identities. Prerequisites: ENGL:1200. Requirements: successful completion of GE CLAS Core Rhetoric and then ENGL:1200.

**ENGL:1410 Sex and Popular Culture in America 3 s.h.**  
Critical and historical introduction to representation of human sexuality in American popular culture from World War II to the present. GE: Values and Culture. Same as AMST:1060, GWSS:1060.

**ENGL:1420 Technologies and Literatures of the Future 3 s.h.**  
Introduction to discourses of futurology; dramatic advances in machine intelligence, promise of nanotechnology, and future of biological research that have blurred long-held distinctions between science and science fiction; issues and controversies prominent in this futurological discourse.

**ENGL:1510 Introduction to Environmental Literature 3 s.h.**  
Introduction to diverse ways writers have conveyed humans' interaction with the environment.

**ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures 3 s.h.**  
History and practice of English as a discipline; four central aspects of literary study.

**ENGL:2012 Reading and Writing About the Novel 3 s.h.**  
Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

**ENGL:2013 Reading and Writing About Poetry 3 s.h.**  
Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

**ENGL:2014 Reading and Writing About the Short Story 3 s.h.**  
Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

**ENGL:2015 Reading and Writing About Drama 3 s.h.**  
Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors. English majors may apply this course to the Reading and Writing About a Genre requirement.

- ENGL:2016 Reading and Writing About the Essay 3 s.h.**  
Introduction to literary genre that teaches close reading, analytical writing, and literary criticism; one of a series required for English majors. English majors may apply this course to the Reading and Writing About a Genre requirement.
- ENGL:2020 Foundations of Creative Writing: Craft, Practice, Pleasure 3 s.h.**  
Introduction to discipline of creative writing: fiction, poetry, and creative nonfiction; required course for English and Creative Writing majors.
- ENGL:2030 Literary Readings Attendance 1 s.h.**  
Attendance at diverse literary readings and scholarly presentations on the University of Iowa campus and in Iowa City, featuring visiting, local, and University of Iowa writers and scholars.
- ENGL:2040 English at Work 1 s.h.**  
What can be done with an English degree; knowledge and skills gained as an English major that are in high demand among a wide variety of employers; important steps taken as a student that translate unique career dreams into reality; work with Pomerantz Career Center staff.
- ENGL:2100 Introduction to Criticism and Theory 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2105 Disability in Literature and Cultural Theory 3 s.h.**  
Introduction to disability studies; examination of disability in cultural and literary contexts; core course for the Certificate in Disability Studies. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2130 Introduction to the Novel 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.
- ENGL:2140 Introduction to Poetry 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.
- ENGL:2150 Introduction to the Short Story 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2160 Introduction to Drama 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2170 Introduction to the Essay 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2191 Modern Fiction 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2192 Postmodern Fiction 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2193 Literature, Culture, and Women 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as GWSS:2193.
- ENGL:2194 Lyric Structures 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2206 Classical and Biblical Literature 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:2216 Selected Works of the Middle Ages 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:2236 Selected Early Authors 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:2309 Selected British Authors Before 1900 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:2310 Selected British Authors After 1900 3 s.h.**  
English majors and English and Creative Writing majors may apply the following course to the area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:2329 Topics in Modern British Literature Before 1900 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:2330 Topics in Modern British Literature After 1900 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:2338 Eighteenth-Century British Literature 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.

- ENGL:2348 British Romanticism** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:2359 Victorian Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:2360 Twentieth-Century British Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:2361 Twenty-first-Century British Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:2369 Topics in British Culture and Identity** 3 s.h.  
How culture and identity of British society are created and reflected through literature and other discursive systems; focus on a specific topic and area. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Varies by semester.
- ENGL:2409 Selected American Authors Before 1900** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:2410 Selected American Authors After 1900** 2-3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:2420 American Literary Classics** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester.
- ENGL:2425 American Poetry** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester.
- ENGL:2438 American Novel Before 1900** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:2440 American Novel After 1900** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:2450 American Short Story** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester.
- ENGL:2463 Topics in African American Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:2463.
- ENGL:2465 Selected African American Authors** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:2465.
- ENGL:2475 Asian American Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement.
- ENGL:2505 Introduction to Postcolonial Studies** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2510 Selected Transnational Authors** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:2560 Topics in Culture and Identity** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: Varies by semester.
- ENGL:2570 Love, War, Activism: Stories About Women from Across the World** 3 s.h.  
Literary and cinematic representations of gender in works by authors and directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of love, sexuality, friendship, and parenting; shifts in gender identities and relations that result from social and political crises. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as GWSS:2500, SJUS:2500.
- ENGL:2571 Visualizing Human Rights** 3 s.h.  
Cinematic representations of human rights issues in films by directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of race relations in colonial and postcolonial societies; public health issues, specifically women's and children's rights in context of the HIV/AIDS pandemic. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as GWSS:2571, SJUS:2571.

- ENGL:2900 Book Design for Publishing** 3 s.h.  
Introduction to the major aspects of book design, including typography, layout, standard industry software, discussion of trends in the field. Same as ARTS:2900, UICB:2900, WRIT:2900.
- ENGL:2901 Global Print Cultures** 3 s.h.  
Introduction to history of the book and book arts in diverse global contexts; histories of visual and verbal media, cross-cultural exchange, and the book's impact across time and space; hands-on work with historical books and book arts including papermaking, woodblock and letterpress printing, and binding. Same as HIST:2190, UICB:2190.
- ENGL:3010 Children's Literature** 3 s.h.  
Classic children's literature and contemporary critical approaches to the genre. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies, or Modern British Literature. PERIOD: Varies by semester.
- ENGL:3100 Topics in Criticism and Theory** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3102 Topics in Poetry and Poetics** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.
- ENGL:3105 Topics in Popular Culture** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3107 Literature and Anthropology** 3 s.h.  
Topics vary. Same as ANTH:3107.
- ENGL:3130 Topics in Film and Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3135 Narrative and the Cinema** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3140 Literature and the Book** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as UICB:3140.
- ENGL:3142 Topics in Book History** 3 s.h.  
Authorship, publishing, and so forth within specific historical and cultural contexts. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as UICB:3142.
- ENGL:3145 Editorial Practice** 3 s.h.  
Exploration of literary practice in relation to contemporary literature. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3148 Literary Editing** 3 s.h.  
Exploration of history and practice of editing. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.
- ENGL:3150 Literature and Philosophic Thought** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3152 Literature and Society** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3155 Literature and Art** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.
- ENGL:3160 Literary Genres and Modes** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester.
- ENGL:3165 Literature and the Environment** 3 s.h.  
Literary studies within the contexts of environmental history and ecological concerns. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Early Literatures Through 17th Century, or 18th/19th-Century Literature, or 20th/21st-Century Literature.
- ENGL:3170 Literature and Social Justice** 3 s.h.  
How literature from various time periods—American and global—has enacted, represented, depicted, or encouraged forms and acts of social justice; students study various genres (e.g., essay, poem, autobiography, short story, fiction) and learn how literature has been used to conceptualize social justice, address national and global inequities, and take up complex and intersecting issues of power and privilege. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as SJUS:3250.
- ENGL:3171 Higher Education and Social Justice** 3 s.h.  
Reflection of students' place within educational systems; development of rhetorical tools for successful advocacy; advocacy through writing for change within higher education and the UI; student loans, racial segregation, social and economic immobility, free speech, data insecurity, sexual assault. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as GWSS:3171, SJUS:3171.



- ENGL:3173 Gender, Sexuality, and Literature** 3 s.h.  
Representations of gender, class, and sexuality in British, American, or postcolonial literature. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as GWSS:3173.
- ENGL:3180 Media Studies** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as THTR:3180.
- ENGL:3181 Digital Media and Poetics** 3 s.h.  
Theory and practice of one or more varieties of digital composition; digital art analyzed and created in specific forms—radio drama, interactive fiction, procedural and constructivist poetics. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3182 Digital Cultures and Literacies** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3186 Science Fiction** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3190 Language and Learning** 2-3 s.h.  
How language reflects and constructs learners' identities and cultures; readings related to oral and written language, native and second language development, linguistic diversity; discussion of the relationship of language theory to schools of language instruction. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as EDTL:3382.
- ENGL:3191 Reading and Teaching Adolescent Literature** 3 s.h.  
Reading and evaluation of literature suitable for junior and senior high school students. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as EDTL:3393.
- ENGL:3216 Topics in Medieval and Renaissance Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3226 Literature and Culture of the Middle Ages** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as MDVL:3226.
- ENGL:3228 Literature and Culture of the Restoration** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3236 Literature and the Culture of the Renaissance** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3237 Literature and Culture of Seventeenth-Century England** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3246 16th- and 17th-Century Poetry** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3247 The English Bible** 3 s.h.  
Study of the Hebrew Bible and Christian New Testament; students become familiar with its legacies in English language and literature. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3256 Old English Language and Literature** 3 s.h.  
Reading knowledge of Old English; introduction to Anglo-Saxon literature and culture. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3257 Old English Beowulf** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Prerequisites: ENGL:3256.
- ENGL:3266 Medieval Celtic Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3267 Medieval Norse Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3276 Medieval Drama** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as THTR:3276.
- ENGL:3277 English Renaissance Drama** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as THTR:3277.

- ENGL:3286 Chaucer** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3287 Shakespeare** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3288 Shakespeare's Romans: The Ancient World Meets the Elizabethan Stage** arr. 3 s.h.  
London was a distant outpost of the Roman Empire, but the Romans had an outsized influence on Shakespeare's plays and poems; students explore those works and their sources in classical authors, including Ovid and Plutarch. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as CLSA:3288.
- ENGL:3296 Milton** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century.
- ENGL:3320 Modern British Drama** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Varies by semester.
- ENGL:3329 Literature and Culture of Eighteenth-Century Britain** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:3338 Literature and Culture of the Romantic Period** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:3339 Literature and Culture of Nineteenth-Century Britain** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:3348 Literature and Culture of Nineteenth-Century Scotland** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:3350 Literature and Culture of 20th- and 21st-Century Britain** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:3355 British Poetry** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Varies by semester.
- ENGL:3360 British Fiction** 3 s.h.  
British fiction written since 1700. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: Varies by semester.
- ENGL:3418 Literature and Culture of America Before 1800** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:3419 Literature and Culture of Nineteenth-Century America** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:3420 Literature and the Culture of Twentieth-Century America** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:3429 Topics in American Literature Before 1900** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:3430 Topics in American Literature After 1900** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:3431 American Novel Since 1945** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:3439 American Drama Before 1900** 3 s.h.  
American playwrights and plays before 1900. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature.
- ENGL:3440 American Drama Since 1900** 3 s.h.  
American playwrights and plays after 1900. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. Same as THTR:3440.
- ENGL:3441 Native American Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as NAIS:3441.

- ENGL:3444 Literatures of the American Peoples 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement.
- ENGL:3450 American Regional Literatures 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester.
- ENGL:3455 Jewish American Literature 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement.
- ENGL:3459 African American Literature Before 1900 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3459.
- ENGL:3460 African American Literature After 1900 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3460.
- ENGL:3461 Twenty-First Century African American Literature 3 s.h.**  
African American literature from 20th- and 21st-century writers; African American experience(s) of race, sexuality, gender, class, and privilege in contemporary era; various ways poets, rappers, authors tackle these themes within literary forms (i.e., fiction, creative nonfiction, autobiography, poems, songs); societal structures of power. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English majors and English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3461.
- ENGL:3462 African American Drama 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3462, THTR:3462.
- ENGL:3465 African American Autobiography 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3465.
- ENGL:3467 Latina/o/x Literatures and Cultures 3 s.h.**  
Exploration of major themes and research topics in Latina/o/x literatures and cultures. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as LATS:3467.
- ENGL:3470 Gender, Sexuality, and American Literature 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:3489 Contemporary American Women Writers 3 s.h.**  
Interdisciplinary study of contemporary American women writers whose works depict the shaping force of race, class, gender, and sexuality on individuals, families, and communities.
- ENGL:3510 Topics in Transnational Literature 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3515 Topics in Postcolonial Studies 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3520 Literature and Culture of the 20th and 21st Century 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3525 Literature and Culture of the Americas 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:3530 Caribbean Literature and Culture 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Culture. PERIOD: 20th/21st-Century Literature.
- ENGL:3532 Modernist Women Writers 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:3535 Topics in Literature and Culture of the Americas 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as LAS:3535.
- ENGL:3540 Literature of the Indian Subcontinent 3 s.h.**  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature.

- ENGL:3550 African Literature** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as AFAM:3550.
- ENGL:3555 Topics in African Cinema** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as AFAM:3555.
- ENGL:3570 Transnational and Postcolonial Writing by Women** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as GWSS:3570.
- ENGL:3580 Identity and Social Issues** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: Varies by semester.
- ENGL:3595 International Literature Today** 1,3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as IWP:3191, TRNS:3191, WLLC:3191.
- ENGL:3721 Writers' Seminar: Fiction** 3 s.h.  
In-depth exploration and analysis of creative works in fiction. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.
- ENGL:3722 Writers' Seminar: Poetry** 3 s.h.  
In-depth exploration and analysis of creative works in poetry. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.
- ENGL:3723 Writers' Seminar: Nonfiction** 3 s.h.  
Rigorous exploration and analysis of a range of nonfiction creative works. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.
- ENGL:3724 Writers' Seminar: Literary Translation** 3 s.h.  
Rigorous exploration and analysis of a range of creative works in literary translation. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.
- ENGL:3725 Writers' Seminar: Playwriting** 3 s.h.  
Rigorous exploration and analysis of a range of creative works in drama. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.
- ENGL:3850 Undergraduate Translation Workshop** 3 s.h.  
Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Same as CLSA:3979, TRNS:3179.
- ENGL:4000 English Honors Seminar** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to varied area and/or period requirements. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4001 Honors Seminar: American Literature, 20th/21st Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4002 Honors Seminar: British Literature, 20th/21st Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 20th/21st Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4003 Honors Seminar: Literary Theory and Interdisciplinary Studies, 20th/21st Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4004 Honors Seminar: Transnational and Postcolonial Literature, 20th/21st Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4005 Honors Seminar: American Literature, 18th/19th Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 18th/19th-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4006 Honors Seminar: British Literature, 18th/19th Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Modern British Literature and Culture. PERIOD: 18th/19th-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4007 Honors Seminar: Literary Theory and Interdisciplinary Studies, 18th/19th Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 18th/19th-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4008 Honors Seminar: Transnational and Postcolonial Literature, 18th/19th Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 18th/19th-Century Literature. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4009 Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Requirements: undergraduate standing and English major g.p.a. of 3.33.

- ENGL:4010 Special Project for Undergraduates** arr.
- ENGL:4011 Honors Seminar: Creative Writing** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the advanced creative writing requirement. Requirements: undergraduate standing and English major g.p.a. of 3.33.
- ENGL:4012 Honors Seminar in Fiction** 3 s.h.  
English and Creative Writing majors may apply this course to the advanced creative writing requirement. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: undergraduate standing, English and Creative Writing major, and submission of portfolio.
- ENGL:4013 Honors Seminar in Poetry** 3 s.h.  
English and Creative Writing majors may apply this course to the advanced creative writing requirement. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: undergraduate standing, English and Creative Writing major, and submission of portfolio.
- ENGL:4014 Honors Seminar in Creative Nonfiction** 3 s.h.  
English and Creative Writing majors may apply this course to the advanced creative writing requirement. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: undergraduate standing, English and Creative Writing major, and submission of portfolio.
- ENGL:4020 Honors Thesis Workshop** 3 s.h.  
Requirements: English major or English and Creative Writing major, and g.p.a. of 3.33.
- ENGL:4030 Undergraduate Honors Project in Creative Writing** 1-3 s.h.  
Independent study under faculty guidance for the creation of an honors project in creative writing. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: admission to English honors program.
- ENGL:4040 Undergraduate Honors Project** 1-3 s.h.  
Requirements: admission to English honors program.
- ENGL:4150 Introduction to Book Studies** 3 s.h.  
Theory and practice of book studies; meanings of word and image in the book format; comparative study of other media, applied study of the codex as physical artifact. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as SLIS:4150, UICB:4150.
- ENGL:4172 London Performance Study** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as THTR:4630.
- ENGL:4195 Interdisciplinary Studies** 3 s.h.  
Exploration of how readings of theory can be evaluated through discussions and readings in literature. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature.
- ENGL:4720 Advanced Creative Writing: Special Topic** 3 s.h.  
Reading and writing; topics vary; advanced creative writing elective for English and Creative Writing majors. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English major, admission to Undergraduate Creative Writing track, or English and Creative Writing major.
- ENGL:4721 Advanced Writers' Seminar: Fiction** 3 s.h.  
In-depth exploration and analysis of creative works in fiction. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4722 Advanced Writers' Seminar: Poetry** 3 s.h.  
In-depth exploration and analysis of creative works in poetry. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4723 Advanced Writers' Seminar: Nonfiction** 3 s.h.  
In-depth exploration and analysis of creative works in nonfiction. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4724 Advanced Writers' Seminar: Literary Translation** 3 s.h.  
Rigorous exploration and analysis of a range of creative works in literary translation. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4725 Advanced Writers' Seminar: Playwriting** 3 s.h.  
Rigorous exploration and analysis of a range of creative works in drama. Prerequisites: ENGL:2010 and ENGL:2020. Requirements: English and Creative Writing major.
- ENGL:4810 Learning to Teach Secondary English/ Language Arts and Field Experience** 3 s.h.  
Organizational techniques, methods, materials for teaching high school English; experience in simulated teaching situations during laboratory sessions, integrated with lectures and discussions. Prerequisites: EDTL:4314. Same as EDTL:4315.
- ENGL:5000 Introduction to Graduate Study** 3 s.h.
- ENGL:5050 Professional Development Practicum** 1 s.h.  
Navigation of academic job market and exploration of professional development and career planning; writing cover letters, curriculum vitae, dissertation abstracts, and teaching statements; application strategies for various jobs in research, liberal arts, community colleges, and outside academia; opportunity to practice interviews and other hands-on coaching; for advanced English department Ph.D., M.A., and M.F.A. students.
- ENGL:5990 M.A. Portfolio in Literary Studies** arr.
- ENGL:5999 M.A. Thesis in Literary Studies** arr.
- ENGL:6000 Introduction to Contemporary Theory** 3 s.h.
- ENGL:6020 Literature as Letters** 3 s.h.
- ENGL:6030 Gender, Sexuality, and Literature** 3 s.h.  
Representations of gender, class, race, and sexuality in British, American, or Anglophonic/world literatures; role of gender in its intersection with class, race, and sexuality in authorship, text, print cultures, reading, aesthetics, criticism, theory, and the literary marketplace.

- ENGL:6050 Critical Readings in Cultural Studies: Stuart Hall's Legacy and Influences** 3 s.h.  
Exploration of the scholarship of Stuart Hall along with theories, methods, and history of cultural studies; focus on major areas of Hall's work including Marxist thought and the political economy, diasporas and globalization, cultural production and popular culture, film and cinema studies, race, ethnicity, identity, and difference; key theorists that influenced Stuart Hall (e.g., Marx, Foucault, Fanon, Gramsci, Althusser) and scholars in cultural studies that have made appropriate use of Hall's writings and theories in their own work; role of theory in everyday life and the critical role of public intellectuals. Same as AFAM:6500, AMST:6500.
- ENGL:6080 New Media Poetics** 3 s.h.
- ENGL:6090 Topics in Interdisciplinary Studies** 3 s.h.  
Interdisciplinary approaches to literature and culture.
- ENGL:6100 Readings in Medieval Literature and Culture** 3 s.h.
- ENGL:6104 Literature for Children II** 3 s.h.  
Current theory, research, and practice in reading and responding to children's literature; genre and topic vary. Same as EDTL:6104.
- ENGL:6110 Medieval Authors** 3 s.h.
- ENGL:6200 Sixteenth- and Seventeenth-Century Authors** 3 s.h.
- ENGL:6210 Readings in Sixteenth- and Seventeenth-Century Genres** 3 s.h.
- ENGL:6220 Shakespeare** 3 s.h.
- ENGL:6300 Restoration and Eighteenth-Century Literature** 3 s.h.
- ENGL:6315 M.A. Seminar: English Education** arr.  
Significant developments in English education; primary and collateral readings. Same as EDTL:6315.
- ENGL:6400 Romantic Literature** 3 s.h.
- ENGL:6500 Victorian Literature** 3 s.h.
- ENGL:6601 Readings in American Literature** 3 s.h.  
American literature of the 18th century.
- ENGL:6602 Readings in American Literature II** 3 s.h.  
Nineteenth-century American literature.
- ENGL:6603 Readings in American Literature III** 3 s.h.  
Twentieth- and twenty-first-century American literature.
- ENGL:6610 Studies in African American Literature** 3 s.h.
- ENGL:6620 Readings in Native American Literatures** 3 s.h.  
Same as NAIS:6620.
- ENGL:6630 Readings in Latina/o/x Literary and Cultural Studies** 3 s.h.  
Survey of Latina/o/x literature and criticism to prepare for comprehensive exam; organized by thematic units that stress canonical and emerging research areas in Latina/o/x literary and cultural studies.
- ENGL:6635 Crossing Borders Seminar** 2-3 s.h.  
Taught in English. Same as AFAM:6635, ANTH:6635, COMM:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.
- ENGL:6640 Readings in American Literary Genres** 3 s.h.
- ENGL:6670 American Literary Magazines** 3 s.h.  
Aspects of American literary magazines, from city journals to monthly periodicals, historical moment to marketplace demand.
- ENGL:6720 Twentieth-Century Literatures** 3 s.h.  
Literatures of 20th century; varied topics (e.g., transnational approach, focus on particular theme, genre, or critical perspective).
- ENGL:6730 Modernist Studies** 3 s.h.
- ENGL:6760 Topics in Contemporary Literature** 3 s.h.
- ENGL:6765 Literature, Culture, and Environment** 3 s.h.  
Introduction to theories and practices articulating relationship among literature, other cultural production, and environmental issues.
- ENGL:6770 Writing and Revolution** 3 s.h.
- ENGL:6800 Readings in Postcolonial Literature and Theory** 3 s.h.  
Introduction to central concerns and questions of postcolonial theory; impact of imperial ideologies on formation of racial and ethnic identities; nationalist and pan-nationalist challenges to colonialism; postcolonial revisions of Western history; representations of gender and sexuality; diasporic and transnational cultural production; alternative versions of modernity; relationship between past and contemporary forms of globalization.
- ENGL:6850 Topics in Creative Writing** 3 s.h.  
Engagement with different topics in creative writing.
- ENGL:6900 Doctoral Workshop in English** 1-2 s.h.
- ENGL:6950 Colloquium: Teaching Foundations of the English Major** 1 s.h.
- ENGL:6960 Colloquium: Teaching Literature** 2 s.h.  
Professional development program for new ENGL:1200 teachers, including three-day pre-semester workshop.
- ENGL:7000 Seminar: Cultural Studies** arr.
- ENGL:7010 Seminar: Literary Criticism and Theory** 3 s.h.  
Analysis of issues in current literary criticism and theory and of texts from related fields, such as aesthetics, cultural studies, political science, psychology, and philosophy.
- ENGL:7050 Seminar: Performance Theory and Practice** 3 s.h.  
Foundational and recent work in interdisciplinary field of performance studies; focus on intersections of performance theory and theater and drama studies; production and reception of visual and participatory art, dance, music, and various forms of embodied activity.
- ENGL:7100 Seminar: Medieval Literature and Culture** arr.
- ENGL:7200 Seminar: Early Modern Literature and Culture** arr.
- ENGL:7300 Seminar: Restoration and Eighteenth-Century Literature** arr.
- ENGL:7400 Seminar: Romantic Literatures** arr.
- ENGL:7500 Seminar: Victorian Literature** arr.
- ENGL:7560 Seminar: Walt Whitman** 3 s.h.  
Walt Whitman's writings and career.
- ENGL:7600 Seminar: American Literature and Culture** arr.
- ENGL:7700 Seminar: Studies in the 20th and 21st Century** arr.

<b>ENGL:7800 Seminar: Postcolonial Studies</b>	<b>3 s.h.</b>
<b>ENGL:7900 Advanced Studies in an Author</b>	<b>arr.</b>
<b>ENGL:7910 Advanced Studies in a Literary Period</b>	<b>arr.</b>
<b>ENGL:7920 Advanced Studies in a Literary Form</b>	<b>arr.</b>
<b>ENGL:7930 Advanced Studies in a Literary Genre</b>	<b>arr.</b>
<b>ENGL:7940 Advanced Studies in a Literary Mode</b>	<b>arr.</b>
<b>ENGL:7950 Advanced Studies in a Literary Movement</b>	<b>arr.</b>
<b>ENGL:7960 Advanced Studies in a Literary Theme</b>	<b>arr.</b>
<b>ENGL:7970 Advanced Studies in Literary Criticism</b>	<b>arr.</b>
<b>ENGL:7980 Advanced Studies in an Interdisciplinary Subject</b>	<b>arr.</b>
<b>ENGL:7990 Special Project for Graduate Students</b>	<b>arr.</b>
<b>ENGL:7999 Ph.D. Thesis</b>	<b>arr.</b>

## Creative Nonfiction Writing Courses

Courses CNW:6654 Forms of the Essay, CNW:6650 Readings in Nonfiction, CNW:6610 Essay Writing Workshop, and CNW:6620 Nonfiction Writing Workshop may be repeated. Others may be repeated with consent of the instructor and the director of graduate studies.

Course CNW:1620 Introduction to Creative Nonfiction does not count toward the English major or minor.

Course CNW:3630 Advanced Nonfiction Writing has a prerequisite.

Course CNW:4631 Advanced Essay Workshop requires consent of instructor (see course description on MyUI).

**CNW:1620 Introduction to Creative Nonfiction 3 s.h.**  
Exploration of creative nonfiction genres through readings, discussion, and writing exercises; introduction to workshop environment. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

**CNW:2680 The Art and Craft of Creative Nonfiction 3 s.h.**

How we tell stories—every time people talk about themselves, someone they know, places visited or events experienced; creation of a story with intention to entertain and inform a particular audience; how to create compelling, thought-provoking, and resonant texts from raw material of daily life; exploration of three fundamentals of great storytelling—taking emotional and intellectual risks, being imaginatively rigorous, and revising, revising, revising. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

**CNW:2690 The Art and Craft of Writing About Business 3 s.h.**

Preparation for real world writing situations; techniques for revision; creation of texts that are clear, persuasive, and coherent; practice techniques by revising many kinds of transactional documents, from letters and memos to procedures and reports; examples from actual business transactions; enhancement of writing, editing, job search, and managerial skills. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

**CNW:2700 The Art and Craft of Personal Writing 3 s.h.**  
Moments of wonder, confusion, and blips in memory that can reveal deep and complicated truths in life; different kinds of personal writing with focus on strategies that writers employ to create rich and compelling stories; character, scene, voice, point of view, suspense, and timing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

**CNW:2710 The Art and Craft of Food Writing 3 s.h.**  
Vivid prose that evokes memories, moods, places, and events; creating a visceral bond with readers as powerful as in any other art form; basics of food writing; how to heighten awareness of physical world through exercises that focus on sensory details. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

**CNW:2720 The Art and Craft of Writing About Culture 3 s.h.**  
Writing about the culture surrounding us—literature, songs, movies, magazines, television, food, concerts, theater, commercials, billboards, comic books, internet, museums, sports, architecture; readings, field trips, and multiple approaches to writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

**CNW:2730 The Art and Craft of Science Writing 3 s.h.**  
Introduction to science writing; development of a clear and engaging prose style through readings and workshops. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

**CNW:2740 The Art and Craft of Writing about the Environment 3 s.h.**  
Tradition of nature writing and how it has inspired writers, artists, and activists to find more complicated and daring interpretations of what constitutes an environment; reading and writing that challenges assumptions and pushes boundaries of environmental writing and nonfiction. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

**CNW:2760 The Art and Craft of Writing for Social Change 3 s.h.**  
How nonfiction writers have responded to tumultuous social, political, and cultural topics of their day through reading and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

**CNW:2770 The Art and Craft of Writing for New Media 3 s.h.**  
Fundamental elements of new media; readings that celebrate and challenge today's newest experiments in podcasts, video games, internet, Twitter feeds, and Tumblr narratives; crafting and critiquing texts in these media. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

**CNW:2780 The Art and Craft of Writing About Sports 3 s.h.**  
Introduction to sports writing through reading and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.

- CNW:2790 The Art and Craft of Humor Writing 3 s.h.**  
How comedy functions as one of many tools writers have at their disposal through reading and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.
- CNW:2800 The Art and Craft of Writing Across Genres 3 s.h.**  
Hybrid texts that defy classification—graphic books, stand-up comedy, lists, letters, poems, freestyle rap—engaged through reading and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.
- CNW:2810 The Art and Craft of Writing with Emotion 3 s.h.**  
Role of emotion in creative writing through readings and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.
- CNW:2820 The Art and Craft of the Literary Essay 3 s.h.**  
Different forms of the essay—reviews, memoirs, profiles, travelogues, journalism, cultural criticism—through readings and writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.
- CNW:2830 The Art and Craft of Immersion Journalism 3 s.h.**  
Immersion in fieldwork, leading to nonfiction writing; writer-in-residence for a particular place, institution, or organization; observation and exploration of everything that happens within those boundaries. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.
- CNW:2840 The Art and Craft of Travel Writing 3 s.h.**  
How to capture a journey's details and sensations through explorations of character, scene, point of view, and timing; why a person does not need to be a world traveler to become a compelling "writer about place"; readings, field trips, multiple approaches to workshoping. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.
- CNW:2850 The Art and Craft of Writing About Politics 3 s.h.**  
How to observe and reveal complex personalities, relationships, beliefs, and histories that underlie political events and races; strong emphasis on how to gather field research and shape it into compelling literary prose; Iowa's unique role in political theater. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.
- CNW:2900 The Essay Prize 3 s.h.**  
Discussion and evaluation of a variety of essays nominated by an independent committee of writers, editors, filmmakers, sound designers, performance artists, and readers for the Essay Prize; selection of winner. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.
- CNW:2910 Writing for Applications and Awards 3 s.h.**  
Practical exploration of how to prepare applications for fellowships, awards, grants, and graduate schools; emphasis on composing and revising personal statements, project narratives, funding proposals; fundamentals of how to clearly, concisely, and compellingly present ideas to specialized and general audiences. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.
- CNW:2991 Publishing I: Introduction to Literary Publishing 3 s.h.**  
Introduction to major aspects of book and literary publishing, including evaluating submissions, copy editing, production calendars, and planning marketing campaigns; discussion of industry trends. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Same as WRIT:2991.
- CNW:2992 Publishing II: Advanced Literary Publication 3 s.h.**  
Hands-on experience of entire literary publishing process including reading submissions, selecting texts, editing, layout and design, marketing and promotion, and book release. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Prerequisites: CNW:2991. Same as WRIT:2992.
- CNW:3600 Issues in Creative Nonfiction 3 s.h.**  
Exploration and discussion of a single topic in creative nonfiction through a variety of reading assignments and creative writing exercises. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.
- CNW:3630 Advanced Nonfiction Writing 3 s.h.**  
Essay writing; focus on workshop environment. Prerequisites: CNW:2830 or CNW:2720 or CNW:2840 or CNW:2710 or CNW:2700 or CNW:2900 or CNW:2760 or CNW:2800 or CNW:2910 or CNW:2810 or CNW:2780 or CNW:2850 or CNW:2730 or CNW:2740 or CNW:2770 or CNW:2820 or CNW:2680 or CNW:2790 or CNW:2690. Requirements: undergraduate standing.
- CNW:3632 Prose Style 3 s.h.**  
Sentences: how they work, what they do; how sentences can help writing, expand understanding of prose style, stretch options. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative. Same as WRIT:3632.
- CNW:3633 Personal Writing 3 s.h.**
- CNW:3640 Writing for Business 3 s.h.**  
Foundational skills for careers in the humanities including building portfolios, résumés, cover letters, and interview skills for job searches; professional communication and protocol; and exploring career opportunities. GE: Engineering Be Creative.
- CNW:3644 Dublin Writing Workshop 3 s.h.**  
Intensive writing workshops for aspiring creative writers; study abroad in Dublin, Ireland. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.



- CNW:3660 Multimedia Writing** 3 s.h.  
Multidisciplinary sessions mixing media production, creative nonfiction, and literary theory; topics ranging from hypertext authoring and electronic magazine publishing to sound art and digital video; principles and practices of writing for alternative media, theoretical understanding of how various media frame the situation; radio essay, video essay, interactive animation, web authoring, electronic magazine publishing.
- CNW:3661 Film and Writing** 3 s.h.  
Writers' introduction to digital video; compelling forms of nonfiction filmmaking from the film essay to the environmental documentary; how to convert texts into film, conduct interviews, and shoot and edit digital video; emphasis on careful analysis and making of whitely films.
- CNW:3662 Graphic Writing** 3 s.h.  
The photo essay and the graphic memoir, two modes of nonfiction that have steadily increased in prominence and popularity; key texts in both genres (i.e., Dorothea Lange's *American Exodus*, Marjane Satrapi's *Persepolis*, or Art Spiegelman's *Maus*); writing and producing photo essays and short graphic memoirs.
- CNW:3663 Radio and Writing** 3 s.h.  
Writing with sound; introduction to radio essays and documentaries with focus on digital audio; analyze key radio works and essayists; produce voiceovers, record interviews, mix music, edit sound and spoken texts in making radio art.
- CNW:3664 Writing About Science** 3 s.h.  
Writing about science and technology from neurobiology to astrophysics; exploration of classic literary nonfiction on the sciences; focus on various stylistic practices for making complex topics compelling for a general audience and developing a clear and readable prose style.
- CNW:4355 Approaches to Teaching Writing** 3 s.h.  
Theories, practices, strategies, and history of writing and teaching writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative. Same as EDTL:4355.
- CNW:4631 Advanced Essay Workshop** 3 s.h.  
Experience working on new nonfiction projects, drafting and preparing one piece throughout a semester; individualized work to promote understanding of and creation in genres of nonfiction writing. Requirements: undergraduate standing and successful completion of one CNW course.
- CNW:4635 Advanced Creative Nonfiction Writing** 3 s.h.  
Close work with faculty and peers on advanced creative nonfiction writing projects. Requirements: one 2000- or 3000-level CNW course.
- CNW:4690 Undergraduate Project in Nonfiction Writing** arr.  
arr.
- CNW:5375 Teaching in a Writing Center** 3 s.h.  
Seminar/practicum to prepare graduate students to teach in the University of Iowa Writing Center or similar settings; seminar component on writing and reading processes, tutoring strategies, English-as-a-second-language issues; practicum experience tutoring in the Writing Center. Same as RHET:5375.
- CNW:6600 Teaching Nonfiction** 3 s.h.  
Theories and practices of teaching nonfiction writing; writing workshop approaches, strategies to encourage response and revision, connections between reading and writing, diversity of form, language, and assessment.
- CNW:6610 Essay Writing Workshop** 4 s.h.
- CNW:6620 Nonfiction Writing Workshop** arr.  
Intensive workshop focusing on student work; students will have an essay critiqued and a conference with the advisor; wide-ranging discussion dealing with various aspects of this multi-faceted genre and new trends in contemporary nonfiction.
- CNW:6630 Graduate Thesis Workshop** 4 s.h.  
Thesis work in supportive workshop environment. Prerequisites: CNW:6610 and CNW:6620.
- CNW:6650 Readings in Nonfiction** 3 s.h.
- CNW:6654 Forms of the Essay** arr.
- CNW:6656 Approaches to Nonfiction** 3 s.h.  
Investigation into forms of nonfiction writing.
- CNW:6660 Twenty-first-Century Nonfiction** arr.
- CNW:6666 Performance and Profession** 3 s.h.  
Making and maintaining a writing career, with lessons on navigating the writer's job market; developing cover letters and curriculum vitae, interviewing, finding an agent, negotiating with publishers, handling social media, and delivering a reading.
- CNW:6670 Overseas Writing Workshop** arr.
- CNW:7073 Ethnographic Methods, Theories, and Texts** 3 s.h.  
Practical and theoretical background for conducting ethnographic field studies in literacy, schooling, language, or a field of student's choice; methods, methodologies, and perspectives from anthropology, sociology, folklore, journalism, literary criticism, cultural, critical, and composition theory; read historical and contemporary ethnography, consider ethnographic forms of expression (films, graphics, fiction, poems); roles, responsibilities, and ethics of writer, reader, viewer, and informant; tools, methods, and writer's techniques to develop an ethnographic portfolio. Prerequisites: PSQF:7331 or EDTL:7070 or CSED:7338 or EPLS:7373. Same as EDTL:7073.
- CNW:7900 Special Project in Nonfiction Writing** arr.
- CNW:7950 Thesis in Nonfiction Writing** arr.
- ## Creative Writing-Writers' Workshop Courses
- Course CW:1800 Creative Writing Studio Workshop does not count toward the English major or minor.
- CW:1200 Creative Writing for Non-Native English Speakers** 3 s.h.  
Designed to help non-native English speakers who would like to learn more about creative writing; guided readings and creative writing exercises in fiction, poetry, and creative nonfiction, with special emphasis on the interests of writers from diverse backgrounds; creative writing as a means of self-expression, while improving writing and speaking skills in a friendly, supportive environment.
- CW:1800 Creative Writing Studio Workshop** 3 s.h.  
Experience reading and writing fiction, poetry, and personal narrative in a workshop setting; study of published work and critical discussion from a writer's standpoint; critique of class members' work. GE: Literary, Visual, and Performing Arts.

- CW:2100 Creative Writing** 3 s.h.  
Guidance in the process of writing fiction and poetry; writing as exploration; development of students' critical skills as readers; application of new knowledge and skills to students' own writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.
- CW:2600 Special Topics Workshop** 3 s.h.  
Writing workshops on special topics (e.g., writing weird tales, world building, writing place); students dive into the intricacies of craft in context of a particular topic, practice a particular set of skills, and develop new creative work.
- CW:2870 Fiction Writing** 3 s.h.  
Analysis of works of accomplished fiction writers; critique of class members' short stories, in writing and in class; discussion of how class members use language, characterization, point of view, other elements of fiction in their work. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.
- CW:2875 Poetry Writing** 3 s.h.  
Careful writing of poems, reading of poetry by class members as well as established poets; supportive workshop context. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative.
- CW:3000 Writing and Reading Romance Fiction** 3 s.h.  
How constraints and parameters in which romance fiction is created are a useful lens through which to explore the layers of craft and technique that underlie all great creative writing; opportunity to hone understanding of genre; exploration of specific craft techniques; development of a broader understanding of the fiction landscape.
- CW:3002 Writing and Reading Young Adult Fiction** 0,3 s.h.  
Constraints and parameters in which young adult fiction is created and a useful lens through which to explore the layers of craft and technique that underlie all great creative writing; opportunity for students to hone their understanding of genre, explore specific craft techniques, and develop a broader understanding of the fiction landscape.
- CW:3003 Writing and Reading Science Fiction** 3 s.h.  
Science fiction literature as an ongoing conversation about the possible; exploration of world boundaries we have by imagining worlds that we don't (yet); alien encounters that consider ways we react to beings we see as unlike ourselves; alternate histories to illuminate what might have been; transhumanist fiction to explore what we may become; issues of composition and craft that underlie all effective fiction; students write and revise works of science fiction and engage in constructive discussion of each other's work. GE: Engineering Be Creative.
- CW:3004 Writing and Reading Fantasy Fiction** 3 s.h.  
Exploration of rules and boundaries of fantasy writing; interrogation of strategies and approaches that make writing fantasy distinct from other genres of fiction.
- CW:3005 Professional and Creative Business Communication** 3 s.h.  
Solid foundation for creative and professional communication in today's modern work world; exploration of techniques, strategies, and craft of writing résumés, letters of interest, email and its related etiquette, and organization of ideas into presentable form; semester-long creative project that builds a bridge between office and the world using modern technology and social media; readings and discussions of literature to better understand issues of ethics, leadership, conflict, moral judgment, decision making, and human nature; how to navigate and succeed in business or any professional field. GE: Engineering Be Creative. Same as INTD:3005, WRIT:3005.
- CW:3107 Creative Writing for the Health Professions** 3 s.h.  
GE: Engineering Be Creative. Same as INTD:3107.
- CW:3215 Creative Writing and Popular Culture** 3 s.h.  
Creative writing through the lens of popular culture; topics include television, film writing, adaptations, commercials, advertising, magazines, newspapers, comic books, song lyrics, billboards, and backs of cereal boxes. GE: Engineering Be Creative. Same as INTD:3300.
- CW:3218 Creative Writing for New Media** 3 s.h.  
Prepares creative writers for evolving marketplace of electronic text and media; experience writing in varied media (e.g., internet, e-books, video games, mobile devices, emergent social narratives). GE: Engineering Be Creative. Same as INTD:3200.
- CW:3870 Advanced Fiction Writing** 3 s.h.  
Analysis of accomplished fiction writers' work; critique of class members' short stories, in writing and in class; discussion of how class members use language, characterization, point of view, other elements of fiction in their work. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Prerequisites: CW:2870.
- CW:3875 Advanced Poetry Writing** 3 s.h.  
Writing poems, reading poetry by class members and established poets; workshop context. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Prerequisites: CW:2875.
- CW:4745 The Sentence: Strategies for Writing** 3 s.h.  
Writing dynamic, cogent, and grammatically correct sentences; effectively communicating ideas; writing with clarity and confidence; review of grammar and various types of sentences; building complexity by adding adverbial, subordinate, and connective clauses to simple sentences; how rhythm, syntax, and word order expand the meaning of a sentence; application and appreciation. GE: Engineering Be Creative. Same as WRIT:4745.
- CW:4751 Creative Writing for the Musician** 3 s.h.  
Better writing by focused appreciation of classical and popular music; musical forms and storytelling; music as a source of inspiration, performance of free-form writing exercises set to different soundtracks; what music can teach about language; scansion; methods for applying musical techniques in word form; how punctuation and grammar create rhythm; tone and diction used to create and modify dynamics of prose; multimedia project incorporating written, visual, and audio storytelling techniques. GE: Engineering Be Creative.

**CW:4760 The Art of Revision: Rewriting Prose for Clarity and Impact** **3 s.h.**

Writing and rewriting of short stories and essays; specific choices to help writing reach its full potential; examination of first drafts and making strategic or radical decisions on what needs to happen in subsequent drafts in order for writing to better match original intentions; students gain insight from peers on where first drafts are succeeding or falling short, and write second and third drafts of short stories and personal narratives; structural and aesthetic choices. GE: Engineering Be Creative. Same as WRIT:4760.

**CW:4870 Undergraduate Writers' Workshop: Fiction** **arr.**

English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

**CW:4875 Undergraduate Writers' Workshop: Poetry** **arr.**

English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

**CW:4885 Undergraduate Writers' Seminar** **arr.**

Exploration of literature to develop substance and craft; craft sessions designed around topic chosen by instructor; modeled after Iowa Writers' Workshop graduate reading seminars. Prerequisites: ENGL:2020.

**CW:4894 Undergraduate Project in Creative Writing** **arr.**

English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing.

**CW:4897 Novel Writing** **3 s.h.**

Introduction to the process of writing a novel through focused lessons on character, perspective, plot, scene, and dialogue; organizing a longer work; creating notes and sections of a novel with progression towards completing a draft. Requirements: creative writing or fiction writing course.

**CW:7810 Form of Fiction** **3 s.h.**

**CW:7820 Form of Poetry** **3 s.h.**

**CW:7830 Seminar: Problems in Modern Fiction** **arr.**

**CW:7840 Seminar: Problems in Modern Poetry** **arr.**

**CW:7870 Fiction Workshop** **arr.**

**CW:7875 Poetry Workshop** **arr.**

**CW:7878 Special Topics Seminar** **3 s.h.**

Seminar topics vary.

**CW:7880 Teaching Assistant Pedagogy Colloquium** **1-2 s.h.**

Training and support for graduate students in the Creative Writing Program. Corequisites: CW:7870 or CW:7875. Requirements: enrollment in creative writing graduate program.

**CW:7890 Graduate Project in Creative Writing** **arr.**

**CW:7895 M.F.A. Thesis** **arr.**

# English, B.A.

The English major provides instruction in and opportunities for writing in all of its classes. The department also offers an honors program in which students work closely with a faculty member to complete a major critical or creative project. See Honors [p. 443] in this section of the Catalog.

Students interested in the English major should consult the academic advisor in the English undergraduate advising office.

## Learning Outcomes

The goal is for students who graduate from the Department of English to demonstrate the skills of reflective reading, critical thinking, effective speaking, compelling writing, and engaged citizenship.

### Reflective Readers

- Analyze literary and cultural texts through close reading.
- Gain broad knowledge of several fields of literature.
- Grasp formal elements of key literary genres.
- Learn to read comparatively to illuminate aesthetic, social, and cultural contributions of texts.

### Critical Thinkers

- Approach texts with a spirit of critical inquiry and flexibility.
- Formulate productive questions.
- Use textual evidence to support individual interpretations.
- Draw upon several different critical approaches to literature in English.

### Effective Speakers

- Express opinions about the texts they read through discussion and written assignments.
- Listen respectfully to others' opinions.
- Work in class—whether through active listening or discussion—to learn by synthesizing a range of texts, insights, and opinions.

### Compelling Writers

- Express their ideas in clear, fluent, and lively prose.
- Organize their ideas effectively.
- Use textual evidence to illustrate and support their insights and arguments.
- Demonstrate the ability to write in different modes that are appropriate to particular contexts.
- Engage properly with relevant scholarship and creative work.
- Use research skills that include understanding of methods, technology, and conventions.

### Engaged World Citizens

- Communicate respect and understanding for the literatures and cultures of diverse historical periods, geographical regions, and cultures.
- Explore ethical issues raised by literature.
- Reflect on the ways that literature addresses issues of social justice.

- Use reading, speaking, and writing skills to engage with the ethical concerns raised by literature in their daily and professional lives.

## Requirements

The Bachelor of Arts with a major in English requires a minimum of 120 s.h., including at least 36 s.h. (usually 12 courses) of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students must earn at least 21 s.h. of credit for the major at the University of Iowa. Transfer students may count a maximum of 15 s.h. of approved transfer credit toward the major.

Students majoring in English should not use ENGL:1200 The Interpretation of Literature to fulfill the GE CLAS Core Interpretation of Literature requirement. They may substitute a course from the Literary, Visual, and Performing Arts area of the GE CLAS Core, excluding these: DANC:1010 through DANC:2040, MUS:1001 Group Piano I: Non-Music Majors, and MUS:1020 Performance Instruction for Nonmajors.

Only courses numbered above 2000 count toward the English major. The following courses do not count toward the English major.

Code	Title	Hours
CNW:1620	Introduction to Creative Nonfiction	3
CW:1800	Creative Writing Studio Workshop	3

Courses numbered ENGL:1000-ENGL:1999

Students may count up to 6 s.h. earned in courses with prefix CW toward the English major.

All English majors must complete ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures, as well as one course in reading and writing about a genre (ENGL:2012-ENGL:2016).

Other coursework for the major is divided into six areas and three historical periods. Along with two introductory courses, students must complete a total of six area courses (see "Areas" below) and six historical period courses (see "Historical Periods" below). Most courses (except those in the creative writing and nonfiction writing list) satisfy both an area and a historical period requirement, so students generally fulfill the historical period requirements as they complete the area requirements. This allows them to choose additional elective coursework to complete the major.

Each course's area and period designations are included in its course description, which is provided in the comprehensive list of Department of English courses; see Courses [p. 421] in this section of the Catalog. A course's area and/or period designation may vary by semester; consult MyUI for semester-specific course information. Additional information about courses is available on the Department of English website and from the academic advisor.

Students also must complete at least one multiethnic literature and culture course.

For more information about teaching English in elementary and/or secondary schools, see "Teacher Licensure" below. Students who plan to teach English in schools should consult

with an advisor in the College of Education as early as possible; contact the Office of Student Services. The B.A. in English education [p. 1490] requires that students choose particular courses in the English major in order to meet all related requirements; both degrees may be earned at the same time. Separate application to each degree program is required.

Students pursuing the B.A. in English can choose to complete requirements for the publishing track; see "Publishing Track" below for information.

The B.A. with a major in English requires the following coursework.

Code	Title	Hours
Introductory Courses		6
Area/Historical Period Courses		21
Multiethnic Literature and Culture Requirement (can be satisfied with a 3 s.h. course from another area)		
Electives		9
<b>Total Hours</b>		<b>36</b>

## Introductory Courses

All English majors must complete two introductory courses and are encouraged to enroll in them as soon as they declare the major. Students must take ENGL:2010 as well as one reading and writing about a genre course (ENGL:2012-ENGL:2016).

Code	Title	Hours
This course:		
ENGL:2010	Foundation of the English Major: Histories, Literatures, Pleasures	3
One of these:		
ENGL:2012	Reading and Writing About the Novel	3
ENGL:2013	Reading and Writing About Poetry	3
ENGL:2014	Reading and Writing About the Short Story	3
ENGL:2015	Reading and Writing About Drama	3
ENGL:2016	Reading and Writing About the Essay	3

## Areas

Students must complete at least one course (3 s.h.) from each of the following six areas.

- Literary Theory and Interdisciplinary Studies [p. 437]
- Medieval and Early Modern Literature and Culture [p. 438]
- Modern British Literature and Culture [p. 438]
- American Literature and Culture [p. 438]
- Transnational Literature and Postcolonial Studies [p. 439]
- Nonfiction and Creative Writing [p. 439]

## Literary Theory and Interdisciplinary Studies

Code	Title	Hours
ENGL:2100	Introduction to Criticism and Theory	3
ENGL:2105	Disability in Literature and Cultural Theory	3
ENGL:2130	Introduction to the Novel	3
ENGL:2140	Introduction to Poetry	3
ENGL:2150	Introduction to the Short Story	3
ENGL:2160	Introduction to Drama	3
ENGL:2170	Introduction to the Essay	3
ENGL:2191	Modern Fiction	3
ENGL:2192	Postmodern Fiction	3
ENGL:2193	Literature, Culture, and Women	3
ENGL:2194	Lyric Structures	3
ENGL:3100	Topics in Criticism and Theory	3
ENGL:3102	Topics in Poetry and Poetics	3
ENGL:3105	Topics in Popular Culture	3
ENGL:3130	Topics in Film and Literature	3
ENGL:3135	Narrative and the Cinema	3
ENGL:3140	Literature and the Book	3
ENGL:3142	Topics in Book History	3
ENGL:3145	Editorial Practice	3
ENGL:3148	Literary Editing	3
ENGL:3150	Literature and Philosophic Thought	3
ENGL:3152	Literature and Society	3
ENGL:3155	Literature and Art	3
ENGL:3160	Literary Genres and Modes	3
ENGL:3165	Literature and the Environment	3
ENGL:3170	Literature and Social Justice	3
ENGL:3171	Higher Education and Social Justice	3
ENGL:3173	Gender, Sexuality, and Literature	3
ENGL:3180	Media Studies	3
ENGL:3181	Digital Media and Poetics	3
ENGL:3182	Digital Cultures and Literacies	3
ENGL:3186	Science Fiction	3
ENGL:3190	Language and Learning	2-3
ENGL:3191	Reading and Teaching Adolescent Literature	3
ENGL:4003	Honors Seminar: Literary Theory and Interdisciplinary Studies, 20th/21st Century	3
ENGL:4007	Honors Seminar: Literary Theory and Interdisciplinary Studies, 18th/19th Century	3
ENGL:4150	Introduction to Book Studies	3
ENGL:4172	London Performance Study	3
ENGL:4195	Interdisciplinary Studies	3

## Medieval and Early Modern Literature and Culture

Code	Title	Hours
ENGL:2206	Classical and Biblical Literature	3
ENGL:2216	Selected Works of the Middle Ages	3
ENGL:2236	Selected Early Authors	3
ENGL:3216	Topics in Medieval and Renaissance Literature	3
ENGL:3226	Literature and Culture of the Middle Ages	3
ENGL:3228	Literature and Culture of the Restoration	3
ENGL:3236	Literature and the Culture of the Renaissance	3
ENGL:3237	Literature and Culture of Seventeenth-Century England	3
ENGL:3246	16th- and 17th-Century Poetry	3
ENGL:3256	Old English Language and Literature	3
ENGL:3257	Old English Beowulf	3
ENGL:3266	Medieval Celtic Literature	3
ENGL:3267	Medieval Norse Literature	3
ENGL:3276	Medieval Drama	3
ENGL:3277	English Renaissance Drama	3
ENGL:3286	Chaucer	3
ENGL:3287	Shakespeare	3
ENGL:3296	Milton	3
ENGL:4009	Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century	3

## Modern British Literature and Culture

Code	Title	Hours
ENGL:2309	Selected British Authors Before 1900	3
ENGL:2310	Selected British Authors After 1900	3
ENGL:2329	Topics in Modern British Literature Before 1900	3
ENGL:2330	Topics in Modern British Literature After 1900	3
ENGL:2338	Eighteenth-Century British Literature	3
ENGL:2348	British Romanticism	3
ENGL:2359	Victorian Literature	3
ENGL:2360	Twentieth-Century British Literature	3
ENGL:2361	Twenty-first-Century British Literature	3
ENGL:2369	Topics in British Culture and Identity	3
ENGL:3320	Modern British Drama	3
ENGL:3329	Literature and Culture of Eighteenth-Century Britain	3

ENGL:3338	Literature and Culture of the Romantic Period	3
ENGL:3339	Literature and Culture of Nineteenth-Century Britain	3
ENGL:3348	Literature and Culture of Nineteenth-Century Scotland	3
ENGL:3350	Literature and Culture of 20th- and 21st-Century Britain	3
ENGL:3355	British Poetry	3
ENGL:3360	British Fiction	3
ENGL:4002	Honors Seminar: British Literature, 20th/21st Century	3
ENGL:4006	Honors Seminar: British Literature, 18th/19th Century	3

## American Literature and Culture

Code	Title	Hours
ENGL:2409	Selected American Authors Before 1900	3
ENGL:2410	Selected American Authors After 1900	3
ENGL:2420	American Literary Classics	3
ENGL:2425	American Poetry	3
ENGL:2438	American Novel Before 1900	3
ENGL:2440	American Novel After 1900	3
ENGL:2450	American Short Story	3
ENGL:2463	Topics in African American Literature	3
ENGL:2465	Selected African American Authors	3
ENGL:2475	Asian American Literature	3
ENGL:3418	Literature and Culture of America Before 1800	3
ENGL:3419	Literature and Culture of Nineteenth-Century America	3
ENGL:3420	Literature and the Culture of Twentieth-Century America	3
ENGL:3429	Topics in American Literature Before 1900	3
ENGL:3430	Topics in American Literature After 1900	3
ENGL:3431	American Novel Since 1945	3
ENGL:3439	American Drama Before 1900	3
ENGL:3440	American Drama Since 1900	3
ENGL:3441	Native American Literature	3
ENGL:3444	Literatures of the American Peoples	3
ENGL:3450	American Regional Literatures	3
ENGL:3455	Jewish American Literature	3
ENGL:3459	African American Literature Before 1900	3
ENGL:3460	African American Literature After 1900	3
ENGL:3461	Twenty-First Century African American Literature	3
ENGL:3462	African American Drama	3

ENGL:3465	African American Autobiography	3
ENGL:3467	Latina/o/x Literatures and Cultures	3
ENGL:3470	Gender, Sexuality, and American Literature	3
ENGL:3489	Contemporary American Women Writers	3
ENGL:4001	Honors Seminar: American Literature, 20th/21st Century	3
ENGL:4005	Honors Seminar: American Literature, 18th/19th Century	3

## Transnational Literature and Postcolonial Studies

Code	Title	Hours
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:2510	Selected Transnational Authors	3
ENGL:2560	Topics in Culture and Identity	3
ENGL:2570	Love, War, Activism: Stories About Women from Across the World	3
ENGL:2571	Visualizing Human Rights	3
ENGL:3510	Topics in Transnational Literature	3
ENGL:3515	Topics in Postcolonial Studies	3
ENGL:3520	Literature and Culture of the 20th and 21st Century	3
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3530	Caribbean Literature and Culture	3
ENGL:3532	Modernist Women Writers	3
ENGL:3535	Topics in Literature and Culture of the Americas	3
ENGL:3540	Literature of the Indian Subcontinent	3
ENGL:3550	African Literature	3
ENGL:3555	Topics in African Cinema	3
ENGL:3570	Transnational and Postcolonial Writing by Women	3
ENGL:3580	Identity and Social Issues	3
ENGL:3595	International Literature Today	1,3
ENGL:4004	Honors Seminar: Transnational and Postcolonial Literature, 20th/21st Century	3
ENGL:4008	Honors Seminar: Transnational and Postcolonial Literature, 18th/19th Century	3

## Nonfiction and Creative Writing

Code	Title	Hours
ENGL:3721	Writers' Seminar: Fiction	3
ENGL:3722	Writers' Seminar: Poetry	3
ENGL:3723	Writers' Seminar: Nonfiction	3
ENGL:3724	Writers' Seminar: Literary Translation	3
ENGL:3725	Writers' Seminar: Playwriting	3
ENGL:4011	Honors Seminar: Creative Writing	3
ENGL:4720	Advanced Creative Writing: Special Topic	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
CNW:2690	The Art and Craft of Writing About Business	3
CNW:2700	The Art and Craft of Personal Writing	3
CNW:2710	The Art and Craft of Food Writing	3
CNW:2720	The Art and Craft of Writing About Culture	3
CNW:2730	The Art and Craft of Science Writing	3
CNW:2740	The Art and Craft of Writing about the Environment	3
CNW:2760	The Art and Craft of Writing for Social Change	3
CNW:2770	The Art and Craft of Writing for New Media	3
CNW:2780	The Art and Craft of Writing About Sports	3
CNW:2790	The Art and Craft of Humor Writing	3
CNW:2800	The Art and Craft of Writing Across Genres	3
CNW:2810	The Art and Craft of Writing with Emotion	3
CNW:2820	The Art and Craft of the Literary Essay	3
CNW:2830	The Art and Craft of Immersion Journalism	3
CNW:2840	The Art and Craft of Travel Writing	3
CNW:2850	The Art and Craft of Writing About Politics	3
CNW:2900	The Essay Prize	3
CNW:2910	Writing for Applications and Awards	3
CNW:2991	Publishing I: Introduction to Literary Publishing	3
CNW:2992	Publishing II: Advanced Literary Publication	3
CNW:3600	Issues in Creative Nonfiction	3
CNW:3630	Advanced Nonfiction Writing	3
CNW:3632	Prose Style	3
CNW:3633	Personal Writing	3
CNW:3640	Writing for Business	3
CNW:3644	Dublin Writing Workshop	3
CNW:3660	Multimedia Writing	3

CNW:3661	Film and Writing	3
CNW:3662	Graphic Writing	3
CNW:3663	Radio and Writing	3
CNW:3664	Writing About Science	3
CNW:4355	Approaches to Teaching Writing	3
CNW:4631	Advanced Essay Workshop	3
CNW:4635	Advanced Creative Nonfiction Writing	3
CNW:4690	Undergraduate Project in Nonfiction Writing	1-2
CW:2100	Creative Writing	3
CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3
CW:3002	Writing and Reading Young Adult Fiction	3
CW:3107	Creative Writing for the Health Professions	3
CW:3215	Creative Writing and Popular Culture	3
CW:3218	Creative Writing for New Media	3
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3
CW:4870	Undergraduate Writers' Workshop: Fiction	arr.
CW:4875	Undergraduate Writers' Workshop: Poetry	arr.
CW:4894	Undergraduate Project in Creative Writing	arr.

## Area Determined by Course Content

The following course's area is designated either as literary theory and interdisciplinary studies or as modern British literature and culture, depending on course context, which varies by semester. Consult MyUI for the semester-specific area designation.

Code	Title	Hours
ENGL:3010	Children's Literature	3

## Historical Periods

Students must complete at least two courses from each of the following three historical periods.

- Early Literatures Through the 17th Century [p. 440]
- Literature of the 18th/19th Century [p. 440]
- Literature of the 20th/21st Century [p. 441]

## Early Literatures Through the 17th Century

Code	Title	Hours
ENGL:2206	Classical and Biblical Literature	3
ENGL:2216	Selected Works of the Middle Ages	3
ENGL:2236	Selected Early Authors	3
ENGL:3216	Topics in Medieval and Renaissance Literature	3
ENGL:3226	Literature and Culture of the Middle Ages	3

ENGL:3228	Literature and Culture of the Restoration	3
ENGL:3236	Literature and the Culture of the Renaissance	3
ENGL:3237	Literature and Culture of Seventeenth-Century England	3
ENGL:3246	16th- and 17th-Century Poetry	3
ENGL:3256	Old English Language and Literature	3
ENGL:3257	Old English Beowulf	3
ENGL:3266	Medieval Celtic Literature	3
ENGL:3267	Medieval Norse Literature	3
ENGL:3276	Medieval Drama	3
ENGL:3277	English Renaissance Drama	3
ENGL:3286	Chaucer	3
ENGL:3287	Shakespeare	3
ENGL:3296	Milton	3
ENGL:4009	Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century	3

## Literature of the 18th/19th Century

Code	Title	Hours
ENGL:2309	Selected British Authors Before 1900	3
ENGL:2329	Topics in Modern British Literature Before 1900	3
ENGL:2338	Eighteenth-Century British Literature	3
ENGL:2348	British Romanticism	3
ENGL:2359	Victorian Literature	3
ENGL:2409	Selected American Authors Before 1900	3
ENGL:2438	American Novel Before 1900	3
ENGL:3329	Literature and Culture of Eighteenth-Century Britain	3
ENGL:3338	Literature and Culture of the Romantic Period	3
ENGL:3339	Literature and Culture of Nineteenth-Century Britain	3
ENGL:3348	Literature and Culture of Nineteenth-Century Scotland	3
ENGL:3418	Literature and Culture of America Before 1800	3
ENGL:3419	Literature and Culture of Nineteenth-Century America	3
ENGL:3429	Topics in American Literature Before 1900	3
ENGL:3439	American Drama Before 1900	3
ENGL:3459	African American Literature Before 1900	3
ENGL:4005	Honors Seminar: American Literature, 18th/19th Century	3
ENGL:4006	Honors Seminar: British Literature, 18th/19th Century	3



ENGL:4007	Honors Seminar: Literary Theory and Interdisciplinary Studies, 18th/19th Century	3
ENGL:4008	Honors Seminar: Transnational and Postcolonial Literature, 18th/19th Century	3

## Literature of the 20th/21st Century

Code	Title	Hours
ENGL:2100	Introduction to Criticism and Theory	3
ENGL:2105	Disability in Literature and Cultural Theory	3
ENGL:2150	Introduction to the Short Story	3
ENGL:2160	Introduction to Drama	3
ENGL:2170	Introduction to the Essay	3
ENGL:2191	Modern Fiction	3
ENGL:2192	Postmodern Fiction	3
ENGL:2194	Lyric Structures	3
ENGL:2310	Selected British Authors After 1900	3
ENGL:2330	Topics in Modern British Literature After 1900	3
ENGL:2360	Twentieth-Century British Literature	3
ENGL:2361	Twenty-first-Century British Literature	3
ENGL:2410	Selected American Authors After 1900	3
ENGL:2440	American Novel After 1900	3
ENGL:2463	Topics in African American Literature	3
ENGL:2465	Selected African American Authors	3
ENGL:2475	Asian American Literature	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:2510	Selected Transnational Authors	3
ENGL:2570	Love, War, Activism: Stories About Women from Across the World	3
ENGL:2571	Visualizing Human Rights	3
ENGL:3100	Topics in Criticism and Theory	3
ENGL:3105	Topics in Popular Culture	3
ENGL:3130	Topics in Film and Literature	3
ENGL:3135	Narrative and the Cinema	3
ENGL:3145	Editorial Practice	3
ENGL:3150	Literature and Philosophic Thought	3
ENGL:3152	Literature and Society	3
ENGL:3171	Higher Education and Social Justice	3
ENGL:3173	Gender, Sexuality, and Literature	3
ENGL:3180	Media Studies	3
ENGL:3181	Digital Media and Poetics	3
ENGL:3182	Digital Cultures and Literacies	3
ENGL:3186	Science Fiction	3
ENGL:3350	Literature and Culture of 20th- and 21st-Century Britain	3
ENGL:3420	Literature and the Culture of Twentieth-Century America	3
ENGL:3430	Topics in American Literature After 1900	3
ENGL:3431	American Novel Since 1945	3
ENGL:3440	American Drama Since 1900	3
ENGL:3441	Native American Literature	3
ENGL:3455	Jewish American Literature	3
ENGL:3460	African American Literature After 1900	3
ENGL:3461	Twenty-First Century African American Literature	3
ENGL:3465	African American Autobiography	3
ENGL:3467	Latina/o/x Literatures and Cultures	3
ENGL:3470	Gender, Sexuality, and American Literature	3
ENGL:3489	Contemporary American Women Writers	3
ENGL:3510	Topics in Transnational Literature	3
ENGL:3515	Topics in Postcolonial Studies	3
ENGL:3520	Literature and Culture of the 20th and 21st Century	3
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3530	Caribbean Literature and Culture	3
ENGL:3532	Modernist Women Writers	3
ENGL:3535	Topics in Literature and Culture of the Americas	3
ENGL:3540	Literature of the Indian Subcontinent	3
ENGL:3550	African Literature	3
ENGL:3555	Topics in African Cinema	3
ENGL:3570	Transnational and Postcolonial Writing by Women	3
ENGL:3595	International Literature Today	1,3
ENGL:4001	Honors Seminar: American Literature, 20th/21st Century	3
ENGL:4002	Honors Seminar: British Literature, 20th/21st Century	3
ENGL:4003	Honors Seminar: Literary Theory and Interdisciplinary Studies, 20th/21st Century	3
ENGL:4004	Honors Seminar: Transnational and Postcolonial Literature, 20th/21st Century	3

ENGL:4172	London Performance Study	3
ENGL:4195	Interdisciplinary Studies	3

## Historical Period Determined by Course Content

The historical period of each of the following courses may be designated as early literatures through the 17th century, 18th/19th-century, or 20th/21st-century, depending on course content, which varies by semester. Consult MyUI for semester-specific period designations.

Code	Title	Hours
ENGL:2130	Introduction to the Novel	3
ENGL:2140	Introduction to Poetry	3
ENGL:2193	Literature, Culture, and Women	3
ENGL:2369	Topics in British Culture and Identity	3
ENGL:2420	American Literary Classics	3
ENGL:2425	American Poetry	3
ENGL:2450	American Short Story	3
ENGL:2560	Topics in Culture and Identity	3
ENGL:3010	Children's Literature	3
ENGL:3102	Topics in Poetry and Poetics	3
ENGL:3140	Literature and the Book	3
ENGL:3142	Topics in Book History	3
ENGL:3148	Literary Editing	3
ENGL:3155	Literature and Art	3
ENGL:3160	Literary Genres and Modes	3
ENGL:3165	Literature and the Environment	3
ENGL:3170	Literature and Social Justice	3
ENGL:3320	Modern British Drama	3
ENGL:3355	British Poetry	3
ENGL:3360	British Fiction	3
ENGL:3444	Literatures of the American Peoples	3
ENGL:3450	American Regional Literatures	3
ENGL:3462	African American Drama	3
ENGL:3580	Identity and Social Issues	3
ENGL:4000	English Honors Seminar	3
ENGL:4011	Honors Seminar: Creative Writing	3
ENGL:4150	Introduction to Book Studies	3

## Multiethnic Literature and Culture Requirement

Students must complete at least one course (3 s.h.) from the following.

Code	Title	Hours
ENGL:2463	Topics in African American Literature	3
ENGL:2465	Selected African American Authors	3
ENGL:2475	Asian American Literature	3
ENGL:3441	Native American Literature	3

ENGL:3444	Literatures of the American Peoples	3
ENGL:3455	Jewish American Literature	3
ENGL:3459	African American Literature Before 1900	3
ENGL:3460	African American Literature After 1900	3
ENGL:3461	Twenty-First Century African American Literature	3
ENGL:3462	African American Drama	3
ENGL:3465	African American Autobiography	3
ENGL:3467	Latina/o/x Literatures and Cultures	3

The following courses may fulfill the Multiethnic Literature and Culture requirement depending on course content, which varies by semester; consult MyUI for semester-specific information.

Code	Title	Hours
ENGL:2409	Selected American Authors Before 1900	3
ENGL:2410	Selected American Authors After 1900	2-3
ENGL:3160	Literary Genres and Modes	3
ENGL:3431	American Novel Since 1945	3
ENGL:3440	American Drama Since 1900	3
ENGL:3450	American Regional Literatures	3
ENGL:4150	Introduction to Book Studies	3
ENGL:4720	Advanced Creative Writing: Special Topic	3

## Publishing Track

The world of publishing includes many different careers: editors, designers, agents, even sales representatives. Students who are interested in these careers may wish to pursue the publishing track. By selecting courses carefully, students may complete the track without adding additional semester hours to their total credit required for graduation.

Courses range across print and digital media, exposing students to the history and practice of literary publishing while developing their skills in editing, proofreading, and writing with clarity and purpose. Internships and hands-on class learning offer students the opportunity to produce their own publications and gain practical experience.

Students in the publishing track must complete the following.

### Literary Publishing

Code	Title	Hours
Both of these (6 s.h.):		
CNW:2991	Publishing I: Introduction to Literary Publishing	3
CNW:2992	Publishing II: Advanced Literary Publication	3

### Editing, Book Design, or Revision

Code	Title	Hours
One of these (3 s.h.):		
ENGL:2900	Book Design for Publishing	3
ENGL:2901	Global Print Cultures	3

ENGL:3145	Editorial Practice	3
ENGL:3148	Literary Editing	3
CNW:3632	Prose Style	3

## History of the Book and the Publishing Industry

Code	Title	Hours
One of these (3 s.h.):		
ENGL:3140	Literature and the Book	3
ENGL:3142	Topics in Book History	3
ENGL:3180	Media Studies	3
ENGL:3181	Digital Media and Poetics	3
ENGL:3182	Digital Cultures and Literacies	3
ENGL:4150	Introduction to Book Studies	3

## Career Preparation

Code	Title	Hours
One of these (1-3 s.h.):		
ENGL:2040	English at Work	1
ENGL:4010	Special Project for Undergraduates	arr.
CCP:1201	Academic Internship	1-3

Students should consult the department's advisor for information about completing the English major with the publishing track.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in English and thereby enhance their course of study through honors seminars. All those interested in taking honors coursework are welcome to apply to the English Honors Program as soon as they qualify. The process begins with an online application; visit English Honors Programs on the Department of English website.

Students take three honors seminars and must achieve a University of Iowa g.p.a. of at least 3.33 and an English department g.p.a. of at least 3.50.

Each year the department offers between four and six scholarship and criticism seminars covering a wide range of subjects, authors, and methods. Limited to 16 students, honors seminars carry 3 s.h. of credit, meet three hours each week, and encourage class discussions that are lively and knowledgeable. Substantial reading and research are required and culminate in a 15-20 page essay. Students register for ENGL:4001 Honors Seminar: American Literature, 20th/21st Century through ENGL:4009 Honors Seminar: Medieval and

Early Modern Literature, Early Literature/17th Century. These courses cover different areas and historical periods, with possible focal points in American literature, British literature, literary theory, or transnational studies.

The third of the three honor seminars may be replaced with ENGL:4040 Undergraduate Honors Project, a capstone project. For this independent study option, interested students should seek out possible mentors in their junior year.

To register for a scholarly seminar, students are encouraged to have a University of Iowa g.p.a. of at least 3.33. In addition, they must have completed three English courses (not including introductory courses in nonfiction or creative writing) with an English major g.p.a. of at least 3.33; ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures; and ENGL:2012 Reading and Writing About the Novel through ENGL:2016 Reading and Writing About the Essay, and a departmental course of their choosing.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the English major.

## Career Advancement

The English major prepares students for a wide variety of career paths including teaching, medicine, law, graduate school, and jobs in the private and nonprofit sector where writing, organization, research, and communication is highly valued. Within a year of graduation, over 92 percent of Department of English students are employed or in graduate programs.

The department's advisor helps guide students in their career path. The Department of English partners with the Pomerantz Career Center to introduce career development strategies and offer resources to help students find internships and jobs. For more information, students are encouraged to explore Career Planning for English Majors on the Department of English website or enroll in the 1 s.h. course, ENGL:2040 English at Work.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** at least two courses in the major.

**Before the seventh semester begins:** at least four more courses (total of six) in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two more courses (total of eight) in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### English, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Major: "Reading and Writing About" course numbered ENGL:201X		3
RHET:1030 Rhetoric		4
GE CLAS Core: Diversity and Inclusion <sup>b</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>b, c</sup>		3
CSI:1600 Success at Iowa		2
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures <sup>d</sup>		3
ENGL:2030 Literary Readings Attendance		1
GE CLAS Core: Quantitative or Formal Reasoning <sup>b</sup>		3
GE CLAS Core: Social Sciences <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>17-18</b>
<b>Second Year</b>		
<b>Fall</b>		
WRIT:1600 Fast Fixes: Improving Your Writing in Six Short Weeks		1
Major: transnational literature course numbered ENGL:25XX or ENGL:35XX		3
GE CLAS Core: Natural Sciences with Lab <sup>b</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3

Elective course <sup>f</sup>		1
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: American 18th/19th-century multi-ethnic literature course numbered ENGL:24XX or ENGL:34XX (from select list of numbers from audit under multi-ethnic requirement or from advisor)		3
Major: creative nonfiction or fiction writing course <sup>g</sup>		3
Major: literary theory course numbered ENGL:21XX or ENGL:31XX		3
GE CLAS Core: Natural Sciences without Lab <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
ENGL:2040 English at Work		1
Major: elective course or English honors seminar #1 (prefix ENGL numbered 4000-4009)		3
Major: medieval literature course numbered ENGL:22XX or ENGL:32XX		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>b, c</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
Study Abroad (optional)		
Major: British 18th/19th-century literature course numbered ENGL:23XX or ENGL:33XX		3
GE CLAS Core: Historical Perspectives <sup>b</sup>		3
GE CLAS Core: International and Global Issues <sup>b</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Major: early literature/17th-century literature course numbered ENGL:22XX or ENGL:32XX		3
Major: elective course or English honors seminar #2 (prefix ENGL numbered 4000-4009)		3
Major: elective course		3
GE CLAS Core: Values and Culture <sup>b</sup>		3
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
Major: internship or English honors seminar #3 (prefix ENGL numbered 4000-4009) or alternative independent project <sup>h</sup>		3
Major: elective course		3
Major: elective course		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>125-129</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students majoring in English are not required to fulfill the GE CLAS Core Interpretation of Literature requirement but instead may substitute a Literary, Visual, and Performing Arts course excluding: DANC:1010 through DANC:2040, MUS:1001, and MUS:1020.
- d Major courses can be taken in any order as long as ENGL:2010 is taken before any 3000-level-course.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students may count up to 6 s.h. earned in courses with prefix CW toward the major.
- h Students may consult with their advisor if they wish to complete an independent study or special project.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# English and Creative Writing, B.A.

The major enables students to experience the historical, traditional, and innovative aspects of literature in English and the relationship between critical reading and creative writing. The major provides the transferable skills important for a liberal arts major, including the ability to think deeply and creatively, read complex texts with comprehension, and master writing and speaking skills at an advanced level.

The English and creative writing major introduces students to the wealth of resources associated with the University of Iowa and the Iowa City writing communities. For over 75 years, the Department of English and the University of Iowa Writers' Workshop have been leaders in the area of writing. The M.F.A. offered by the Nonfiction Writing Program and administered by the Department of English has been voted the top M.F.A. program in creative nonfiction in the United States. Likewise, the M.F.A. program in the Writers' Workshop is annually noted as the top graduate program in the country.

The international reputation of writing at Iowa is boosted by synergy across colleges, with the International Writing Program hosting published writers each fall from countries around the world and each spring traveling to other countries, taking Iowa writing on the road. This synergy helps the University and Iowa City draw writers of all ages and nationalities to its writing community. The community is bolstered by the strong readings series offered by the Nonfiction Writing Program, the Writers' Workshop, and Prairie Lights Books, with hundreds of readings archived by the Iowa Digital Library, creating a resource for future writers and scholars.

The status of Iowa City as a UNESCO City of Literature also has enriched the writing community, with people from across the Midwest visiting the city during the annual Book Festival. The recent Massive Open Online Courses (MOOCs) offered by the Department of English, "Every Atom: Walt Whitman's Song of Myself" and "Walt Whitman and the Civil War," as well as the International Writing Program's online series called "How Writers Write," have enrolled thousands of students and adult learners from around the world, enhancing the reputation of the University of Iowa as the "Writing University." The Iowa Summer Writing Festival, Iowa Young Writers' Studio, the Certificate in Writing, the Center for the Book, the Iowa Playwrights Workshop, and the Iowa Youth Writing Project all help to turn Iowa City into a destination for writers, who are drawn to the city for its heritage and for its current community of writers.

## Learning Outcomes

The goal is for students who graduate from the Department of English to demonstrate the skills of reflective reading, critical thinking, effective speaking, compelling writing, and engaged citizenship.

### Reflective Readers

- Analyze literary and cultural texts through close reading.
- Gain broad knowledge of several fields of literature.
- Grasp formal elements of key literary genres.
- Learn to read comparatively to illuminate aesthetic, social, and cultural contributions of texts.

### Critical Thinkers

- Approach texts with a spirit of critical inquiry and flexibility.
- Formulate productive questions.
- Use textual evidence to support individual interpretations.
- Draw upon several different critical approaches to literature in English.

### Effective Speakers

- Express opinions about the texts they read through discussion and written assignments.
- Listen respectfully to others' opinions.
- Work in class—whether through active listening or discussion—to learn by synthesizing a range of texts, insights, and opinions.

### Compelling Writers

- Express their ideas in clear, fluent, and lively prose.
- Organize their ideas effectively.
- Use textual evidence to illustrate and support their insights and arguments.
- Demonstrate the ability to write in different modes that are appropriate to particular contexts.
- Engage properly with relevant scholarship and creative work.
- Use research skills that include understanding of methods, technology, and conventions.

### Engaged World Citizens

- Communicate respect and understanding for the literatures and cultures of diverse historical periods, geographical regions, and cultures.
- Explore ethical issues raised by literature.
- Reflect on the ways that literature addresses issues of social justice.
- Use reading, speaking, and writing skills to engage with the ethical concerns raised by literature in their daily and professional lives.

## Requirements

The Bachelor of Arts in English and creative writing requires a minimum of 120 s.h., including at least 42 s.h. of work for the major. Of the 42 s.h., at least 36 s.h. must be selected from the Department of English courses (prefix ENGL, CNW, CW). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must earn at least 30 s.h. work for the major at the University of Iowa.

Students earning a major in English and creative writing may not earn a major in English.

For more information about teaching in elementary and/or secondary schools, see "Teacher Licensure" below. Students who plan to teach in elementary and/or secondary schools should consult with an advisor in the College of Education as early as possible; contact the Office of Student Services. The B.A. in English education [p. 1490] requires that students choose particular courses in the English and creative writing major in order to meet all related requirements; both degrees may be earned at the same time. Separate application to each degree program is required.

Students pursuing the B.A. in English and creative writing can choose to complete requirements for the publishing track; see "Publishing Track" below for information.

Only courses numbered above 2000 count toward the English and creative writing major. The following courses do not count toward the major.

Code	Title	Hours
CNW:1620	Introduction to Creative Nonfiction	3
CW:1800	Creative Writing Studio Workshop	3

Courses numbered ENGL:1000-ENGL:1999

The B.A. with a major in English and creative writing requires the following coursework.

Code	Title	Hours
Introductory Courses		6
Literature Core Courses		15
Multiethnic Literature and Culture Requirement (can be satisfied with a course from another area; 3.s.h.)		
Creative Writing Core Courses		18
Electives (prefix ENGL, CNW, or CW courses)		3
<b>Total Hours</b>		<b>42</b>

## Introductory Courses

Students complete both of the following.

Code	Title	Hours
ENGL:2010	Foundation of the English Major: Histories, Literatures, Pleasures	3
ENGL:2020	Foundations of Creative Writing: Craft, Practice, Pleasure	3

## Literature Core Courses

Core courses help students to learn and practice critical reading and analysis, to understand the relation of literature to history and culture, and introduce students to the context and tradition of literature written in English.

The area and historical periods for English courses are identified under English Courses [p. 421] in this section of the Catalog and in the MyUI course descriptions. Since most courses satisfy both an area requirement and a historical period requirement, most students complete these requirements with the same courses.

## Area Requirement

A minimum of 3 s.h. must be completed from each of the following five areas of English literary study for a minimum total of 15 s.h. of coursework:

- American literature and culture,
- literary theory and interdisciplinary studies,
- medieval and early modern literature and culture,
- modern British literature and culture, and
- transnational literature and postcolonial studies.

## Historical Period Requirement

A minimum of 3 s.h. from each of the following three historical periods in English literary study (total of 9 s.h.) must be completed:

- early literatures through the 17th century,
- 18th/19th-century literature, and
- 20th/21st-century literature.

## Multiethnic Literature and Culture Requirement

Students must complete at least one course (3 s.h.) from the following.

Code	Title	Hours
ENGL:2463	Topics in African American Literature	3
ENGL:2465	Selected African American Authors	3
ENGL:2475	Asian American Literature	3
ENGL:3441	Native American Literature	3
ENGL:3444	Literatures of the American Peoples	3
ENGL:3455	Jewish American Literature	3
ENGL:3459	African American Literature Before 1900	3
ENGL:3460	African American Literature After 1900	3
ENGL:3461	Twenty-First Century African American Literature	3
ENGL:3462	African American Drama	3
ENGL:3465	African American Autobiography	3
ENGL:3467	Latina/o/x Literatures and Cultures	3

The following courses may fulfill the Multiethnic Literature and Culture requirement depending on course content, which varies by semester; consult MyUI for semester-specific information.

Code	Title	Hours
ENGL:2409	Selected American Authors Before 1900	3
ENGL:2410	Selected American Authors After 1900	2-3
ENGL:3160	Literary Genres and Modes	3
ENGL:3431	American Novel Since 1945	3
ENGL:3440	American Drama Since 1900	3
ENGL:3450	American Regional Literatures	3
ENGL:4150	Introduction to Book Studies	3
ENGL:4720	Advanced Creative Writing: Special Topic	3

## Creative Writing Core Courses

The creative writing core provides courses in a range of literary genres. Students choose a minimum of 9 s.h. in electives and a minimum of 9 s.h. in advanced courses, as listed below. Students also can count any course from the "Advanced Requirements" list below as an elective (where appropriate) if they take more than the three required advanced courses.

## Creative Writing Electives

The creative writing electives give students flexible choices to focus on fiction, nonfiction, poetry, or other genres of writing, and allow students to experiment across genres. Courses focus on the particulars of craft, tradition, and innovation. Many of the courses are repeatable, enabling students to further develop in a particular writing form. Some of these courses have prerequisites.

Students must select a minimum of 9 s.h. from the following.

Code	Title	Hours
Courses numbered CNW:2680-CNW:4999		
Courses numbered CW:2000-CW:4999		
CINE:3361	Screenwriting: Short Form	3
CINE:3367	Screenwriting: Long Form	3
COMM:2077	Writing and Producing Television	3
SPAN:3060	Introductory Workshop on Creative Writing in Spanish	3
THTR:2301	Playwriting I	3
THTR:3301	Playwriting II	3
THTR:3310	Undergraduate Playwriting Workshop	1-3
THTR:3320	Writing for Film	3
TRNS:3179	Undergraduate Translation Workshop	3
WLLC:3208	Classical Chinese Literature Through Translation	3

## Advanced Requirements

Students must first complete the two introductory courses—ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures and ENGL:2020 Foundations of Creative Writing: Craft, Practice, Pleasure—before they enroll in advanced courses. Advanced courses give students flexible choices so they can focus on fiction, nonfiction, poetry, or other genres of writing, and provide the opportunity to experiment across genres. Courses focus on the particulars of craft, tradition, and innovation. Most of the advanced courses are repeatable and most have prerequisites.

Students must select a minimum of 9 s.h. in advanced creative writing courses from the following.

Code	Title	Hours
ENGL:4011	Honors Seminar: Creative Writing	3
ENGL:4012	Honors Seminar in Fiction	3
ENGL:4013	Honors Seminar in Poetry	3
ENGL:4014	Honors Seminar in Creative Nonfiction	3
ENGL:4020	Honors Thesis Workshop	3
ENGL:4030	Undergraduate Honors Project in Creative Writing	1-3
ENGL:4720	Advanced Creative Writing: Special Topic	3
ENGL:4721	Advanced Writers' Seminar: Fiction	3
ENGL:4722	Advanced Writers' Seminar: Poetry	3
ENGL:4723	Advanced Writers' Seminar: Nonfiction	3

ENGL:4724	Advanced Writers' Seminar: Literary Translation	3
ENGL:4725	Advanced Writers' Seminar: Playwriting	3
CNW:4631	Advanced Essay Workshop	3
CNW:4635	Advanced Creative Nonfiction Writing	3
CW:4870	Undergraduate Writers' Workshop: Fiction	arr.
CW:4875	Undergraduate Writers' Workshop: Poetry	arr.
CW:4885	Undergraduate Writers' Seminar	arr.
CINE:4377	Advanced Screenwriting I	4
CINE:4378	Advanced Screenwriting II	4
THTR:3310	Undergraduate Playwriting Workshop	1-3
THTR:6310	Special Topics in Playwriting	3

## Publishing Track

The world of publishing includes many different careers: editors, designers, agents, even sales representatives. Students who are interested in these careers may wish to pursue the publishing track. By selecting courses carefully, students may complete the track without adding additional semester hours to their total credit required for graduation.

Courses range across print and digital media, exposing students to the history and practice of literary publishing while developing their skills in editing, proofreading, and writing with clarity and purpose. Internships and hands-on class learning offer students the opportunity to produce their own publications and gain practical experience.

Students in the publishing track must complete the following.

### Literary Publishing

Code	Title	Hours
Both of these (6 s.h.):		
CNW:2991	Publishing I: Introduction to Literary Publishing	3
CNW:2992	Publishing II: Advanced Literary Publication	3

### Editing, Book Design, or Revision

Code	Title	Hours
One of these (3 s.h.):		
ENGL:2900	Book Design for Publishing	3
ENGL:2901	Global Print Cultures	3
ENGL:3145	Editorial Practice	3
ENGL:3148	Literary Editing	3
CNW:3632	Prose Style	3

### History of the Book and the Publishing Industry

Code	Title	Hours
One of these (3 s.h.):		
ENGL:3140	Literature and the Book	3
ENGL:3142	Topics in Book History	3
ENGL:3180	Media Studies	3
ENGL:3181	Digital Media and Poetics	3



ENGL:3182	Digital Cultures and Literacies	3
ENGL:4150	Introduction to Book Studies	3

## Career Preparation

Code	Title	Hours
One of these (1-3 s.h.):		
ENGL:2040	English at Work	1
ENGL:4010	Special Project for Undergraduates	arr.
CCP:1201	Academic Internship	1-3

Students should consult the department's advisor for information about completing the English and creative writing major with the publishing track.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in English and creative writing and thereby enhance their course of study through honors seminars. All those interested in taking honors coursework are welcome to apply to the English Honors Program as soon as they qualify. The process begins with an online application; visit English Honors Programs on the Department of English website.

Students take three honors seminars and must achieve a University of Iowa g.p.a. of at least 3.33 and a departmental g.p.a. of at least 3.50.

Each year the department offers between four and six creative writing seminars covering a wide range of genres, modes, and styles. Small and often workshop-oriented, these honors courses are open only to English and creative writing majors who have completed at least 24 s.h. of college-level work. Seminars are limited to 16 students, carry 3 s.h. of credit, and meet three hours each week.

Two of the three honors seminars are chosen from these selective admission courses. Early in the previous semester, those interested apply with a portfolio of their creative work; no minimum g.p.a. is required, and decisions are made in time for preregistration. Successful applicants then register for ENGL:4011 Honors Seminar: Creative Writing through ENGL:4014 Honors Seminar in Creative Nonfiction. Students may apply for only one seminar per semester.

The second of the two creative writing seminars may be replaced by ENGL:4030 Undergraduate Honors Project in Creative Writing, a capstone project. For this independent study option, interested students should seek out possible mentors in their junior year.

The third required honors course is a scholarship and criticism seminar chosen from courses numbered ENGL:4001 Honors Seminar: American Literature, 20th/21st Century through ENGL:4009 Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century, courses that offer a wide range of subjects, authors, methods, and eras. Limited to 16 students, these courses also carry 3 s.h. of credit, meet three hours each week, and encourage class discussions that are lively and knowledgeable. Substantial reading and research are required and culminate in a 15-20 page essay.

To register for a scholarly seminar, honors students in English and creative writing are encouraged to have a University of Iowa g.p.a. of at least 3.33. They also must have completed at least three courses: ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures; ENGL:2020 Foundations of Creative Writing: Craft, Practice, Pleasure; and a third departmental course of their choosing.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the English and creative writing major.

## Career Advancement

The English and creative writing major prepares students for a wide variety of career paths including teaching, medicine, law, graduate school, and jobs in the private and nonprofit sector where writing, organization, research, and communication is highly valued. Within a year of graduation, over 92 percent of Department of English students are employed or in graduate programs.

The department's advisor helps guide students in their career path. The Department of English partners with the Pomerantz Career Center to introduce career development strategies and offer resources to help students find internships and jobs. For more information, students are encouraged to explore Career Planning for English Majors on the Department of English website, or enroll in the 1 s.h. course, ENGL:2040 English at Work.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** at least six courses in the major, including ENGL:2010 Foundation of the English Major: Histories, Literatures, Pleasures; ENGL:2020 Foundations of Creative Writing: Craft, Practice, Pleasure; and an approved introduction to creative writing course (consult advisor).

**Before the seventh semester begins:** at least four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### English and Creative Writing, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ENGL:2020	Foundations of Creative Writing: Craft, Practice, Pleasure	3
RHET:1030	Rhetoric	4
GE CLAS Core: Diversity and Inclusion <sup>b</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>b, c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
ENGL:2030	Literary Readings Attendance	1
Major: creative writing elective <sup>d</sup>		3
GE CLAS Core: International and Global Issues <sup>b</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>b</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		2 - 3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
ENGL:2010	Foundation of the English Major: Histories, Literatures, Pleasures <sup>f</sup>	3
Major: creative writing elective		3
GE CLAS Core: Natural Sciences without Lab <sup>b</sup>		3
GE CLAS Core: Values and Culture <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: ENGL:4720 Advanced Creative Writing: Special Topic or ENGL course numbered 4721-4725 or English CW honors seminar (ENGL:401X)		3
Major: literary theory course numbered ENGL:21XX, ENGL:31XX, or ENGL:41XX		3
GE CLAS Core: Natural Sciences with Lab <sup>b</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		2 - 3

Students with a second major in screenwriting arts should complete CINE:1300 Foundations of Screenwriting, CINE:1601 Introduction to Film Analysis, and CINE:1834 Modes of Film and Video Production by the end of the second year to be on track for graduation with a double major.

<b>Hours</b>		<b>16-18</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: multiethnic American literature and culture course numbered ENGL:24XX or ENGL:34XX (refer to degree audit or advisor's notes for approved courses)		3
Major: ENGL:4720 Advanced Creative Writing: Special Topic or ENGL course numbered 4721-4725 or English CW honors seminar (ENGL:401X) or other advanced writing course		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>b, h</sup>		3
GE CLAS Core: Social Sciences <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
Study Abroad (optional)		
Major: British 18th/19th-century literature course numbered ENGL:23XX or ENGL:33XX or ENGL:4006		3
Honors Seminar: British Lit, 18/19 C		
Major: ENGL:4720 Advanced Creative Writing: Special Topic or ENGL course numbered 4721-4725 or English CW honors seminar (ENGL:401X) or other advanced writing course		3
GE CLAS Core: Historical Perspectives <sup>b</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>17-18</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ENGL:2040	English at Work	1
Major: advanced writing elective or creative writing honors course or approved independent study project (see advisor)		3
Major: early literature/17th-century literature course numbered ENGL:22XX or ENGL:32XX		3
Major: elective writing or literature course		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
Major: transnational literature course numbered ENGL:25XX or ENGL:35XX		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall) <sup>i</sup>

<b>Hours</b>	<b>12</b>
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<b>Total Hours</b>	<b>123-129</b>
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- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Recommended courses to fulfill this requirement:  
THTR:2301 or CW:1800
- d Students with a second major in screenwriting arts or theatre arts will usually fulfill this elective with a writing course from that major.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Major courses can be taken in any order as long as ENGL:2010 is taken before any 3000-level course.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- h Students majoring in English are not required to fulfill the GE CLAS Core Interpretation of Literature requirement but instead may substitute a Literary, Visual, and Performing Arts course excluding: DANC:1010 through DANC:2040, MUS:1001, and MUS:1020.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# English, Minor

## Requirements

The undergraduate minor in English requires a minimum of 15 s.h. in English courses, including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Students may count a maximum of 3 s.h. of approved transfer credit toward the minor. Before taking courses for the minor, students must complete the GE CLAS Core [p. 20] requirement, ENGL:1200 The Interpretation of Literature.

The minor must include at least 6 s.h. in literature courses numbered ENGL:2100 through ENGL:4810; the remaining 9 s.h. may be selected from additional courses in literature and from most courses in writing (prefixes CNW and CW), with a maximum of 6 s.h. earned in courses with the prefix CW.

Only courses numbered above 2000 count toward the English minor. The following courses do not count toward the English minor.

Code	Title	Hours
CNW:1620	Introduction to Creative Nonfiction	3
CW:1800	Creative Writing Studio Workshop	3

Courses numbered ENGL:1000-ENGL:1645

Students may declare the English minor on MyUI. In order for the minor to be recorded, students must indicate completion of the minor on their degree application.

Students who would like help declaring the minor or in planning how to meet its requirements may stop by the Department of English advising office or schedule an appointment with an advisor by contacting the English department's front desk administrator.

## English, M.A.

The Master of Arts program in English introduces students to the professional study of literature.

The M.A. is appropriate for students who would like graduate training in English and who may have an undergraduate major in a different field or who may intend to earn a Ph.D. at another institution. Students interested in careers in any area of book studies (professional writing, editing, web design, or publishing) may wish to earn the M.A. as a terminal degree, as may teachers seeking to enhance their credentials or students pursuing intellectual growth unrelated to a specific career.

M.A. and Ph.D. students in English mix freely in graduate courses, share the same access to faculty, and meet the same standards of quality in their work.

### Exam for the Master of Arts in Teaching

The department administers the English component of the exam for the Master of Arts in Teaching (M.A.T.) in coordination with the College of Education. M.A.T. students should contact the Department of Teaching and Learning (College of Education) for information.

### Learning Outcomes

- **Historical knowledge:** comprehensive historical knowledge of literary history, reflected in courses taken across a range of literary periods and national/international traditions.
- **Critical theory and approaches:** rigorous study of critical methodologies and interpretive strategies.
- **Research skills:** this includes familiarity with library research into secondary scholarship on primary texts, archival research methods, and field research, where applicable.
- **Writing skills:** proficiency in writing means publishable-quality writing at the academic level (e.g., what one would expect from an article placed in a scholarly journal).
- **Teaching skills:** ideally, students will move from foundations-based grading positions under the supervision of tenure track faculty (introduction to the major) to rhetoric/composition coursework (rhetoric), and then on to literary analysis focused courses (general education literature). Students learn to build their own syllabi, develop a teaching portfolio, and manage their own courses independently.
- **Professional development:** this includes conference presentations, curriculum vitae and résumé building, and teaching statements, along with exposure to career tracks, both academic (e.g., tenure track jobs, liberal arts colleges, community colleges, etc.) and alternative professions (e.g., digital humanities, humanities organizations, publishing, etc.).

### Requirements

The Master of Arts program in English requires a minimum of 31 s.h. of graduate credit. The program's focus is literary studies. Students may receive credit for up to 6 s.h. of transfer courses toward the M.A. degree. They must maintain a cumulative University of Iowa g.p.a. of at least 3.00. Students who wish to transfer to Iowa's Ph.D. program must complete two semesters or 15 s.h. of coursework in literature

(whichever is completed first) before applying for admission to the doctoral program.

### Coursework

Each student must take seven English courses numbered 5000 or above as indicated below. Applicable transfer courses must be approved by the director of graduate study in English.

Code	Title	Hours
All of these:		
ENGL:5000	Introduction to Graduate Study	3
One course in criticism and theory numbered 5000 or above		
Four readings or seminar courses numbered 5000 or above, chosen from the following five eras of British, American, and/or Anglophone literature and culture: pre-1500, 1500-1660, 1660-1800, 1800-1900, 20th and 21st centuries		
One of these:		
ENGL:5990	M.A. Portfolio in Literary Studies	arr.
ENGL:5999	M.A. Thesis in Literary Studies	arr.

Elective courses constitute less than half of the total credit for the degree and may be chosen from graduate courses both in and outside the English department. Students may wish to explore opportunities for interdisciplinary study, language study, experience in theory and practice of writing, or specialization in a field of literary scholarship.

Department of English graduate courses are repeatable with the written approval of the department's director of graduate studies.

Completion of the M.A. requires either a thesis or a portfolio. Students submit a written description of their choice to the director of the program before the semester in which they plan to graduate.

### M.A. Thesis

Students who choose to write a thesis must submit a brief prospectus approved by a thesis director before they register for thesis credit and at least one semester before they submit the thesis. The thesis committee consists of the thesis director, the director of the M.A. program, and one other faculty member. The thesis is evaluated by the committee as either satisfactory or unsatisfactory.

A copy of the thesis must be presented to the Graduate College for approval. For detailed information about Graduate College deadlines and policies, see the Manual of Rules and Regulations on the Graduate College website.

### Portfolio

Near the end of their coursework, students who do not choose the thesis option must submit a portfolio of work to the M.A. examination committee, which consists of the director of the M.A. program and two other English faculty members. All three read the full portfolio. To pass, the candidate must have a majority vote of the committee members.

Students take the first step toward preparing to submit a portfolio by meeting with the director of the M.A. program to discuss the portfolio, early during the semester in which they plan to graduate. After fulfilling all distribution and eligibility

requirements and clearing all incomplete grades, students present the director with a draft of the portfolio's introductory statement. Students planning to graduate at the end of fall semester should present the statement by the first week of October; those who plan to graduate at the end of spring semester should present the statement by the first week of March. Once the director approves the statement, the student must submit three copies of the full portfolio; the submission deadline is November 1 for students planning to graduate at the end of fall semester and April 1 for those who will graduate at the end of spring semester.

The work in the portfolio should demonstrate the student's knowledge of literature as a broad historical and theoretical inquiry. Students submit approximately 50 pages (12,500 words) of their best work, along with a self-reflective introductory statement of five to seven pages. The body of the portfolio should contain revised versions of papers originally produced for classes. The introduction should detail the student's trajectory in the program and the literary-critical or methodological skills gained. It also should explain the contents of the portfolio, contextualize each paper, and give a brief overview of the writing. Students are expected to describe the research methods used in assembling their portfolios and the critical practices that ground their work.

## Admission

Applications and all supporting documents for graduate admission must be submitted electronically by December 14. Applicants should submit their applications and supporting materials to the University of Iowa Office of Admissions website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

The Master of Arts in English degree helps prepare students for careers in professional writing, editing, web design, and publishing. It also is desirable for teachers seeking to enhance their credentials.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### English, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. of graduate level coursework must be completed; up to 6 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Maintain a cumulative GPA of at least 3.00.		
<b>Hours</b>		<b>0</b>

### First Year

<b>Fall</b>		
ENGL:5000	Introduction to Graduate Study	3
	Criticism and Theory course <sup>b</sup>	3
	Historical Period course <sup>c</sup>	3
<b>Hours</b>		<b>9</b>

<b>Spring</b>		
	Historical Period course <sup>c</sup>	3
	Historical Period course <sup>c</sup>	3
	Elective course <sup>d, e</sup>	3
<b>Hours</b>		<b>9</b>

### Second Year

<b>Fall</b>		
	Historical Period course <sup>c</sup>	3
	Elective course <sup>d, e</sup>	3
	Elective course <sup>d, e</sup>	3
<b>Hours</b>		<b>9</b>

<b>Spring</b>		
ENGL:5990	M.A. Portfolio in Literary Studies <sup>f</sup>	1 - 3
	Elective course <sup>d, e</sup>	3
<b>Hours</b>		<b>4-6</b>
<b>Total Hours</b>		<b>31-33</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Numbered 5000 or above; ENGL:6000 Introduction to Contemporary Theory recommended.
- c English readings or seminar course numbered 5000 or above, chosen from the following five eras of British, American, and/or Anglophone literature and culture: pre-1500, 1500-1660, 1660-1800, 1800-1900, 20th and 21st centuries.
- d Students may wish to explore opportunities for interdisciplinary study, language study, experience in theory and practice of writing, or specialization in a field of literary scholarship. Work with faculty advisor to determine appropriate coursework and sequence.
- e May be chosen from graduate coursework in English (numbered 5000 or above), or outside the department (numbered 3000 or above).
- f Submit portfolio to the MA examination committee.

# English (creative writing), M.F.A.

The Master of Fine Arts in English with a creative writing subprogram features advanced courses in writing fiction and poetry. Students in creative writing study at the Iowa Writers' Workshop, renowned as a pioneer in teaching writers since its founding in 1936.

## Learning Outcomes

Students will:

- develop a common understanding and appreciation of the history and range of traditions of nonfiction writing, including forms such as the essay, lyric essay, memoir, journalism, and experimental writing;
- explore and practice the range of narrative strategies, prose styles, and approaches to stylistic analysis through workshop courses;
- develop familiarity and experience with a range of research skills necessary to support the rigorous practice of nonfiction, including major theoretical approaches, and engage in reading-intensive discussions exploring new fields of nonfiction, including new writing technologies and media;
- develop an individual teaching philosophy and practical skills for teaching creative nonfiction writing, including designing courses for different audiences, crafting syllabi, producing exercises, maintaining vibrant classroom discussions, and learning helpful strategies for providing constructive feedback to the writing of others;
- engage in outreach programs making nonfiction expertise and instruction available to various audiences through master classes and other public formats;
- develop an understanding of the practical aspects of a writer's professional life, including an understanding of the basic operations of the publishing world and the necessary protocols leading to publication; and
- craft a long-form project in nonfiction: write a thesis of at least 75 pages of publishable-quality prose, the capstone of a graduate student's career in the Nonfiction Writing Program.

## Requirements

The Master of Fine Arts program in English with a creative writing subprogram requires a minimum of 48 s.h. of graduate credit. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.00. The degree is offered through the Creative Writing Program (Iowa Writers' Workshop), a two-year residency program that culminates in a creative thesis, such as a novel, a collection of stories, or a book of poetry.

Throughout the program, workshop students craft their manuscripts and engage in an exchange of ideas about writing and reading with each other and with the renowned teacher-authors who make up the workshop's faculty.

Admission to the program is competitive.

For details about the M.F.A. in English (creative writing) and about the Iowa Writers' Workshop, see Creative Writing (Iowa Writers' Workshop) [p. 353] in the Catalog.

# English (nonfiction writing), M.F.A.

The Master of Fine Arts in English with a nonfiction writing subprogram (emphasis in creative nonfiction) is offered through the Nonfiction Writing Program, one of the few programs in the nation that offers a full range of graduate courses in nonfiction.

## Learning Outcomes

Students will:

- develop a common understanding and appreciation of the history and range of traditions of nonfiction writing including forms such as the essay, lyric essay, memoir, journalism, and experimental writing;
- explore and practice the range of narrative strategies, prose styles, and approaches to stylistic analysis through workshop courses;
- develop familiarity and experience with a range of research skills necessary to support the rigorous practice of nonfiction, including major theoretical approaches, and engage in reading-intensive discussions exploring new fields of nonfiction, including new writing technologies and media;
- develop an individual teaching philosophy and practical skills for teaching creative nonfiction writing, including designing courses for different audiences, crafting syllabi, producing exercises, maintaining vibrant classroom discussions, and learning helpful strategies for providing constructive feedback to the writing of others;
- engage in outreach programs making nonfiction expertise and instruction available to various audiences through master classes and other public formats;
- develop an understanding of the practical aspects of a writer's professional life, including an understanding of the basic operations of the publishing world and the necessary protocols leading to publication; and
- craft a long-form project in nonfiction: write a thesis of at least 75 pages of publishable-quality prose, the capstone of a graduate student's career in the Nonfiction Writing Program.

## Requirements

The Master of Fine Arts program in English with a nonfiction writing subprogram requires a minimum of 48 s.h. of graduate credit taken at the University of Iowa. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.00. The program is designed for accomplished students and writers of literary nonfiction; most complete it in three years.

In addition to coursework, students are required to complete a thesis. The thesis may be a single extended piece of nonfiction, a collection of shorter nonfiction pieces, or a collection of essays. Whatever the project, the thesis is expected to be of publishable quality. The program culminates in a thesis of at least 75 pages. Students have plentiful room in their schedules to take advantage of a variety of electives offered by the English department and all other University of Iowa departments.

Department of English graduate courses are repeatable with the written approval of the department's director of graduate studies.

The M.F.A. in English with a nonfiction writing subprogram requires the following.

Code	Title	Hours
All of these:		
Workshops numbered CNW:6610 to CNW:6630		20
Seminars numbered CNW:6650 to CNW:6660		15
Two courses numbered 3000 or above from any department		6
CNW:6666	Performance and Profession	3
CNW:7950	Thesis in Nonfiction Writing	4-8

For more information, consult the director of the Nonfiction Writing Program.

## Admission

Applications and all supporting documents for graduate admission must be submitted electronically by December 14. Applicants should submit their applications and supporting materials to the University of Iowa Office of Admissions website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Graduate scholarships, fellowships, and teaching and research assistantships are awarded on a competitive basis. The department strives to provide three years of support for students who maintain good standing, which requires a University of Iowa g.p.a. of at least 3.00, full-time enrollment, and satisfactory progress through the program.

Financial aid applications are considered only from students who have applied or been admitted to a degree program in the Graduate College. Applications and all necessary supporting material must be submitted by the end of January for the following academic year. Forms are available from the Department of English Graduate Studies Office.

## Career Advancement

Our Alum on the Department of English website provides information about Nonfiction Writing Program graduates.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### English (nonfiction writing), M.F.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
48 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		



Maintain a cumulative GPA of at least 3.00.

<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CNW:6610	Essay Writing Workshop <sup>c</sup>	4
or CNW:6620	or Nonfiction Writing Workshop	
CNW:6654	Forms of the Essay <sup>d, e</sup>	3
CNW:5375	Teaching in a Writing Center <sup>d, f</sup>	3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
CNW:6620	Nonfiction Writing Workshop <sup>c</sup>	4
or CNW:6610	or Essay Writing Workshop	
Seminar Elective <sup>d</sup>		3
Seminar Elective <sup>d</sup>		3
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
CNW:6620	Nonfiction Writing Workshop <sup>c</sup>	4
or CNW:6610	or Essay Writing Workshop	
Seminar Elective <sup>d</sup>		3
Seminar Elective <sup>d</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
CNW:6610	Essay Writing Workshop <sup>c</sup>	4
or CNW:6620	or Nonfiction Writing Workshop	
CNW:6666	Performance and Profession <sup>d</sup>	3
Seminar Elective <sup>d</sup>		3
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Fall</b>		
CNW:7950	Thesis in Nonfiction Writing <sup>g</sup>	2
CNW:6630	Graduate Thesis Workshop <sup>c</sup>	4
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
CNW:7950	Thesis in Nonfiction Writing <sup>g</sup>	2
<b>Hours</b>		<b>2</b>
<b>Total Hours</b>		<b>48</b>

g Complete a total of 4-8 s.h. of thesis credit with a maximum of 2 s.h. each semester; select your director from list when registering for CNW:7950.

a Work with faculty advisor to determine appropriate graduate coursework and sequence of workshops, seminars, and electives.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Total of five workshops (20 s.h.) from courses numbered CNW:6610 to CNW:6630 is required.

d Total of eight seminar courses is required. At least six courses (18 s.h.) must be from courses numbered CNW:6650 to CNW:6666 (CNW:6666 required during second year spring semester); two courses numbered 3000 or above (maximum of 6 s.h.) may be from any department.

e Required first year fall semester course; counts towards seminar requirement.

f Note: CNW:5375 is optional but required for future appointments in Writing Center; counts towards seminar requirement.

## English, Ph.D.

The Doctor of Philosophy program in English is designed as preparation for the teaching, publishing, and administrative service required of a career in academia or academic-adjacent fields, and to provide depth of study in the field of English. Concentrations are offered in areas such as literary history and critical theory, as well as interdisciplinary areas such as cultural studies, pedagogy, and the digital humanities.

The department now offers a streamlined version of the Ph.D. that incorporates book studies, including a certificate from the Center for the Book [p. 1720]. For further information, see English literary studies and the specialization in book studies on the department's website.

### Learning Outcomes

- **Historical knowledge:** comprehensive historical knowledge of literary history, reflected in courses taken across a range of literary periods and national/international traditions.
- **Critical theory and approaches:** rigorous study of critical methodologies and interpretive strategies.
- **Research skills:** this includes familiarity with library research into secondary scholarship on primary texts, archival research methods, and field research, where applicable.
- **Writing skills:** proficiency in writing means Ph.D. publishable-quality writing at the academic level (e.g., what one would expect from an article placed in a scholarly journal).
- **Teaching skills:** ideally, students will move from foundations-based grading positions under the supervision of tenure track faculty (introduction to the major) to rhetoric/composition coursework (rhetoric), and then on to literary analysis focused courses (general education literature). Students learn to build their own syllabi, develop a teaching portfolio, and manage their own courses independently.
- **Professional development:** this includes conference presentations, curriculum vitae and résumé building, and teaching statements, along with exposure to career tracks, both academic (e.g., tenure track jobs, liberal arts colleges, community colleges, etc.) and alternative professions (e.g., digital humanities, humanities organizations, publishing, etc.).

### Requirements

The Doctor of Philosophy program in English requires a minimum of 72 s.h. of graduate credit. Students may receive credit for up to 18 s.h. of transfer courses. They must maintain a cumulative University of Iowa g.p.a. of at least 3.00. Concentrations are offered in areas such as literary history and critical theory, as well as interdisciplinary areas such as cultural studies and transnational studies.

Of the minimum 72 s.h. required for the degree, at least 51 s.h. must be in graded coursework numbered 3000 or above. Of those, at least 30 s.h. must be in English courses numbered 5000 or above, 21 s.h. in courses numbered 3000 or above may be taken in the Department of English or in another unit, and 9 s.h. taken in independent studies related to a comprehensive exam. The remaining 12 s.h. of post-comprehensive courses numbered 3000 or above may be taken as graded or independent study coursework.

The book studies specialization requires 72 s.h. in courses numbered 3000 or above. Of those, at least 24 s.h. must be in English courses numbered 5000 or above, 15 s.h. must be in Center for the Book courses numbered 4000 or above (see Center for the Book [p. 1720] in the Graduate College section of the Catalog), 12 s.h. in courses numbered 3000 or above may be taken in the Department of English or in another unit, and 9 s.h. taken in independent studies related to a comprehensive exam. The remaining 12 s.h. of post-comprehensive courses numbered 3000 or above may be taken as graded or independent study coursework.

Students must gain formal admission to Ph.D. candidacy by a vote of the Graduate Steering Committee, usually during the third semester of doctoral study.

Students complete coursework in literature and culture of any four of these historical periods, as expressed in texts of the English-speaking and -writing world (usually but not always British or American): pre-1500, 1500-1660, 1660-1800, 1800-1900, 20th and 21st centuries. They also complete three seminars in the Department of English at the University of Iowa.

Students also must fulfill the program's world language requirement, usually by taking a standardized test or completing an advanced undergraduate course numbered 3000 or above in a language other than English.

The comprehensive examination consists of the following: a portfolio of five scholarly questions based on a period of literary history (usually British or American), a review essay and annotated bibliography in a special area of interest, two course syllabi or alternate materials pertaining to an academic-adjacent career, an article to be submitted for publication, and an introduction to the portfolio that synthesizes its parts in preparation for a two-hour oral exam.

A dissertation is required. Students present their prospectus formally to a faculty committee and must undergo a final exam defending the dissertation.

All doctoral candidates are strongly advised to gain teaching experience, preferably in the College of Liberal Arts and Sciences Department of Rhetoric and in GE CLAS Core [p. 20] literature courses.

For application forms and a complete description of the Ph.D. program, contact the department's graduate program academic coordinator.

### Admission

Applications and all supporting documents for graduate admission must be submitted electronically by December 14. Applicants should submit their applications and supporting materials to the University of Iowa Office of Admissions website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Financial Support

Graduate scholarships, fellowships, and teaching and research assistantships are awarded on a competitive basis. The department strives to provide five years of support for students who enter with an M.A. and six years of support for students who enter with a B.A. Students must be in good standing, which requires a University of Iowa g.p.a. of at least

3.00, full-time enrollment, and satisfactory progress through the program.

Financial aid applications are considered only from students who have applied or been admitted to a degree program in the Graduate College. Applications and all necessary supporting material must be submitted by the end of January for the following academic year. Forms are available from the Department of English Graduate Studies Office.

## Career Advancement

Most Ph.D. graduates seek employment at colleges and universities. Although the Department of English cannot guarantee such employment, it does supply vigorous assistance. Because there is no certainty that all doctoral graduates in English will find continuing academic employment, it is valuable to remain open to the opportunity of jobs outside the profession of teaching. A number of graduates are finding employment in academic administration, the digital humanities, business, and government.

See Ph.D. Placement for information about Ph.D. job placement within and without academia on the department's website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### English, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. of graduate level coursework must be completed; up to 18 s.h. of graduate transfer credits from an accredited institution allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b, c</sup>		
Maintain a cumulative GPA of at least 3.00.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ENGL:5000	Introduction to Graduate Study <sup>d</sup>	3
ENGL:6000	Introduction to Contemporary Theory	3
Seminar course <sup>e</sup>		3
Historical Period course <sup>f</sup>		3
ENGL:6950	Colloquium: Teaching Foundations of the English Major	1
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
Seminar course <sup>e</sup>		3
Elective course <sup>g</sup>		3
Historical Period course <sup>f</sup>		3
ENGL:6950	Colloquium: Teaching Foundations of the English Major	1

World Language requirement<sup>h</sup>

<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
Historical Period course <sup>f</sup>		3
Elective course <sup>g</sup>		3
Seminar course <sup>e</sup>		3
RHET:5350	Colloquium: Teaching Rhetoric	3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
Historical Period course <sup>f</sup>		3
Elective course <sup>g</sup>		3
English Elective course (numbered 5000 or above) <sup>g</sup>		3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Fall</b>		
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
English Elective course (numbered 5000 or above)		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ENGL:7910	Advanced Studies in a Literary Period <sup>i</sup>	3
ENGL:7960	Advanced Studies in a Literary Theme <sup>j</sup>	3
ENGL:7970	Advanced Studies in Literary Criticism <sup>k</sup>	3
ENGL:6960	Colloquium: Teaching Literature <sup>l</sup>	2
Comprehensive Exam <sup>m</sup>		
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
ENGL:7999	Ph.D. Thesis <sup>n</sup>	1
<b>Hours</b>		<b>1</b>
<b>Fifth Year</b>		
<b>Fall</b>		
ENGL:7999	Ph.D. Thesis <sup>n</sup>	1
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
ENGL:7999	Ph.D. Thesis <sup>n</sup>	1
<b>Hours</b>		<b>1</b>
<b>Sixth Year</b>		
<b>Fall</b>		
ENGL:7999	Ph.D. Thesis <sup>n</sup>	1
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
ENGL:7999	Ph.D. Thesis <sup>n</sup>	1
Final Oral Exam (Dissertation Defense) <sup>o</sup>		
<b>Hours</b>		<b>1</b>
<b>Total Hours</b>		<b>72</b>

a A minimum of 51 s.h. must be graded coursework numbered 3000 or above with at least 30 s.h. in English courses numbered 5000 or above.

- b Students may pursue certificates (including the book studies/book arts and technologies certificate), in conjunction with completing the degree requirements for the PhD. For more information check with the Graduate Program Coordinator.
- c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- d Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- e Prior to Comprehensive Exam, complete three seminars (ENGL:7000 level) in the department.
- f Prior to Comprehensive Exam, complete coursework in literature and culture of any four of these historical periods, as expressed in texts of the English-speaking and -writing world (usually but not always British or American): pre-1500, 1500-1660, 1660-1800, 1800-1900, 20th and 21st centuries.
- g Work with faculty advisor to determine appropriate graduate coursework and sequence; graduate transfer credits allowed upon approval.
- h Prior to Comprehensive Exam, take a standardized test or complete an advanced undergraduate course numbered 3000 or above in a language other than English.
- i Independent studies with historical Comprehensive Exam faculty members.
- j Independent studies with special area Comprehensive Exam faculty members.
- k Independent studies with article Comprehensive Exam faculty members.
- l Required for TA employment.
- m Requires a portfolio of five scholarly questions based on a period of literary history (usually British or American); a review essay and annotated bibliography in a special area of interest; two course syllabi; an article to be submitted for publication; and an introduction to the portfolio that synthesizes its parts in preparation for a two-hour oral exam. See the General Catalog and department website for specifics.
- n Post-Comprehensive Exam registration for thesis credit is required every fall and spring semester until graduation.
- o Students present their prospectus formally to a faculty committee and must undergo a final exam defending the dissertation.

# English as a Second Language

## Director

- Melissa Meisterheim

## Assistant Director

- Jeffrey D. Knowling

**Faculty:** <https://esl.uiowa.edu/people>

**Website:** <https://esl.uiowa.edu/>

The University of Iowa offers English as a Second Language (ESL) instruction in three distinct, but related, programs: ESL credit classes, the Iowa Intensive English Program (IIEP), and the Teaching Assistant Preparation in English program (TAPE).

These programs meet the needs of students whose first language is not English. ESL credit classes help students raise their English proficiency so they can complete a degree successfully. IIEP provides intensive instruction for students who must raise their English proficiency to gain admission to a university or college. TAPE helps students improve their oral competence in English so they may assume classroom teaching responsibilities.

## Programs

### ESL Credit Program

English as a Second Language credit classes bridge the gap between full-time language instruction and full-time academic work, serving students who have taken the English Proficiency Evaluation (EPE) and who have been found to need additional English language support. ESL courses are offered to help students increase their proficiency in four skill areas: reading, writing, speaking, and listening. A course in grammar also is available. Each course offers 3 s.h. of credit, which undergraduates may count as elective credit toward graduation. Courses are taught by ESL lecturers and by teaching assistants pursuing advanced degrees in linguistics.

Courses taken to meet the College of Liberal Arts and Sciences English proficiency requirement must be completed with a grade of C or higher. If a student earns a grade of C-minus or lower in an ESL course, the course must be retaken in order for the student to fulfill the ESL course requirement. An ESL course must be taken for a letter grade and may not be taken pass/nonpass or satisfactory/unsatisfactory. Students are not allowed to drop ESL courses once the semester begins. A student held for ESL courses may not enroll in a rhetoric course until the ESL requirement is completed.

Visit the ESL Credit Program website for more information.

### Iowa Intensive English Program (IIEP)

The Iowa Intensive English Program (IIEP) serves students who have not yet achieved the language proficiency needed to compete successfully in a degree program. The program welcomes international students preparing to enter universities and colleges in the United States as well as other adults who want to improve their English skills. Conditional admission to the University of Iowa is possible for undergraduate students. For more details regarding conditional admission, visit International Conditional Admission Program on the IIEP website or International Students on the Office of Admissions website.

IIEP offers intensive English instruction and a cultural, social, and academic orientation to the United States. Instruction emphasizes proficiency in spoken and written English, which is crucial to college and university work. Grammar and the basic language skills of writing, reading, listening comprehension, and speaking are taught each day at all levels, from beginning through advanced. Instruction is by full-time professional ESL instructors.

Each IIEP student receives 20-22 hours of classroom instruction each week (27 hours per week in summer). IIEP students have full access to all University facilities. Field trips and cultural and social experiences are integral parts of the program.

International students admitted to the IIEP receive a certificate of eligibility (Form I-20), which enables them to apply for a student visa at the nearest U.S. consulate or embassy. Application materials are available from the ESL Programs Office and on the Iowa Intensive English Program website.

### Teaching Assistant Preparation in English (TAPE)

The Teaching Assistant Preparation in English program (TAPE) is designed for graduate students whose first language is not English, who need additional work on English communication, and who will hold teaching assistantships while enrolled at the University of Iowa. Only students who need the program and who have sufficient competence in English to profit from it are eligible. TAPE courses are open to graduate students who have been evaluated for TA certification and to others if space is available. Students are taught by full-time professional ESL instructors.

## Courses

- English as a Second Language Courses [p. 461]
- Iowa Intensive English Program Courses [p. 462]
- Teaching Assistant Preparation in English Courses [p. 464]

## English as a Second Language Courses

The following courses are for students whose first language is not English. Courses taken to meet the College of Liberal Arts and Sciences English proficiency requirement may not be taken pass/nonpass. English as a Second Language (ESL) courses may not be taken as satisfactory/unsatisfactory. In order to enroll in ESL courses, students must take the English Proficiency Evaluation (EPE) or receive consent from the ESL office.

**ESL:0100 ESL: Transitional Oral Skills** **0 s.h.**  
Speaking skills for the U.S. academic setting and society; pronunciation, grammar, vocabulary; structured opportunity to develop foundational fluency.

**ESL:0130 ESL: Transitional Listening** **0 s.h.**  
Development of foundational listening skills; focus on listening skills necessary for success in a U.S. academic setting.

**ESL:0160 ESL: Transitional Grammar** **0 s.h.**  
English structure; troublesome grammar patterns.

**ESL:0190 ESL: Transitional Writing 0 s.h.**

Foundational grammatical constructions; vocabulary use expected of university students; organization styles, coherence, and analytic methods used in academic writing.

**ESL:0200 ESL: Transitional Reading 0 s.h.**

Increase reading speed and comprehension of academic-style writing and vocabulary; exercises, discussion, and note-taking assignments to develop critical analysis skills.

**ESL:1000 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**ESL:1005 ESL Special Topics 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings). Same as CLAS:1005.

**ESL:1006 Independent Study in Academic Language and Skill Support 1 s.h.**

Academic language skills and resources to achieve academic success including writing, effective reading strategies, vocabulary building, listening and note taking, speech fluency and clarity; exploration of study skills and strategies; cultural expectations in U.S. academic settings including academic integrity; culture shock; time management skills; techniques to stay motivated and manage stress; overcoming barriers to student success; assignments emphasize demonstration of language skill development and self-reflection. Requirements: completion of all ESL requirements.

**ESL:1650 College Success for International Students 1 s.h.**

Skills and resources to help international students achieve academic success; reflection on academic habits and experiences; exploration of study skills and strategies; cultural expectations in U.S. academic settings including academic integrity; culture shock and immigration issues that can impact international students at the UI; development of techniques for time management and goal setting; techniques to stay motivated and manage stress; overcoming barriers to student success; discussions and assignments emphasize self-reflection on class topics including time management, study skills, and cultural identity. Same as CLAS:1650, CSI:1650.

**ESL:4100 English as a Second Language: Academic Oral Skills 3 s.h.**

Speaking skills for the U.S. academic setting and society; pronunciation, grammar, vocabulary; structured opportunity to develop fluency.

**ESL:4130 English as a Second Language: Academic Listening Skills 3 s.h.**

Development of listening skills for students whose first language is not English; focus on listening skills necessary for success in a U.S. academic setting; academic lectures, note-taking skills, fast-paced classroom discussions. Requirements: undergraduate standing.

**ESL:4160 English as a Second Language Grammar 3 s.h.**

English structure; troublesome grammar patterns.

**ESL:4190 English as a Second Language: Academic Writing 3 s.h.**

Complex grammatical constructions, discourse considerations, formal vocabulary use expected of university students; organization styles, types of argumentation, analytic methods used in academic writing. Requirements: undergraduate standing.

**ESL:4200 English as a Second Language: Academic Reading Skills 3 s.h.**

Increasing reading speed and comprehension of university-level writing and vocabulary; exercises, discussion, and note-taking assignments to develop critical analysis skills.

**ESL:6000 English as a Second Language: Writing Skills for Graduate Students 3 s.h.**

Discourse considerations; styles of organization, types of argumentation, methods of analysis expected of graduate students.

## Iowa Intensive English Program Courses

These courses are for students whose first language is not English. The Iowa Intensive English Program (IIEP) primarily serves students on conditional admission, those who have not yet been admitted to the University, and those who score below 80 (internet-based) on the Test of English as a Foreign Language (TOEFL).

**IIEP:0001 Iowa Intensive English Program Orientation 0 s.h.**

Acquaint new intensive English students with Iowa City, the University, and the intensive English program; policies and procedures, classroom expectations, and cultural differences. Requirements: enrollment in intensive English program.

**IIEP:0115 Iowa Intensive English Communication Skills: Beginning 0 s.h.**

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**IIEP:0135 Iowa Intensive English Reading: Beginning 0 s.h.**

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**IIEP:0145 Iowa Intensive English Grammar: Beginning 0 s.h.**

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

**IIEP:0155 Iowa Intensive English Writing: Beginning 0 s.h.**

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**IIEP:0170 Iowa Intensive English: Communication Skills for Professionals 0 s.h.**

Listening and speaking skills for international professionals; conversational fluency, language for professional interactions (e.g., discussions and presentations).

**IIEP:0215 Iowa Intensive English Communication Skills: Low Intermediate 0 s.h.**

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**IIEP:0235 Iowa Intensive English Reading: Low Intermediate 0 s.h.**

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**IIEP:0245 Iowa Intensive English Grammar: Low Intermediate 0 s.h.**

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

**IIEP:0255 Iowa Intensive English Writing: Low Intermediate 0 s.h.**

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**IIEP:0315 Iowa Intensive English Communication Skills: Intermediate 0 s.h.**

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**IIEP:0335 Iowa Intensive English Reading: Intermediate 0 s.h.**

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**IIEP:0345 Iowa Intensive English Grammar: Intermediate 0 s.h.**

Correct use of the grammatical structures of English; learning grammar in a systematic and logical way; extensive practice to meet the goal of communicative competence in English.

**IIEP:0355 Iowa Intensive English Writing: Intermediate 0 s.h.**

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**IIEP:0415 Iowa Intensive English Communication Skills: High Intermediate 0 s.h.**

Spoken English and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**IIEP:0435 Iowa Intensive English Reading: High Intermediate 0 s.h.**

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**IIEP:0455 Iowa Intensive English Writing: High Intermediate 0 s.h.**

Personal and formal writing; varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**IIEP:0465 IIE Listening Skills: High Intermediate 0 s.h.**

Listening skills needed for academic success; note taking and listening skills associated with small group discussions and everyday conversations.

**IIEP:0515 Iowa Intensive English Communication Skills: Advanced 0 s.h.**

Spoken English and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**IIEP:0535 Iowa Intensive English Reading: Advanced 0 s.h.**

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**IIEP:0555 Iowa Intensive English Writing: Advanced 0 s.h.**

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**IIEP:0565 IIE Listening Skills: Advanced 0 s.h.**

Listening skills needed for academic success; note taking and listening skills associated with small group discussions and everyday conversations.

**IIEP:0915 Special Program Iowa Intensive English Program Communication Skills 0 s.h.**

Focus on aural comprehension, spoken English, and American attitudes, values, and customs; practice giving and receiving information; learn language more quickly in a comfortable, familiar environment; understand and accept cultural differences; gain positive feelings toward American culture; provides link between classroom and community; interview Americans, class discussions.

**IIEP:0935 Special Program Iowa Intensive English Program Reading 0 s.h.**

Comprehensive reading curriculum designed to help students become effective readers; variety of skills and opportunities to practice many strategies while reading different kinds of written material (i.e., newspapers, magazines, schedules, documents, textbooks, correspondence, literature); emphasis on learning by doing; eclectic teaching approach.

**IIEP:0955 Special Program Iowa Intensive English Program Writing 0 s.h.**

Personal and formal writing; experiment with varied forms of writing, from journal entries and letters to critiques, essay examinations, and short papers that involve use of the library; students read and respond to each other's writing, and in the process become more aware of their own strengths and weaknesses as writers.

**IIEP:0965 Special Program Iowa Intensive English Program Listening 0 s.h.**

Listening skills needed for academic success; note taking and listening skills associated with small group discussions and everyday conversations.

## Teaching Assistant Preparation in English Courses

The Teaching Assistant Preparation in English (TAPE) program is designed for prospective teaching assistants whose first language is not English and who need additional work on English communication skills. Entry to the program is determined by a test.

**TAPE:5100 Pronunciation, Fluency Building, and Culture 0 s.h.**

Attain greater fluency for teaching by making short presentations and participating in natural interactions about U.S. culture; intensive work on pronunciation to help future teaching assistants attain maximum intelligibility.

**TAPE:5220 TA Preparation in English: Pronunciation 0 s.h.**

Intensive work toward maximum intelligibility; emphasis on stress, timing, intonation.

**TAPE:5300 TA Preparation in English: Presentation Skills 0 s.h.**

Intelligibility of speech and clarity of expression in presenting and responding; practice in videotaped lectures.

**TAPE:5330 TA Preparation in English: Orientation 0 s.h.**  
Student expectations, typical teacher/student relationships, basic classroom management at the University.



# Enterprise Leadership

## Director, Division of Interdisciplinary Studies

- Cornelia C. Lang (Physics and Astronomy)

## Codirectors, Enterprise Leadership

- David K. Hensley, Cornelia C. Lang

**Undergraduate major:** enterprise leadership (B.A.)

**Website:** <https://iowajpec.org/ba-enterprise-leadership>

The enterprise leadership major provides an option for students who want to focus on entrepreneurial business leadership. The major presents a unique blend of skills, theory, and content, encouraging students to apply their knowledge and skills to entrepreneurial and growing organizations. It is designed to prepare students for career success—whether they desire to be an innovator inside a large organization or aspire to be an entrepreneur and launch their own business. The program offers a combination of business and liberal arts approaches and allows students to hone their skills in innovation, entrepreneurship, communication, critical thinking, problem solving, and leadership.

The major in enterprise leadership is offered jointly by the College of Liberal Arts and Sciences and the John Pappajohn Entrepreneurial Center in the Tippie College of Business. The degree is awarded by the College of Liberal Arts and Sciences.

Enterprise Leadership is one of the academic units in the Division of Interdisciplinary Programs [p. 392].

## Programs

## Undergraduate Program of Study

### Major

- Major in Enterprise Leadership (Bachelor of Arts) [p. 466]

# Enterprise Leadership, B.A.

Enterprise leadership is an interdisciplinary major that focuses on developing entrepreneurial management, leadership, and communication skills. The major promotes problem solving, critical thinking, creativity, and innovation through understanding how to strategically address complex issues to meet consumer and organizational needs. Students also learn how to effectively communicate, build and lead diverse teams, and understand how social and cultural issues impact organizational effectiveness.

## Learning Outcomes

Students will:

- develop an entrepreneurial mindset to successfully identify, evaluate, and seize upon opportunities throughout their professional careers;
- understand the role of creativity, innovation, and management practices across the functional areas of businesses and organizations;
- develop a personal leadership approach that promotes effective teamwork, encourages diverse perspectives, and yields ethical solutions that create sustainable social and economic value;
- demonstrate critical thinking and problem-solving skills to strategically address complex issues and develop innovative, holistic, and sustainable solutions;
- demonstrate effective written and oral communication skills to professionally communicate and present information and recommendations in a clear, logical, and persuasive manner;
- understand the value and impact of contributions from diverse populations on businesses, organizations, and communities; and
- develop a global mindset by understanding the key economic, social, and cultural issues that impact local, national, and international entrepreneurship.

## Requirements

The Bachelor of Arts with a major in enterprise leadership requires a minimum of 120 s.h., including a minimum of 43 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The B.A. in enterprise leadership may be earned at the Iowa City campus or online; more online courses are added each year. Students who wish to enroll in an online course should register in an EX section.

Students may use transfer coursework to fulfill Entrepreneurship and Business Core requirements in place of ENTR:1350 Foundations in Entrepreneurship and ENTR:2000 Entrepreneurship and Innovation. A minimum of 27 s.h. toward the major must be taken at the University of Iowa.

Students may count a maximum of 6 s.h. earned for another major or minor toward the B.A. in enterprise leadership, with the exception of the business administration minor. Enterprise leadership majors may count a maximum of three courses toward their major and a business minor.

Enterprise leadership majors may not earn the Certificate in Entrepreneurial Management.

The B.A. with a major in enterprise leadership requires the following coursework.

Code	Title	Hours
Foundation Courses		9-11
Entrepreneurship and Business Core		16
Leadership Courses		6
U.S. Cultural Diversity Course		3-4
Communication Courses		6
Capstone Experience		3
<b>Total Hours</b>		<b>43-46</b>

## Foundation Courses

Foundation courses introduce students to the basic skills, tools, and concepts they will need for the major.

## Mathematics or Statistics

Code	Title	Hours
One of these:		
MATH:1020	Elementary Functions (section EX)	4
MATH:1340	Mathematics for Business (section EX)	4
MATH:1350	Quantitative Reasoning for Business	4
MATH:1380	Calculus and Matrix Algebra for Business (section EX)	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus (section EX)	4
MATH:1850	Calculus I	4
STAT:1020/ PSQF:1020	Elementary Statistics and Inference (section EX)	3
STAT:1030	Statistics for Business (section EX)	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods (section EX)	3

## Entrepreneurship

Code	Title	Hours
This course:		
ENTR:1350	Foundations in Entrepreneurship (section EX)	3

## Sociology

Code	Title	Hours
This course:		
SOC:1010	Introduction to Sociology (section EX)	3-4

## Entrepreneurship and Business Core

The entrepreneurship and business core supports students' understanding of the essence and operation of entrepreneurial enterprises.

Code	Title	Hours
All of these:		
ENTR:2000	Entrepreneurship and Innovation (section EX)	3
ENTR:3050	Professional Preparation for Enterprise Leadership and Entrepreneurship (section EX)	1
ENTR:3100	Entrepreneurial Finance (section EX)	3
ENTR:3200	Entrepreneurial Marketing (section EX)	3
ENTR:4200	Entrepreneurship: Business Consulting (section EX)	3
ENTR:4400	Managing the Growth Business (section EX)	3

## Leadership Courses

These courses help students reflect on the importance of leadership while developing their own leadership style and skills.

Code	Title	Hours
6 s.h. from these:		
ENTR:3800/ MGMT:3800	Entrepreneurial Leadership Academy I	3
LS:1020	Introduction to Leadership	3
LS:1024	Hawkeye Service Breaks	1-3
LS:2002	Career Leadership Academy Part 1: Leadership in Practice (section EX)	3
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3
LS:3004	Perspectives on Leadership: Principles and Practices (section EX)	3
LS:3012	Leadership Theory to Practice	3
SOC:1220	Principles of Social Psychology	3-4
SOC:3530	Social Psychology of Small Groups	3
SOC:3610	Organizations and Modern Society	3
SOC:3880	The Sociology of Networks	3
SOC:4225	The Social Psychology of Leadership	3

## U.S. Cultural Diversity Course

The following courses provide an overview of the complexity of diversity in the United States, and a comprehensive introduction to related issues.

Code	Title	Hours
One of these:		
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
AFAM:1030	Introduction to African American Society	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
AFAM:2267/ HIST:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
AFAM:3500/ HIST:3160/ RELS:3808	Malcolm X, King, and Human Rights	3
AMST:2025	Diversity in American Culture	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America (section EX)	3
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies (section EX)	3
GWSS:1002	Diversity and Power in the U.S.	3
HIST:1040	Diversity in History	3
HIST:3275/ AFAM:3275	History of Slavery in the U.S.A.	3-4
JMC:1500	Introduction to Social Media	3
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o/x Studies	3
RELS:2000	Engaging Religious Diversity for Leadership and Entrepreneurship	3
SOC:2810	Social Inequality (section EX)	3
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3

## Communication Courses

The following courses help students develop an understanding of contemporary communication theory and how it is applied.

### Oral Communication

Code	Title	Hours
One of these:		
COMM:1112	Interpersonal Communication (section EX)	3
COMM:1117	Advocacy and Argument	3
COMM:1130	The Art of Persuading Others	3
COMM:1170	Communication Theory in Everyday Life	3
MGMT:4100	Dynamics of Negotiations	3
RHET:2055	Persuasion and Advocacy	3

RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2085	Speaking Skills	3
THTR:2610/ RHET:2610	Acting for Success	3

### Writing Communication

Code	Title	Hours
One of these:		
BUS:3800	Business Writing	3
CNW:3640	Writing for Business	3
CW:3218/ INTD:3200	Creative Writing for New Media	3
INTD:3005/ CW:3005/ WRIT:3005	Professional and Creative Business Communication (section EX)	3

### Capstone Experience

Students engage in an entrepreneurial leadership experience and apply their knowledge and skills through a business consulting/field study project or internship with an external business or nonprofit organization. The capstone experience should be related to a student’s career goals and involve the development and application of professional business skills such as project management; market research, analysis and planning; financial management and forecasting; operations management; sales; organizational leadership; or professional business communications. Students also may choose to plan and launch their own business to meet the capstone requirement.

Students are encouraged to complete multiple capstone courses to enhance their professional development.

The John Pappajohn Entrepreneurial Center offers two innovative final-year experiences. The courses ENTR:3800 Entrepreneurial Leadership Academy I and ENTR:3850 Entrepreneurial Leadership Academy II provide selected students with an advanced study of leadership, communications, and project management and include an advanced management consulting project. The courses ENTR:3550 Commercializing New Technology I and ENTR:3575 Commercializing New Technology II provide selected students with an advanced opportunity to learn the process of identifying technology solutions, developing business models, and preparing business plans and pitch decks.

Students may take ENTR:3575 Commercializing New Technology II and/or ENTR:3850 Entrepreneurial Leadership Academy II to meet the capstone experience requirement.

Code	Title	Hours
At least 3 s.h. from these:		
ENTR:3000	Practicum in Entrepreneurship	3
ENTR:3575	Commercializing New Technology II	3
ENTR:3850/ MGMT:3850	Entrepreneurial Leadership Academy II	3
ENTR:4100	International Entrepreneurship, Culture, and Social Impact (may be taken more than once)	1-3

ENTR:4200	Entrepreneurship: Business Consulting (section EX)	3
ENTR:4300	Entrepreneurship: Advanced Business Planning (section EX)	3
ENTR:4900	Academic Internship	3
Another experiential learning course from a College of Liberal Arts and Sciences major, with prior approval from the director of enterprise leadership		

### Honors

#### Honors in the Major

Students have the opportunity to graduate with honors in the major. Students must earn a minimum of 46 s.h. of work for the major. They must maintain a University of Iowa cumulative g.p.a. of 3.50 and a g.p.a. of at least 3.50 in all coursework for the major. Students must earn at least 6 s.h. of honors or honors-designated coursework for the major. They also must complete an honors thesis in ENTR:4999 Honors Thesis in Entrepreneurial Studies by creating original research in partnership with a full-time faculty member. In addition, students must complete the capstone experience required for the major.

#### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the enterprise leadership major.

### Career Advancement

Enterprise leadership students develop a solid foundation in entrepreneurial management, leadership, and professional communication skills that prepare them for a variety of career opportunities or to start their own business. Students are able to apply their innovative problem-solving and critical thinking skills to contemporary issues, to develop strategies to seize upon opportunities, and to build and lead successful teams.

Graduates find rewarding careers in general management, business analysis, business development, marketing and professional communications, management consulting, general or project management, sales, financial management, and as founders or executives in start-up businesses. Students are prepared to become entrepreneurial-minded leaders in large corporations, small- to medium-sized businesses, and nonprofit organizations.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** six courses in the major.

**Before the seventh semester begins:** four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** four more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Enterprise Leadership, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SOC:1010	Introduction to Sociology <sup>b</sup>	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
ENTR:1350	Foundations in Entrepreneurship	3
Major: mathematics or statistics course <sup>d</sup>		3 - 4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
ENTR:2000	Entrepreneurship and Innovation	3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
ENTR:3050	Professional Preparation for Enterprise Leadership and Entrepreneurship	1
ENTR:3100	Entrepreneurial Finance or ENTR:3200 Entrepreneurial Marketing	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>14-15</b>

### Summer

ENTR:4900	Academic Internship <sup>g</sup>	0 - 3
<b>Hours</b>		<b>0-3</b>

### Third Year

#### Fall

ENTR:3200	Entrepreneurial Marketing or ENTR:3100 Entrepreneurial Finance	3
Major: entrepreneurial elective course <sup>g</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Spring

ENTR:4200	Entrepreneurship: Business Consulting	3
Major: U.S. cultural diversity course <sup>h</sup>		3
Major: leadership course <sup>i</sup>		3
GE CLAS Core: World Languages Fourth Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>

### Summer

ENTR:4900	Academic Internship <sup>g</sup>	0 - 3
<b>Hours</b>		<b>0-3</b>

### Fourth Year

#### Fall

ENTR:4400	Managing the Growth Business	3
Major: communication course <sup>j</sup>		3 - 4
Major: entrepreneurial elective course <sup>g</sup>		3
Major: leadership course <sup>i</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>

#### Spring

ENTR:4200	Entrepreneurship: Business Consulting <sup>h</sup>	3
Major: communication course <sup>j</sup>		3
Major: entrepreneurial elective course <sup>g</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)		
<b>Hours</b>		<b>14</b>

<b>Hours</b>		<b>14</b>
<b>Total Hours</b>		<b>120-134</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students should choose a mathematics or statistics requirement that will also complete the GE: Quantitative or

- Formal Reasoning requirement; see the General Catalog for list of approved courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
  - f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
  - g This course or experience is recommended not required.
  - h See the General Catalog for list of approved courses.
  - i Students must complete at least 6 s.h. in leadership courses; see the General Catalog for list of approved courses.
  - j Students must complete both oral and written communication courses (3.s.h. each for a total of 6 s.h.); see the General Catalog for lists of approved courses.
  - k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Environmental Policy and Planning

## Chair, Department of Geographical and Sustainability Sciences

- David A. Bennett

## Coordinator, Environmental Policy and Planning

- Silvia Secchi (Geographical and Sustainability Sciences)

**Undergraduate major:** environmental policy and planning (B.A., B.S.)

**Undergraduate minor:** environmental policy and planning

**Faculty:** <https://clas.uiowa.edu/geography/people/faculty>

**Website:** <https://clas.uiowa.edu/geography/undergraduate-program/environmental-policy-and-planning-ba-bs>

As a society, we depend on and value the environment for basic services such as food production, climate regulation, and recreation. In turn, societies have a significant impact on the environment, which can have significant economic and quality of life impacts. Environmental problems are, therefore, often difficult to resolve because they are embedded in a complex mesh of economics, politics, culture, and behavior. In order to address environmental problems in the future, society needs citizens who understand the human dimensions of these issues. The purpose of the major and minor in environmental policy and planning is to provide students with an opportunity to concentrate on the related social science and policy dimensions of environmental problems.

Environmental policy and planning programs integrate a group of courses to comprise a coherent approach to the study of the human dimensions of environmental problems.

The undergraduate programs of study in environmental policy and planning are administered by the Department of Geographical and Sustainability Sciences [p. 565].

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Environmental Policy and Planning (Bachelor of Arts) [p. 472]
- Major in Environmental Policy and Planning (Bachelor of Science) [p. 478]

#### Minor

- Minor in Environmental Policy and Planning [p. 484]

# Environmental Policy and Planning, B.A.

## Learning Outcomes

Students who earn a degree in environmental policy and planning will be able to:

- critically analyze complex environmental problems to identify how they result from interactions among the physical environment and human societies, economies, and political systems;
- identify ways in which humans impact and are impacted by the environment;
- identify key stakeholders and sources of information in the natural and social sciences to consider in developing solutions to environmental problems;
- explain the role of policy and planning in addressing environmental issues locally, regionally, and globally;
- work collaboratively in interdisciplinary teams to design approaches to managing environmental problems; and
- identify and implement key tools and methods for environmental planning and policy making.

## Requirements

The Bachelor of Arts with a major in environmental policy and planning requires a minimum of 120 s.h., including at least 49-56 s.h. of work for the major. Transfer students must complete at least 21 s.h. of work for the major in residence at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major in environmental policy and planning concentrates on the social science and policy dimensions of environmental problems, which often are caused by people and may have significant economic effects. Environmental issues are embedded in an array of complex issues. Planners and policy makers must understand the human dimensions of these factors in order to solve environmental problems.

The environmental policy and planning major is interdisciplinary; it draws courses from geographical and sustainability sciences, anthropology, economics, political science, history, and other disciplines. Work for the major includes introductory courses, methods courses, intermediate courses, and one of two tracks: the planning track or the policy track.

Students who earn a second major in anthropology, geography, political science, or history must complete a minimum of 12 s.h. of coursework in the second major that they do not also count toward the major in environmental policy and planning. The 12 s.h. of courses must be offered by the second major's administrative home: anthropology (prefix ANTH), geographical and sustainability sciences (prefix GEOG), or political science (prefix POLI). This requirement applies whether students earn the same degree (B.A. or B.S.) with both majors or earn a B.A. with one major and a B.S. with the other. However, honors students in environmental policy and planning may count their honors thesis credit toward this 12 s.h. requirement.

Students may not use a course to satisfy more than one requirement for the major.

The B.A. with a major in environmental policy and planning requires the following coursework.

Code	Title	Hours
Introductory Courses		17-18
Intermediate Courses		12
Methods Courses		7-8
Capstone Course/Research Project		1-6
Track Courses		12
<b>Total Hours</b>		<b>49-56</b>

## Introductory Courses

Code	Title	Hours
These courses (11 s.h.):		
ECON:1100	Principles of Microeconomics	4
ENVS:2010/ EES:2010/ GEOG:2010	Interdisciplinary Environmental Seminar	1
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3
One of these:		
ANTH:1046/ GEOG:1046/ GWSS:1046/ SJUS:1046	Environmental Politics in India	3
ANTH:2261	Human Impacts on the Environment	3
One of these:		
EES:1080/ ENVS:1080	Introduction to Environmental Science	3-4
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
GEOG:1020	The Global Environment	3

## Intermediate Courses

Code	Title	Hours
One of these:		
ANTH:3103	Environment and Culture	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
Two of these:		
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
HIST:3230	American Environmental History	3
POLI:1400	Introduction to Comparative Politics	3



POLI:3111	American Public Policy	3
One of these:		
CNW:2740	The Art and Craft of Writing about the Environment	3
JMC:1800	Twenty-first-Century Science: Environmental Communication in the Digital Age	3
RHET:3560/ PBAF:3560/ POLI:3560/ SJUS:3560	Public Policy and Persuasion	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3

## Methods Courses

Code	Title	Hours
This course:		
GEOG:1050	Foundations of GIS	4
One of these:		
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Capstone Course/Research Project

Students complete a capstone course or research project requirement. Capstone or research project courses are typically taken by students during their senior year. Students who choose GEOG:3992 must make arrangements with a faculty advisor.

Code	Title	Hours
One of these:		
ENVS:3010/ EES:3010/ GEOG:3003	Interdisciplinary Environmental Seminar	1
GEOG:3992	Undergraduate Research (consult advisor)	1

Honors students choose from the following options.

Code	Title	Hours
One of these:		
ANTH:4995	Honors Research Seminar	2
GEOG:4995	Honors Thesis	3
POLI:4601	Honors Senior Thesis	3
Or both of these:		

HIST:3995	History Honors Research Seminar	3
HIST:3996	Honors Thesis	3

## Tracks

Students choose either the planning track or the policy track and complete their track's required coursework.

### Planning Track

The planning track requires 12 s.h. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course or seek permission of the instructor.

Code	Title	Hours
One of these:		
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
GEOG:3800	Environmental Economics and Policy	3
Three of these:		
ECON:3640/ URP:3134	Regional and Urban Economics	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3315	Ecosystem Ecology	3
GEOG:3340	Ecosystem Services	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways (if not taken as an intermediate course)	3
URP:3001/ GEOG:3920	Planning Livable Cities	3
URP:3350/ ECON:3750/ GEOG:3940	Transportation Economics	3

### Policy Track

The policy track requires 12 s.h. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

Code	Title	Hours
One of these:		
GEOG:4750/ URP:4750	Environmental Impact Analysis	3
POLI:2417	Comparative Environmental Policy	3
Three of these:		
ANTH:3237/ HIST:3137/ MUSM:3237	Politics of the Archaeological Past	3

ANTH:3240/ NAIS:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3400	Iowa Environmental Policy in Practice	3
HIST:3230	American Environmental History	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways (if not taken as an intermediate course)	3
POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3117/ PBAF:3117	Bureaucratic Politics and Public Administration	3
POLI:3118	Interest Groups	3
POLI:3123	State Politics in Iowa (section EX)	3
POLI:3126	Environmental Policy	3
POLI:3128	Politics of the U.S. National Park System	3
POLI:3204/ SOC:3525	Public Opinion	3
POLI:3408	Chinese Politics and Society	3
POLI:3424	Global Development	3

## Combined Programs

### B.A./M.S. in Urban and Regional Planning

Students majoring in environmental policy and planning who are interested in earning a master's degree in urban and regional planning may apply to the combined B.A./M.S. program offered by the College of Liberal Arts and Sciences and the School of Planning and Public Affairs. The program enables students to begin the study of urban and regional planning before they complete their bachelor's degree. Students are able to complete both degrees in less time than if they were to complete the two degrees separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information about the urban and regional planning program, see the M.S. in urban and regional planning [p. 1787] in the Graduate College section of the Catalog.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students in the program must maintain a cumulative UI g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. They must be admitted to the

major's honors program by the first semester of their senior year or earlier.

Honors students pursue study beyond the typical undergraduate level. They work under the direction of a faculty member to conduct original research and then prepare and present an honors thesis based on their research. The thesis is reviewed by a committee of at least three faculty members. Students earn credit for the thesis by registering for ANTH:4995 Honors Research Seminar, GEOG:4995 Honors Thesis or POLI:4601 Honors Senior Thesis; or HIST:3995 History Honors Research Seminar and HIST:3996 Honors Thesis.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the environmental policy and planning major.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** one introductory course in the major.

**Before the fifth semester begins:** four courses in the major.

**Before the seventh semester begins:** eight courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 11 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Environmental Policy and Planning, B.A.

- Planning Track [p. 475]
- Policy Track [p. 476]

## Planning Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

GE CLAS Core: Sustainability <sup>a</sup>		<b>0</b>
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<b>Hours</b>		<b>0</b>
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### First Year

#### Fall

GEOG:1020 or ENVS:1085 or EES:1080	The Global Environment <sup>b</sup> or Fundamentals of Environmental Science or Introduction to Environmental Science	3 - 4
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GEOG:1070	Contemporary Environmental Issues <sup>b</sup>	3
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ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
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CSI:1600	Success at Iowa	2
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Elective course <sup>c</sup>		3
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<b>Hours</b>		<b>14-16</b>
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#### Spring

ECON:1100	Principles of Microeconomics <sup>b</sup>	4
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Major: statistics course <sup>d</sup>		3 - 4
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RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
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GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
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Elective course <sup>c</sup>		3
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<b>Hours</b>		<b>16-18</b>
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### Second Year

#### Fall

ANTH:2261 or ANTH:1046	Human Impacts on the Environment <sup>b</sup> or Environmental Politics in India	3
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ENVS:2010	Interdisciplinary Environmental Seminar	1
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GEOG:2013	Introduction to Sustainability	3
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GE CLAS Core: Historical Perspectives <sup>e</sup>		3
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GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
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<b>Hours</b>		<b>14-15</b>
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#### Spring

GEOG:1050	Foundations of GIS	4
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Major: intermediate political science or history or geography course <sup>g</sup>		3
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GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
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GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
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Elective course <sup>c</sup>		2
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<b>Hours</b>		<b>16-17</b>
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### Third Year

#### Fall

GEOG:3300 or ANTH:3103 or NAIS:1290	Envisioning Future Worlds: Sustainable Development and Its Alternatives or Environment and Culture or Native American Foods and Foodways	3
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Major: intermediate communication course <sup>h</sup>		3
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GE CLAS Core: Quantitative or Formal Reasoning <sup>e, i</sup>		3
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GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
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Elective course <sup>c</sup>		3
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<b>Hours</b>		<b>16-17</b>
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#### Spring

GEOG:3800 or ECON:3625	Environmental Economics and Policy or Environmental and Natural Resource Economics	3
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Major: intermediate political science or history or geography course <sup>g</sup>		3
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GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
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GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
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Elective course <sup>c</sup>		2
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<b>Hours</b>		<b>16-17</b>
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### Fourth Year

#### Fall

Major: planning track elective course		3
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Major: planning track elective course		3
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GE CLAS Core: Values and Culture <sup>e</sup>		3
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Elective course <sup>c</sup>		3
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Elective course <sup>c</sup>		3
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<b>Hours</b>		<b>15</b>
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#### Spring

Major: senior capstone research project <sup>j</sup>		1 - 3
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Major: planning track elective course		3
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Elective course <sup>c</sup>		3
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Elective course <sup>c</sup>		3
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Elective course <sup>c</sup>		3
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Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)  
<sup>k</sup>

<b>Hours</b>		<b>13-15</b>
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<b>Total Hours</b>		<b>120-130</b>
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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students

should consult with an advisor about the best sequencing of courses.

- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Choose from GEOG:3400, GEOG:3780, HIST:3230, POLI:1400, or POLI:3111.
- h Choose from CNW:2740, JMC:1800, RHET:3560, or RHET:3700.
- i If not previously completed through EPP major statistics requirement.
- j Choose from ENVS:3010 or GEOG:3992. Honors students choose from ANTH: 4995, GEOG:4995, POLI:4601, or both HIST: 3995 and HIST: 3996.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Policy Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GEOG:1020 or ENVS:1085 or EES:1080	The Global Environment <sup>b</sup> or Fundamentals of Environmental Science or Introduction to Environmental Science	3 - 4
GEOG:1070	Contemporary Environmental Issues <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>14-16</b>
<b>Spring</b>		
ECON:1100	Principles of Microeconomics <sup>b</sup>	4
Major: statistics course <sup>d</sup>		3 - 4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Second Year</b>		
<b>Fall</b>		
ANTH:1046 or ANTH:2261	Environmental Politics in India <sup>b</sup> or Human Impacts on the Environment	3
ENVS:2010	Interdisciplinary Environmental Seminar	1
GEOG:2013	Introduction to Sustainability	3
GE CLAS Core: Historical Perspectives <sup>e</sup>		3

GE CLAS Core: World Languages First Level  
Proficiency or elective course <sup>f</sup>

**Hours**

**14-15**

### Spring

GEOG:1050	Foundations of GIS	4
Major: intermediate political science or history or geography course <sup>g</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>c</sup>		2

**Hours**

**16-17**

### Third Year

#### Fall

NAIS:1290 or GEOG:3300 or ANTH:3103	Native American Foods and Foodways or Envisioning Future Worlds: Sustainable Development and Its Alternatives or Environment and Culture	3
GEOG:4750 or POLI:2417	Environmental Impact Analysis or Comparative Environmental Policy	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e, h</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>c</sup>		3

**Hours**

**16-17**

### Spring

Major: intermediate political science or history or geography course <sup>g</sup>		3
Major: intermediate communication course <sup>i</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>c</sup>		2

**Hours**

**16-17**

### Fourth Year

#### Fall

Major: policy track elective course		3
Major: policy track elective course		3
GE CLAS Core: Values and Culture <sup>e</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3

**Hours**

**15**

### Spring

Major: senior capstone research project <sup>j</sup>		1 - 3
Major: policy track elective course		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>k</sup>		

**Hours**

**13-15**

**Total Hours**

**120-130**

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Choose from GEOG:3400, GEOG:3780, HIST:3230, POLI:1400, or POLI:3111.
- h If not previously completed through EPP major statistics requirement.
- i Choose from CNW:2740, JMC:1800, RHET:3560, or RHET:3700.
- j Choose from ENVS:3010 or GEOG:3992. Honors students choose from ANTH: 4995, GEOG:4995, POLI:4601, or both HIST: 3995 and HIST: 3996.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Environmental Policy and Planning, B.S.

## Learning Outcomes

Students who earn a degree in environmental policy and planning will be able to:

- critically analyze complex environmental problems to identify how they result from interactions among the physical environment and human societies, economies, and political systems;
- identify ways in which humans impact and are impacted by the environment;
- identify key stakeholders and sources of information in the natural and social sciences to consider in developing solutions to environmental problems;
- explain the role of policy and planning in addressing environmental issues locally, regionally, and globally;
- work collaboratively in interdisciplinary teams to design approaches to managing environmental problems; and
- identify and implement key tools and methods for environmental planning and policy making.

## Requirements

The Bachelor of Science with a major in environmental policy and planning requires a minimum of 120 s.h., including at least 55-62 s.h. of work for the major. Transfer students must complete at least 21 s.h. of work for the major in residence at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major in environmental policy and planning concentrates on the social science and policy dimensions of environmental problems, which often are caused by people and may have significant economic effects. Environmental issues are embedded in an array of complex issues. Planners and policy makers must understand the human dimensions of these factors in order to solve environmental problems.

The environmental policy and planning major is interdisciplinary; it draws courses from geographical and sustainability sciences, anthropology, economics, political science, history, and other disciplines. Work for the major includes introductory courses, methods courses, intermediate courses, and one of two tracks: the planning track or the policy track.

Students who earn a second major in anthropology, geography, political science, or history must complete a minimum of 12 s.h. of coursework in the second major that they do not also count toward the major in environmental policy and planning. The 12 s.h. of courses must be offered by the second major's administrative home: anthropology (prefix ANTH), geographical and sustainability sciences (prefix GEOG), or political science (prefix POLI). This requirement applies whether students earn the same degree (B.A. or B.S.) with both majors or earn a B.A. with one major and a B.S. with the other. However, honors students in environmental policy and planning may count their honors thesis credit toward this 12 s.h. requirement.

Students may not use a course to satisfy more than one requirement for the major.

The B.S. with a major in environmental policy and planning requires the following coursework.

Code	Title	Hours
Introductory Courses		17-18
Intermediate Courses		12
Methods Courses		13-14
Capstone Course/Research Project		1-6
Track Courses		12
<b>Total Hours</b>		<b>55-62</b>

## Introductory Courses

Code	Title	Hours
These courses (11 s.h.):		
ECON:1100	Principles of Microeconomics	4
ENVS:2010/ EES:2010/ GEOG:2010	Interdisciplinary Environmental Seminar	1
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3
One of these:		
ANTH:1046/ GEOG:1046/ GWSS:1046/ SJUS:1046	Environmental Politics in India	3
ANTH:2261	Human Impacts on the Environment	3
One of these:		
EES:1080/ ENVS:1080	Introduction to Environmental Science	3-4
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
GEOG:1020	The Global Environment	3

## Intermediate Courses

Code	Title	Hours
One of these:		
ANTH:3103	Environment and Culture	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
Two of these:		
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
HIST:3230	American Environmental History	3
POLI:1400	Introduction to Comparative Politics	3

POLI:3111	American Public Policy	3
One of these:		
CNW:2740	The Art and Craft of Writing about the Environment	3
JMC:1800	Twenty-first-Century Science: Environmental Communication in the Digital Age	3
RHET:3560/ PBAF:3560/ POLI:3560/ SJUS:3560	Public Policy and Persuasion	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3

## Methods Courses

Code	Title	Hours
These courses:		
GEOG:1050	Foundations of GIS	4
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
STAT:2010	Statistical Methods and Computing	3
One of these:		
STAT:3120/ DATA:3120/ IGPI:3120	Probability and Statistics	4
POLI:3000	Analyzing Political Data	3
ANTH:5110	Anthropological Data Analysis	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Capstone Course/Research Project

Students complete a capstone course or a research project requirement. Capstone or research project courses are typically taken by students during their senior year. Students who choose GEOG:3992 must make arrangements with a faculty advisor.

Code	Title	Hours
One of these:		
ENVS:3010/ EES:3010/ GEOG:3003	Interdisciplinary Environmental Seminar	1
GEOG:3992	Undergraduate Research (consult advisor)	1

Honors students choose from the following options.

Code	Title	Hours
One of these:		
ANTH:4995	Honors Research Seminar	2
GEOG:4995	Honors Thesis	3
POLI:4601	Honors Senior Thesis	3
Or both of these:		
HIST:3995	History Honors Research Seminar	3
HIST:3996	Honors Thesis	3

## Tracks

Students choose either the planning track or the policy track and complete their track's required coursework.

### Planning Track

The planning track requires 12 s.h. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course or seek permission of the instructor.

Code	Title	Hours
One of these:		
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
GEOG:3800	Environmental Economics and Policy	3
Three of these:		
ECON:3640/ URP:3134	Regional and Urban Economics	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3315	Ecosystem Ecology	3
GEOG:3340	Ecosystem Services	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways (if not taken as an intermediate course)	3
URP:3001/ GEOG:3920	Planning Livable Cities	3
URP:3350/ ECON:3750/ GEOG:3940	Transportation Economics	3

### Policy Track

The policy track requires 12 s.h. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

Code	Title	Hours
One of these:		
GEOG:4750/ URP:4750	Environmental Impact Analysis	3
POLI:2417	Comparative Environmental Policy	3
Three of these:		
ANTH:3237/ HIST:3137/ MUSM:3237	Politics of the Archaeological Past	3
ANTH:3240/ NAIS:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3

CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3400	Iowa Environmental Policy in Practice	3
HIST:3230	American Environmental History	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways (if not taken as an intermediate course)	3
POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3117/ PBAF:3117	Bureaucratic Politics and Public Administration	3
POLI:3118	Interest Groups	3
POLI:3123	State Politics in Iowa (section EX)	3
POLI:3126	Environmental Policy	3
POLI:3128	Politics of the U.S. National Park System	3
POLI:3204/ SOC:3525	Public Opinion	3
POLI:3408	Chinese Politics and Society	3
POLI:3424	Global Development	3

## Combined Programs

### B.S./M.S. in Urban and Regional Planning

Students majoring in environmental policy and planning who are interested in earning a master's degree in urban and regional planning may apply to the combined B.S./M.S. program offered by the College of Liberal Arts and Sciences and the School of Planning and Public Affairs. The program enables students to begin the study of urban and regional planning before they complete their bachelor's degree. Students are able to complete both degrees in less time than if they were to complete the two degrees separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information about the urban and regional planning program, see the M.S. in urban and regional planning [p. 1787] in the Graduate College section of the Catalog.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students in the program must maintain a cumulative UI g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. They must be admitted to the major's honors program by the first semester of their senior year or earlier.

Honors students pursue study beyond the typical undergraduate level. They work under the direction of a

faculty member to conduct original research and then prepare and present an honors thesis based on their research. The thesis is reviewed by a committee of at least three faculty members. Students earn credit for the thesis by registering for ANTH:4995 Honors Research Seminar, GEOG:4995 Honors Thesis or POLI:4601 Honors Senior Thesis; or HIST:3995 History Honors Research Seminar and HIST:3996 Honors Thesis.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the environmental policy and planning major.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** one introductory course in the major.

**Before the fifth semester begins:** five courses in the major.

**Before the seventh semester begins:** eight courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 12 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Environmental Policy and Planning, B.S.

- Planning Track [p. 480]
- Policy Track [p. 482]

### Planning Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		<b>0</b>



**First Year****Fall**

EES:1080 or GEOG:1020 or ENVS:1085	Introduction to Environmental Science <sup>b</sup> or The Global Environment or Fundamentals of Environmental Science	3 - 4
GEOG:1070	Contemporary Environmental Issues <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSI:1600	Success at Iowa	2
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>14-16</b>

**Spring**

ECON:1100	Principles of Microeconomics <sup>b</sup>	4
STAT:2010	Statistical Methods and Computing <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-17</b>

**Second Year****Fall**

ANTH:1046 or ANTH:2261	Environmental Politics in India <sup>b</sup> or Human Impacts on the Environment	3
ENVS:2010	Interdisciplinary Environmental Seminar	1
GEOG:2013	Introduction to Sustainability	3
Major: upper-level statistics course		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

**Spring**

GEOG:1050	Foundations of GIS	4
Major: intermediate political science or history or geography course <sup>f</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>16-17</b>

**Third Year****Fall**

ANTH:3103 or GEOG:3300 or NAIS:1290	Environment and Culture or Envisioning Future Worlds: Sustainable Development and Its Alternatives or Native American Foods and Foodways	3
GEOG:3520	GIS for Environmental Studies	3
Major: intermediate communication course <sup>g</sup>		3
Major: planning track elective course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>

**Spring**

ECON:3625 or GEOG:3800	Environmental and Natural Resource Economics or Environmental Economics and Policy	3
Major: intermediate political science or history or geography course <sup>f</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>16-17</b>

**Fourth Year****Fall**

Major: planning track elective course		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

Major: senior capstone research project <sup>h</sup>		1 - 3
Major: planning track elective course		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

<b>Hours</b>		<b>13-15</b>
<b>Total Hours</b>		<b>120-129</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Choose from GEOG:3400, GEOG:3780, HIST:3230, POLI:1400, or POLI:3111.

g Choose from CNW:2740, JMC:1800, RHET:3560, or RHET:3700.

h Choose from ENVS:3010 or GEOG:3992. Honors students choose from ANTH: 4995, GEOG:4995, POLI:4601, or both HIST: 3995 and HIST: 3996.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

timing, contact your academic advisor or Graduation Services.

### Policy Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>

#### First Year

<b>Fall</b>		
EES:1080 or ENVS:1085 or GEOG:1020	Introduction to Environmental Science <sup>b</sup> or Fundamentals of Environmental Science or The Global Environment	3 - 4
GEOG:1070	Contemporary Environmental Issues <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSI:1600	Success at Iowa	2
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>14-16</b>

#### Spring

ECON:1100	Principles of Microeconomics <sup>b</sup>	4
STAT:2010	Statistical Methods and Computing <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Second Year

<b>Fall</b>		
ANTH:1046 or ANTH:2261	Environmental Politics in India or Human Impacts on the Environment	3
ENVS:2010	Interdisciplinary Environmental Seminar	1
GEOG:2013	Introduction to Sustainability	3
Major: upper-level statistics course		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

#### Spring

GEOG:1050	Foundations of GIS	4
Major: intermediate political science or history or geography course <sup>f</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>16-17</b>

#### Third Year

<b>Fall</b>		
ANTH:3103 or NAIS:1290 or GEOG:3300	Environment and Culture or Native American Foods and Foodways or Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
GEOG:3520	GIS for Environmental Studies	3
POLI:2417 or GEOG:4750	Comparative Environmental Policy or Environmental Impact Analysis	3
Major: intermediate communication course <sup>g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>

#### Spring

Major: intermediate political science or history or geography course <sup>f</sup>		3
Major: policy track elective course		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>16-17</b>

#### Fourth Year

<b>Fall</b>		
Major: policy track elective course		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>15</b>

#### Spring

Major: senior capstone research project <sup>h</sup>		1 - 3
Major: policy track elective course		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>		
<b>Hours</b>		<b>13-15</b>
<b>Total Hours</b>		<b>120-129</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS

Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

- f Choose from GEOG:3400, GEOG:3780, HIST:3230, POLI:1400, or POLI:3111.
- g Choose from CNW:2740, JMC:1800, RHET:3560, or RHET:3700.
- h Choose from ENVS:3010 or GEOG:3992. Honors students choose from ANTH: 4995, GEOG:4995, POLI:4601, or both HIST: 3995 and HIST: 3996.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Environmental Policy and Planning, Minor

## Requirements

The undergraduate minor in environmental policy and planning requires a minimum of 18 s.h., including 12 s.h. in University of Iowa courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

For help in selecting courses, students should contact the department secretary to request an advisor for the minor. Students may apply a maximum of 6 s.h. toward both the minor in environmental policy and planning and any major or minor in the Departments of Anthropology, Geographical and Sustainability Sciences, or Political Science.

The minor in environmental policy and planning requires three core courses plus three courses from the student's choice of track: the planning track or the policy track. Students may not use a course to satisfy more than one requirement of the minor.

## Core Courses

All students complete three core courses.

Code	Title	Hours
This course:		
GEOG:1070	Contemporary Environmental Issues	3
One of these:		
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
One of these:		
POLI:1400	Introduction to Comparative Politics	3
POLI:3111	American Public Policy	3

Students also complete coursework in a single track, choosing three courses from either the planning track list or the policy track list below.

## Planning Track

Code	Title	Hours
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3315	Ecosystem Ecology	3
GEOG:3340	Ecosystem Services	3
GEOG:3350	Urban Ecology	3

GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
URP:3001/ GEOG:3920	Planning Livable Cities	3
URP:3134/ ECON:3640	Regional and Urban Economics	3
URP:3135/ ECON:3625	Environmental and Natural Resource Economics	3
URP:3350/ ECON:3750/ GEOG:3940	Transportation Economics	3

## Policy Track

Code	Title	Hours
ANTH:3237/ HIST:3137/ MUSM:3237	Politics of the Archaeological Past	3
ANTH:3240/ NAIS:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	3
HIST:3230	American Environmental History	3
NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
POLI:2417	Comparative Environmental Policy	3
POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3117/ PBAF:3117	Bureaucratic Politics and Public Administration	3
POLI:3118	Interest Groups	3
POLI:3123	State Politics in Iowa (section EX)	3
POLI:3204/ SOC:3525	Public Opinion	3

POLI:3408	Chinese Politics and Society	3
POLI:3424	Global Development	3

b Students must complete three courses from either the policy track or the planning track; see the General Catalog for list of approved courses.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Environmental Policy and Planning, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students pursuing the Environmental Policy and Planning minor must complete three core courses plus three courses from their choice of track.		
12 semester hours of advanced courses for the Environmental Policy and Planning minor must be taken at the University of Iowa.		
6 semester hours of coursework can double-count between the Environmental Policy and Planning minor and the Anthropology, Geography, and/or Political Science majors and minors.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Spring</b>		
GEOG:1070	Contemporary Environmental Issues	3
<b>Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
Minor: core course <sup>a</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
POLI:1400 or POLI:3111	Introduction to Comparative Politics or American Public Policy	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: policy or planning track elective course <sup>b</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: policy or planning track elective course <sup>b</sup>		3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Minor: policy or planning track elective course <sup>b</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>18</b>

a Choose one course from ANTH:2261, ANTH:3103, GEOG:3300, NAIS:1290.

# Environmental Sciences

## Chair, Department of Earth and Environmental Sciences

- David W. Peate

## Academic Coordinator

- Emily Finzel

## Program Coordinator

- Andrew A. Forbes

**Undergraduate major:** environmental sciences (B.A., B.S.)

**Undergraduate minor:** environmental sciences

**Faculty:** <https://environmentalsciences.uiowa.edu/people>

**Website:** <https://environmentalsciences.uiowa.edu/>

The Environmental Sciences Program provides rigorous interdisciplinary training in the scientific study of the environment. It promotes an understanding of the earth as a complex network of interacting organic and inorganic systems. The program's undergraduate curricula reflect the diversity in the broad field of environmental sciences and draw upon the College of Liberal Arts and Sciences' disciplinary strengths, giving students the opportunity to develop particular areas of expertise.

Hands-on field experience is a crucial component of the program. Students are strongly encouraged to engage in research and study abroad.

The Department of Earth and Environmental Sciences [p. 399] is the administrative home for the Environmental Sciences Program.

## Programs

## Undergraduate Programs of Study

### Majors

- Major in Environmental Sciences (Bachelor of Arts) [p. 488]
- Major in Environmental Sciences (Bachelor of Science) [p. 493]

### Minor

- Minor in Environmental Sciences [p. 503]

## Facilities

Depending on their choice of track and/or course selection, students majoring in environmental sciences may have the opportunity to take courses at Iowa Lakeside Laboratory, a field station located on West Lake Okoboji, in northwestern Iowa. Run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa, the laboratory offers courses at the undergraduate and graduate levels and provides excellent conditions for summer study in several disciplines. See Iowa Lakeside Laboratory [p. 2184] (University College) in the Catalog or visit the Lakeside Laboratory website.

## Courses

### Environmental Sciences Courses

#### **ENVS:1080 Introduction to Environmental Science** **3-4 s.h.**

Biological and physical character of the Earth; interaction of humans with the environment, including impacts on ecosystems, climate, natural processes, resources; alternative options, including sustainability, waste management, energy, land reform. GE: Sustainability. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as EES:1080.

#### **ENVS:1081 Introduction to Environmental Sciences Laboratory** **1 s.h.**

Laboratory component of EES:1080. Requirements: completion of 3 s.h. in EES:1080 or ENVS:1080; or 3 s.h. of transfer equivalent. GE: Natural Sciences Lab only. Same as EES:1081.

#### **ENVS:1085 Fundamentals of Environmental Science** **4 s.h.**

Interdisciplinary study of how Earth's natural systems interact, how these systems affect society, and how they respond to human activity; how environmental problems can be solved and avoided by drawing upon knowledge in disciplines as diverse as ecology, anthropology, economics, chemistry, and political science; blended instructional environment, including traditional lectures, discussions in TILE classrooms, laboratory, online learning, peer-reviewed writing exercises, and service learning. Offered fall semesters. GE: Sustainability. GE: Natural Sciences with Lab. Same as EES:1085.

#### **ENVS:1115 The History and Science of Oil** **3 s.h.**

Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Sustainability. GE: Historical Perspectives. Same as EES:1115, GEOG:1115, HIST:1115.

#### **ENVS:2001 Second-Year Field Trip for Earth and Environmental Sciences** **1 s.h.**

Opportunity for students to begin developing an appreciation of earth system and earth history scales; application of classroom learning to field-based inquiry; real-world examples of introductory course material in an outdoor classroom setting. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080. Requirements: geoscience or environmental sciences major. Same as EES:2001.

#### **ENVS:2010 Interdisciplinary Environmental Seminar** **1 s.h.**

Discover research, explore careers, and build connections. Requirements: first- or second-year standing. Same as EES:2010, GEOG:2010.

#### **ENVS:2200 Historical Geology** **4 s.h.**

Framework of earth history that is essential to understand how the earth system works; investigation of physical, biological, atmospheric, oceanographic, and chemical history of the earth to prepare for further earth and environmental science courses. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:1085 or ENVS:1085. Same as EES:2200.

- ENVS:2673 Ecology** 3 s.h.  
Adaptations of organisms to their physical and biological environments; organism-environment interactions; population biology; interactions between species; ecology of communities, ecosystems; human impact on ecosystems. Prerequisites: BIOL:1411 and BIOL:1412. Recommendations: a basic statistics or calculus course. Same as BIOL:2673.
- ENVS:3001 Third-Year Field Trip for Earth and Environmental Sciences** 1 s.h.  
Opportunity for students to apply their major coursework to real-world problems; field trip to visit parks, mines, and/or quarries in Missouri and Arkansas that illustrate many of the lessons learned in EES:2410 and EES:3500. Prerequisites: EES:1030 or EES:1050 or EES:1080 or ENVS:1080 or EES:2410. Requirements: geoscience or environmental sciences major, and junior standing. Same as EES:3001.
- ENVS:3010 Interdisciplinary Environmental Seminar** 1 s.h.  
Role of sciences in environmental issues and problems; progression from observation to evaluation to design of better questions and experiments. Requirements: third- or fourth-year standing. Same as EES:3010, GEOG:3003.
- ENVS:3020 Earth Surface Processes** 3 s.h.  
Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Recommendations: EES:1050 or EES:1080 or ENVS:1080 or GEOG:1020 or EES:1085 or ENVS:1085. Same as EES:3020, GEOG:3020.
- ENVS:3030 Conservation Paleobiology** 4 s.h.  
Exploration of how near- and deep-time geologic record pertains to conservation; restoration targets; best practices for conservation of ecosystems; human impacts. Same as EES:3030.
- ENVS:3050 Geology of Iowa** 2 s.h.  
Exploration of geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; background of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms, utilizing natural landscapes in Iowa. Same as EES:3050.
- ENVS:3051 Geology of Iowa Field Trip** 1 s.h.  
Exploration of the geologic history responsible for landscape, soil, rocks, fossils, water, and natural resources of Iowa; field-based examples of Iowa's natural history; preparation for K-12 educators to deliver earth and environmental science content in their own classrooms utilizing the natural landscapes in Iowa. Recommendations: EES:3050. Same as EES:3051.
- ENVS:3095 Field Ecology** 4 s.h.  
Analysis and interpretation of patterns and underlying physical and biotic basis for regional and local distributions of plants and animals of eastern Iowa; field observation, sampling, and laboratory analysis; conduction of several field research projects requiring collection, statistical analysis, and interpretation of data in short reports; field-oriented course. Prerequisites: STAT:3510 and BIOL:2673. Recommendations: advanced undergraduate standing or graduate standing in ecology, environmental sciences, or geoscience.
- ENVS:3096 Winter Ecology** 2 s.h.  
How seasons occur, thermoregulation, microhabitats, what animals are active, and winter plant identification; local area fieldwork.
- ENVS:3097 Introduction to Bird Study** 2 s.h.  
Basic identification skills, bird banding, and bird ecology; Hageboeck Hall of Birds at the UI Museum of Natural History; local field study.
- ENVS:3100 Earth and Planetary Remote Sensing** 4 s.h.  
Remote sensing of the earth's surface from aircraft, satellites; aerial photograph interpretation; remote sensing systems, methods, data analysis using electromagnetic spectrum and digital processing techniques, including visible, infrared, microwave radiation; remote sensing applied to geologic and environmental problems. Prerequisites: EES:1030 or EES:1050 or EES:1080 or EES:1085. Same as EES:3100.
- ENVS:3110 Chemical Evolution of the Oceans** 3 s.h.  
Investigation of various physicochemical states oceans have assumed over the past four billion years of Earth history; use of isotope geochemistry as a proxy for ancient ocean conditions; focus on integrated Earth system science, paleoceanographic and paleoclimate modeling, role of chemical stratigraphy in deciphering past climate states of ocean-atmosphere system; relationship between chemical changes in ocean/atmosphere and biological systems of the Earth. Same as EES:3110.
- ENVS:3230 Special Topics** 0-4 s.h.  
Contemporary issues in environmental science.
- ENVS:4001 Fourth-Year Field Trip for Earth and Environmental Sciences** 2 s.h.  
Application of core course learning to real-world examples; students develop a broader understanding of interrelated aspects of earth and environmental sciences as truly integrated scientific endeavors; field trip to Big Bend National Park to highlight a wide range of geoscience and environmental science studies and provide students an opportunity to apply all aspects of their training to the amazing geologic landscape of southwest Texas; capstone field experience for students heading into their senior year. Prerequisites: EES:2831. Requirements: geoscience or environmental sciences major, and senior standing. Same as EES:4001.
- ENVS:4700 Evolution of Ecosystems** 3 s.h.  
Evolutionary history of terrestrial and marine ecosystems; ecological processes from population to ecosystem levels; community assembly, trophic levels, networks, biodiversity dynamics; practical aspects of paleoecological data collection, statistical analysis, modeling. Requirements: two courses in geoscience, biology, environmental sciences, anthropology, or geography. Same as EES:4700.

# Environmental Sciences, B.A.

## Learning Outcomes

Environmental Sciences Program students will:

- synthesize scientific knowledge and methods across disciplines,
- comprehend and evaluate primary findings in published scientific articles,
- gain experience conducting independent research and/or reviewing scientific areas of interest, and
- effectively communicate scientific findings in written and/or oral form.

## Requirements

The Bachelor of Arts with a major in environmental sciences requires a minimum of 120 s.h., including a minimum of 63 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]; some courses required for the major in environmental sciences may be used to satisfy GE CLAS Core requirements.

Students complete requirements in four areas: the science and mathematics foundation, the environmental sciences foundation, environmental sciences field study, and environmental sciences track courses.

The science and mathematics foundation develops fundamental skills and comprehension in biology, chemistry, geology, mathematics, and statistics. The environmental sciences foundation includes an introductory course in environmental science and additional courses that focus on the geomorphic and environmental processes that shape the Earth's surface, the ecological factors that influence the distribution and abundance of organisms, and a choice of one course that deals with remote sensing techniques or with the use of geographic information technologies. The environmental sciences field study gives students hands-on experience with methods of analysis and interpretation of natural systems/organisms.

Each of the program's four tracks focuses on areas of specialization within environmental sciences:

- biosciences (green) track—biological systems and ecological approaches;
- chemical sciences (yellow) track—environmental systems and chemistry;
- geosciences (brown) track—earth materials and surficial geologic processes; and
- hydrosociences (blue) track—hydrogeology and hydrogeologic systems, and water chemistry.

Students select one course from each of the four tracks in order to develop breadth of understanding and skill in these areas.

The B.A. in environmental sciences requires the following coursework.

Code	Title	Hours
	Science and Mathematics Foundation Courses	27
	Environmental Sciences Foundation Courses	15-16

Environmental Sciences Field Study Course	3-4
Environmental Sciences Policy Courses	6
Environmental Sciences Track Courses	12-15
<b>Total Hours</b>	<b>63-68</b>

## Science and Mathematics Foundation

Students must complete at least 27 s.h. of coursework, as follows.

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
EES:1050	Introduction to Geology	4
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
One of these:		
CHEM:2021	Fundamentals of Chemical Measurements	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4200/ IGPI:4200	Statistical Methods and Computing	3

## Environmental Sciences Foundation

Students must complete at least 15 s.h. of coursework, as follows.

Code	Title	Hours
All of these:		
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
ENVS:2010/ EES:2010/ GEOG:2010	Interdisciplinary Environmental Seminar	1
ENVS:2673/ BIOL:2673	Ecology	3
ENVS:3010/ EES:3010/ GEOG:3003	Interdisciplinary Environmental Seminar	1
ENVS:3020/ EES:3020/ GEOG:3020	Earth Surface Processes	3
One of these:		
GEOG:1050	Foundations of GIS	4
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3

## Environmental Sciences Field Study

Students must complete at least 3 s.h. from the following.



Code	Title	Hours
ENVS:3095	Field Ecology	4
ENVS:3096	Winter Ecology	2
ENVS:3097	Introduction to Bird Study	2
ENVS:3230	Special Topics (must include field component)	1-4
EES:2831	Geologic Field Methods	3
EES:4680	Field Methods in Hydrologic Science	3
GEOG:4010	Field Methods in Physical Geography	3
IALL:3103	Aquatic Ecology	4
IALL:3117	Ecology and Systematics of Diatoms	2,4
IALL:3126	Ornithology	4

Other Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor

## Environmental Sciences Policy

Students must complete at least 6 s.h. from the following list.

Code	Title	Hours
ENVS:1115/ EES:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2910	The Global Economy	3
GEOG:2930	Water Resources	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
PBAF:2020/ URP:2020	Environment and Society: Sustainability, Policy, and Politics	3

## Environmental Sciences Track Courses

Students must complete one course from each of the following four lists (at least 12 s.h.). They may not use any course to satisfy more than one requirement.

### Biosciences (Green) Track

Code	Title	Hours
BIOL:1261	Introduction to Botany	4
BIOL:2246	Entomology Lab	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3220	Evolution of the Vertebrates	4
GEOG:2374/ BIOL:2374	Biogeography	3

GEOG:2950	Environmental Conservation	4
GEOG:3315	Ecosystem Ecology	3
GEOG:3350	Urban Ecology	3
IALL:3117	Ecology and Systematics of Diatoms	4

Other Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor

### Chemical Sciences (Yellow) Track

Code	Title	Hours
BMB:3110	Biochemistry	3
CEE:4150/CBE:4420	Environmental Chemistry	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CHEM:2210	Organic Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:3250	Inorganic Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4873	Atmospheric and Environmental Chemistry	3

### Geosciences (Brown) Track

Code	Title	Hours
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3
EES:2200/ ENVS:2200	Historical Geology	4
EES:2310/ GEOG:2310	Introduction to Climatology	3
EES:2410	Mineralogy	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3300	Sedimentary Geology	4
EES:3360/ GEOG:3360	Soil Genesis and Geomorphology	3
EES:3380/CEE:3328	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4720	Paleoclimatology	3
EES:4790	Applied Environmental Geology	3

### Hydrosciences (Blue) Track

Code	Title	Hours
CEE:3371	Principles of Hydraulics and Hydrology	3
EES:3300	Sedimentary Geology	4
EES:3390	Integrated Watershed Analysis	3
EES:4490	Elements of Geochemistry	3
EES:4630	Hydrogeology	4
EES:4640	Contaminant Hydrogeology	3

EES:4790	Applied Environmental Geology	3
GEOG:4470	Ecological Climatology	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.A./M.A.T. (Science Education Subprogram)

B.A. students who are interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates majoring in biology, chemistry, environmental sciences, or physics, the combined program enables students to earn a B.A. and M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 19 s.h. of qualifying credit toward both degrees. For more information, see "B.A./M.A.T." under Science Education [p. 1524] in the Master of Arts in Teaching (College of Education) section of the Catalog. Interested students should consult an advisor.

### B.A./M.S. in Urban and Regional Planning

The combined B.A. in environmental policy and planning/ M.S. in urban and regional planning enables undergraduate students majoring in environmental policy and planning to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 18 s.h. of credit toward both the B.A. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see the M.S. in urban and regional planning in the Catalog.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors study provides students with opportunities to engage in independent research under the guidance of a faculty sponsor chosen from affiliated faculty of the Environmental Sciences Program. The program draws faculty members from the Departments of Anthropology, Biology, Chemistry, Civil and Environmental Engineering, Earth and Environmental Sciences, and Geographical and Sustainability Sciences. Honors students learn how to write the results of their research in the format of a scientific paper, and they have the experience of formally presenting their research as either a short seminar or a poster.

The College of Liberal Arts and Sciences requires that students who earn honors in the major maintain a minimum University of Iowa cumulative g.p.a. of 3.33. Additional grade-point average standards and requirements are set by each department or program.

Students must fulfill the following requirements:

- complete a B.A. with a major in environmental sciences with a g.p.a. of at least 3.33 in all work for the major;
- submit a research proposal to the honors director within two months of the beginning of the semester in which the research is initiated;
- complete a minimum of 6 s.h. of honors research taken over two semesters in BIOL:4999 Honors Research in Biology, CHEM:3994 Undergraduate Research, EES:3190 Directed Study, or GEOG:3992 Undergraduate Research, depending on the departmental affiliation of the faculty sponsor;
- prepare a thesis presenting the research in the format of a scientific paper with abstract, introduction, methods, results, discussion, and conclusions; the thesis must include a title page and an abstract formatted according to the specifications of the honors program and must be submitted to the honors director at least one week before the honors program deadline for submission; and
- present either a short seminar or a poster about the research at a professional meeting and/or at the University of Iowa.

Beginning in their sophomore or junior year, students should identify potential faculty sponsors by conducting a web-based survey of the research interests of the program's affiliated faculty. The student should contact potential sponsors to determine who would be willing to sponsor an honors student and what research projects the student might undertake. Students who choose a sponsor whose faculty appointment is not in the College of Liberal Arts and Sciences (CLAS) must choose a cosponsor who has a faculty appointment in CLAS.

After the student has identified a sponsor and the two have agreed on a project, the sponsor guides the student in the preparation of a research proposal that identifies the background, goals, methods, and significance of the research project. The proposal serves as the foundation of the honors thesis, which the student prepares under the sponsor's supervision upon completion of the research. Once the thesis is nearing completion or is completed, the student presents a short seminar or a poster detailing the purpose of the research.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the environmental sciences major.

## Career Advancement

Graduates are prepared for careers in conservation, environmental assessment, hazardous waste management, park inspection and compliance, or pollution control and monitoring.

The undergraduate degree program also prepares students for graduate study in disciplines such as biology, chemistry, ecosystem sciences, environmental engineering, environmental law, environmental science, environmental sustainability, geoscience, hydrologic sciences, natural resource management, remote sensing and landscape modeling, renewable energy, and urban and regional planning.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available for the environmental sciences major. Students work with their advisors on individual graduation plans.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Environmental Sciences, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ENVS:1085	Fundamentals of Environmental Science <sup>b</sup>	4
CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
EES:1050	Introduction to Geology	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
CHEM:1120	Principles of Chemistry II	4
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
MATH:1850	Calculus I <sup>b, d</sup>	4
or MATH:1460	or Calculus for the Biological Sciences	
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Second Year</b>		
<b>Fall</b>		
ENVS:2010	Interdisciplinary Environmental Seminar	1
ENVS:3020	Earth Surface Processes	3
BIOL:1411	Foundations of Biology	4
GEOG:1050	Foundations of GIS	3 - 4
or GEOG:3500	or Introduction to Environmental Remote Sensing	

GE CLAS Core: World Languages First Level Proficiency or elective course<sup>f</sup>

4 - 5

**Hours****15-17****Spring**

BIOL:1412	Diversity of Form and Function	4
STAT:3510	Biostatistics	3
or STAT:4200	or Statistical Methods and Computing	
or CHEM:2021	or Fundamentals of Chemical Measurements	
Major: environmental sciences policy course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours****14-15****Third Year****Fall**

Major: environmental sciences policy course		3
Major: geosciences track course		3 - 4
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>g</sup>		3

**Hours****16-18****Spring**

ENVS:2673	Ecology	3
Major: biosciences track course		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3

**Hours****13-15****Summer**

Major: environmental sciences field study course		3 - 4
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**Hours****3-4****Fourth Year****Fall**

Major: chemical sciences track course		3 - 4
GE CLAS Core: Values and Culture <sup>e</sup>		3
GE CLAS Core: International and Global Issues <sup>e</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3

**Hours****15-16****Spring**

ENVS:3010	Interdisciplinary Environmental Seminar	1
Major: hydrosociences track course		3 - 4
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>h</sup>

**Hours****13-14****Total Hours****120-132**

<sup>a</sup> Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives;

- International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
  - c Enrollment in chemistry courses requires completion of a placement exam.
  - d Enrollment in math courses requires completion of a placement exam.
  - e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
  - f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
  - g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
  - h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Environmental Sciences, B.S.

## Learning Outcomes

Environmental Sciences Program students will:

- synthesize scientific knowledge and methods across disciplines,
- comprehend and evaluate primary findings in published scientific articles,
- gain experience conducting independent research and/or reviewing scientific areas of interest, and
- effectively communicate scientific findings in written and/or oral form.

## Requirements

The Bachelor of Science with a major in environmental sciences requires a minimum of 120 s.h., including 76-81 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]; some courses required for the major in environmental sciences may be used to satisfy GE CLAS Core requirements.

Bachelor of Science students majoring in environmental sciences must complete requirements in three areas: the science and mathematics foundation, the environmental sciences foundation, and one of four environmental sciences tracks. During their third year of study, students are assigned a faculty advisor who specializes in their track.

The science and mathematics foundation develops fundamental skills and comprehension in biology, chemistry, geology, mathematics, and statistics. The environmental sciences foundation includes an introductory course in environmental science and additional courses that focus on remote sensing techniques, design and use of geographic information technologies, the geomorphic and environmental processes that shape the earth's surface, and ecological factors that influence the distribution and abundance of organisms.

Each of the program's four tracks focuses on areas of specialization within environmental sciences:

- biosciences (green) track—biological systems and ecological approaches;
- chemical sciences (yellow) track—environmental systems and chemistry;
- geosciences (brown) track—earth materials and surficial geologic processes; and
- hydrosciences (blue) track—hydrogeology and hydrogeologic systems, and water chemistry.

The tracks aim to prepare scientists who can tackle problems that require particular areas of expertise, and to help students develop the skills needed for future employment or graduate study.

The B.S. with a major in environmental sciences requires the following coursework.

Code	Title	Hours
	Science and Mathematics Foundation Courses	27
	Environmental Sciences Foundation Courses	16

Environmental Sciences Track Courses	33-38
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<b>Total Hours</b>	<b>76-81</b>
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## Science and Mathematics Foundation

Students must complete at least 27 s.h. of coursework, as follows.

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
EES:1050	Introduction to Geology	4
MATH:1850	Calculus I	4
One of these:		
CHEM:2021	Fundamentals of Chemical Measurements (must be taken by chemical sciences track students)	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4200/ IGPI:4200	Statistical Methods and Computing	3

## Environmental Sciences Foundation

Students must complete 16 s.h. of coursework, as follows.

Code	Title	Hours
All of these:		
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
ENVS:2010/ EES:2010/ GEOG:2010	Interdisciplinary Environmental Seminar	1
ENVS:2673/ BIOL:2673	Ecology	3
ENVS:3010/ EES:3010/ GEOG:3003	Interdisciplinary Environmental Seminar	1
ENVS:3020/ EES:3020/ GEOG:3020	Earth Surface Processes	3
GEOG:1050	Foundations of GIS	4

## Environmental Sciences Track Courses

Students majoring in environmental sciences must choose one of the following four tracks. Each track includes required general sciences courses, track foundation courses, field study courses, and elective courses.

### Biosciences (Green) Track

The biosciences track provides the essential skills for entry-level positions that require a good knowledge of biotic systems and the ability to inventory biologic resources. The track's aim is to produce scientists who are capable of tackling environmental problems in which links and interactions with

life sciences are crucial and in which a substantial knowledge of biological/ecological sciences is required. The track also provides a strong foundation for graduate or professional training in disciplines such as ecology, wildlife management, and natural resource management.

Students must complete at least 33 s.h., including one field study course, as follows.

### Biosciences Track: Foundation

Code	Title	Hours
These three courses:		
BIOL:2512	Fundamental Genetics	4
BIOL:3172	Evolution	4
GEOG:2374/ BIOL:2374	Biogeography	3
At least 9 s.h. from these:		
BIOL:2246	Entomology Lab	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3220	Evolution of the Vertebrates	4
GEOG:2950	Environmental Conservation	4
GEOG:3315	Ecosystem Ecology	3
GEOG:3350	Urban Ecology	3
GEOG:4470	Ecological Climatology	3
Iowa Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor		

### Biosciences Track: Field Study

Code	Title	Hours
At least 3-4 s.h. from these:		
ENVS:3095	Field Ecology	4
ENVS:3096	Winter Ecology	2
ENVS:3097	Introduction to Bird Study	2
ENVS:3230	Special Topics (must include field component)	3-4
IALL:3034	Topics in Ecology and Sustainability	2
IALL:3103	Aquatic Ecology	4
IALL:3109	Ecology and Systematics of Algae	4
IALL:3117	Ecology and Systematics of Diatoms	2,4
IALL:3123	Prairie Ecology I	2
IALL:3125	Prairie Ecology II	2
IALL:3126	Ornithology	2
Other Iowa Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor		

### Biosciences Track: Electives

Biosciences track students must complete at least 6 s.h. of elective coursework; additional field study and foundation courses may be approved for elective credit.

Code	Title	Hours
BIOL:1261	Introduction to Botany	4
BIOL:2663	Plant Response to the Environment	3
BIOL:3244	Animal Behavior	3
BIOL:3676	Evolution Lab	4

BIOL:3994	Introduction to Research (no more than 6 s.h. of research credit may count toward the major)	2-3
BIOL:4999	Honors Research in Biology (no more than 6 s.h. of research credit may count toward the major)	arr.
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CHEM:2210	Organic Chemistry I	3
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
EES:2200/ ENVS:2200	Historical Geology	4
EES:3080	Introduction to Oceanography	2
EES:3110/ ENVS:3110	Chemical Evolution of the Oceans	3
EES:3210	Principles of Paleontology	3
EES:4630	Hydrogeology	4
EES:4790	Applied Environmental Geology	3
ENVS:3230	Special Topics	1-4
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:3310	Landscape Ecology	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:3992	Undergraduate Research	arr.
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	3
<b>Biosciences Track: Policy</b>		
Biosciences track students must complete one of the following courses.		
Code	Title	Hours
One of these:		
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:3340	Ecosystem Services	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
PBAF:2020/ URP:2020	Environment and Society: Sustainability, Policy, and Politics	3

## Chemical Sciences (Yellow) Track

The chemical sciences track provides the essential skills for entry-level positions that require a basic understanding of chemical principles and a working knowledge of basic chemical concepts as applied in the environment. The track's aim is to produce scientists who are capable of tackling environmental problems in which chemical and molecular processes play an important role. The track also provides a strong foundation for graduate or professional training in environmental chemistry.

Students must complete at least 33 s.h. of coursework, as follows.

### Chemical Sciences Track: Foundation

Code	Title	Hours
These three courses:		
CHEM:2210	Organic Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:3250	Inorganic Chemistry	3
And 9 s.h. from this list (at least 3 s.h. must be lab hours):		
CEE:4150/CBE:4420	Environmental Chemistry	3
CHEM:2220	Organic Chemistry II	3
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:3110	Analytical Chemistry I	3
CHEM:3440	Physical Measurements	3
CHEM:3530	Inorganic Chemistry Laboratory	3
CHEM:4430	Principles of Physical Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3
CHEM:4450	Synthesis and Measurement	3

### Chemical Sciences Track: Lab and Field Study

Code	Title	Hours
This course:		
CHEM:3430	Analytical Measurements	3

### Chemical Sciences Track: Electives

Chemical sciences track students must complete at least 9 s.h. of elective coursework chosen from the following list. Students may petition the chemistry department's environmental sciences advisor to use appropriate Department of Chemistry courses numbered 3000 and above as electives; additional foundation courses may be approved for elective credit.

Code	Title	Hours
BMB:3110	Biochemistry	3
CEE:4158/ OEH:4920	Solid and Hazardous Wastes	3
CHEM:3994	Undergraduate Research (no more than 6 s.h. of research credit may count toward the major)	1-4
CHEM:4760	Radiochemistry: Energy, Medicine, and the Environment	3

CHEM:4873	Atmospheric and Environmental Chemistry	3
EES:2200/ ENVS:2200	Historical Geology	4
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4630	Hydrogeology	4
EES:4640	Contaminant Hydrogeology	3
EES:4790	Applied Environmental Geology	3
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3
ENVS:3230	Special Topics (no more than 6 s.h. may count toward the major)	1-4
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2950	Environmental Conservation	4
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3

### Chemical Sciences Track: Policy

Chemical sciences track students must complete at least one of the following courses.

Code	Title	Hours
At least one of these:		
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2930	Water Resources	3
GEOG:3340	Ecosystem Services	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
PBAF:2020/ URP:2020	Environment and Society: Sustainability, Policy, and Politics	3

### Geosciences (Brown) Track

The geosciences track provides the essential skills for entry-level positions that require a basic understanding of geologic principles and a working knowledge of basic geologic concepts applied in the environmental industry. The track's aim is to produce scientists who are capable of tackling environmental problems in which earth materials and surficial geologic processes are of primary importance. The track also lays a strong foundation for graduate study in environmental geology, engineering geology, and natural hazards assessment.

Students must complete at least 38 s.h. of coursework, as follows.

## Geosciences Track: General Sciences

Code	Title	Hours
These two courses:		
MATH:1860	Calculus II	4
PHYS:1400	Basic Physics	4

Students are strongly encouraged to take additional coursework in physics

## Geosciences Track: Foundation

Code	Title	Hours
These three courses:		
EES:2410	Mineralogy	4
EES:3300	Sedimentary Geology	4
EES:4630	Hydrogeology	4

And at least 6 s.h. from these:

EES:2200/ ENVS:2200	Historical Geology	4
EES:3360/ GEOG:3360	Soil Genesis and Geomorphology	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4790	Applied Environmental Geology	3

## Geosciences Track: Field Study

Code	Title	Hours
One of these:		
EES:2831	Geologic Field Methods	3
EES:4680	Field Methods in Hydrologic Science	3
GEOG:4010	Field Methods in Physical Geography	3

Other Iowa Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor

## Geosciences Track: Electives

Geosciences track students must complete at least 6 s.h. of elective coursework chosen from the following list; additional field study or foundation courses may be approved for elective credit.

Code	Title	Hours
CEE:4158/ OEH:4920	Solid and Hazardous Wastes	3
EES:1290	Energy and the Environment	3
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3190	Directed Study (no more than 6 s.h. may count toward the major)	arr.
EES:3380/CEE:3328	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:3770	Global Stratigraphy	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4640	Contaminant Hydrogeology	3

EES:4720	Paleoclimatology	3
EES:4820	Tectonics and Basin Analysis	3
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3
ENVS:3230	Special Topics	1-4
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2950	Environmental Conservation	4
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3

## Geosciences Track: Policy

Geosciences track students must complete at least one of the following courses.

Code	Title	Hours
At least one of these:		
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ENVS:1115/ EES:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:3340	Ecosystem Services	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
PBAF:2020/ URP:2020	Environment and Society: Sustainability, Policy, and Politics	3

## Hydrosciences (Blue) Track

The hydrosciences track provides the essential skills for entry-level positions that require a basic understanding of geologic principles and a working knowledge of hydrogeology and hydrogeochemistry. The track's aim is to produce scientists who are capable of tackling environmental problems that emphasize hydrogeologic systems and for which substantial knowledge of hydrogeology and water chemistry are essential. The track also lays a strong foundation for graduate education in hydrogeology, hydrology, geochemistry, and aqueous chemistry.

Students must complete at least 37 s.h. of coursework, as follows.

## Hydrosciences Track: General Sciences

Code	Title	Hours
These three courses:		
MATH:1860	Calculus II	4



PHYS:1511	College Physics I	4
PHYS:1512	College Physics II	4

### Hydrosciences Track: Foundation

Code	Title	Hours
These two courses:		
EES:4630	Hydrogeology	4
EES:4790	Applied Environmental Geology	3
And 6 s.h. from these:		
EES:3380/CEE:3328	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:4490	Elements of Geochemistry	3
EES:4640	Contaminant Hydrogeology	3
ENVS:3110/ EES:3110	Chemical Evolution of the Oceans	3

### Hydrosciences Track: Field Study

Code	Title	Hours
This course:		
EES:4680	Field Methods in Hydrologic Science	3

### Hydrosciences Track: Electives

Hydrosciences track students must complete at least 6 s.h. of elective coursework chosen from the following list; additional field study and foundation courses may be approved for elective credit.

Code	Title	Hours
CEE:3371	Principles of Hydraulics and Hydrology	3
CEE:4150/CBE:4420	Environmental Chemistry	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
EES:2200/ ENVS:2200	Historical Geology	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
EES:3190	Directed Study (no more than 6 s.h. may count toward the major)	arr.
EES:3300	Sedimentary Geology	4
EES:3360/ GEOG:3360	Soil Genesis and Geomorphology	3
ENVS:3230	Special Topics	1-4
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2950	Environmental Conservation	4
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4470	Ecological Climatology	3

### Hydrosciences Track: Policy

Hydrosciences track students must complete at least one of the following courses.

Code	Title	Hours
At least one of these:		
BIOL:1260	Plants and Human Affairs	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ENVS:1115/ EES:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2930	Water Resources	3
GEOG:3340	Ecosystem Services	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
PBAF:2020/ URP:2020	Environment and Society: Sustainability, Policy, and Politics	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.S./M.S. in Urban and Regional Planning

The combined B.S. in environmental policy and planning/M.S. in urban and regional planning enables undergraduate students majoring in environmental policy and planning to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 18 s.h. of credit toward both the B.S. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see the M.S. in urban and regional planning in the Catalog.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors study provides students with opportunities to engage in independent research under the guidance of a faculty sponsor chosen from affiliated faculty of the Environmental Sciences Program. The program draws faculty members from the Departments of Anthropology, Biology, Chemistry, Civil and Environmental Engineering, Earth and Environmental Sciences, and Geographical and Sustainability Sciences. Honors students learn how to write the results of their research in the format of a scientific paper, and they

have the experience of formally presenting their research as either a short seminar or a poster.

The College of Liberal Arts and Sciences requires that students who earn honors in the major maintain a minimum University of Iowa cumulative g.p.a. of 3.33. Additional grade-point average standards and requirements are set by each department or program.

Students must fulfill the following requirements:

- complete a B.S. with a major in environmental sciences with a g.p.a. of at least 3.33 in all work for the major;
- submit a research proposal to the honors director within two months of the beginning of the semester in which the research is initiated;
- complete a minimum of 6 s.h. of honors research taken over two semesters in BIOL:4999 Honors Research in Biology, CHEM:3994 Undergraduate Research, EES:3190 Directed Study, or GEOG:3992 Undergraduate Research, depending on the departmental affiliation of the faculty sponsor;
- prepare a thesis presenting the research in the format of a scientific paper with abstract, introduction, methods, results, discussion, and conclusions; the thesis must include a title page and an abstract formatted according to the specifications of the honors program and must be submitted to the honors director at least one week before the honors program deadline for submission; and
- present either a short seminar or a poster about the research at a professional meeting and/or at the University of Iowa.

Beginning in their sophomore or junior year, students should identify potential faculty sponsors by conducting a web-based survey of the research interests of the program's affiliated faculty. The student should contact potential sponsors to determine who would be willing to sponsor an honors student and what research projects the student might undertake. Students who choose a sponsor whose faculty appointment is not in the College of Liberal Arts and Sciences (CLAS) must choose a cosponsor who has a faculty appointment in CLAS.

After the student has identified a sponsor and the two have agreed on a project, the sponsor guides the student in the preparation of a research proposal that identifies the background, goals, methods, and significance of the research project. The proposal serves as the foundation of the honors thesis, which the student prepares under the sponsor's supervision upon completion of the research. Once the thesis is nearing completion or is completed, the student presents a short seminar or a poster detailing the purpose of the research.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the environmental sciences major.

### Career Advancement

Graduates are prepared for careers in conservation, environmental assessment, hazardous waste management,

park inspection and compliance, or pollution control and monitoring.

The undergraduate degree program also prepares students for graduate study in disciplines such as biology, chemistry, ecosystem sciences, environmental engineering, environmental law, environmental science, environmental sustainability, geoscience, hydrologic sciences, natural resource management, remote sensing and landscape modeling, renewable energy, and urban and regional planning.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available for the environmental sciences major. Students work with their advisors on individual graduation plans.

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Environmental Sciences, B.S.

- Biosciences (Green) Track [p. 498]
- Chemical Sciences (Yellow) Track [p. 499]
- Geosciences (Brown) Track [p. 500]
- Hydrosiences (Blue) Track [p. 501]

### Biosciences (Green) Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ENVS:1085	Fundamentals of Environmental Science <sup>b</sup>	4
CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
EES:1050	Introduction to Geology	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>17-18</b>
<b>Spring</b>		
CHEM:1120	Principles of Chemistry II	4
MATH:1850	Calculus I <sup>b, d</sup>	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
	<b>Hours</b>	<b>14-15</b>
<b>Second Year</b>		
<b>Fall</b>		
ENVS:2010	Interdisciplinary Environmental Seminar	1

ENVS:3020	Earth Surface Processes	3
BIOL:1411	Foundations of Biology	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
GE CLAS Core: Values and Culture <sup>e</sup>		3

**Hours 15-16**

### Spring

BIOL:1412	Diversity of Form and Function	4
GEOG:1050	Foundations of GIS	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
GE CLAS Core: Social Sciences <sup>e</sup>		3

**Hours 15-16**

### Summer

Major: biosciences field study course		4
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**Hours 4**

### Third Year

#### Fall

CHEM:2021 or STAT:3510 or STAT:4200	Fundamentals of Chemical Measurements or Biostatistics or Statistical Methods and Computing	3
BIOL:2512	Fundamental Genetics	4
Major: biosciences policy course <sup>g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 14-15**

#### Spring

ENVS:2673	Ecology	3
BIOL:3172	Evolution	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
GE CLAS Core: Historical Perspectives <sup>e</sup>		3

**Hours 14-15**

### Fourth Year

#### Fall

GEOG:2374	Biogeography	3
Major: biosciences elective course <sup>g</sup>		3
Major: biosciences "select 9 s.h." foundation course <sup>g</sup>		3
Major: biosciences "select 9 s.h." foundation course <sup>g</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3

**Hours 15**

#### Spring

ENVS:3010	Interdisciplinary Environmental Seminar	1
Major: biosciences elective course <sup>g</sup>		3
Major: biosciences "select 9 s.h." foundation course <sup>g</sup>		3
GE CLAS Core: International and Global Issues <sup>e</sup>		3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		1 - 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

**Hours 14-16**

**Total Hours 122-130**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Enrollment in chemistry courses requires completion of a placement exam.

d Enrollment in math courses requires completion of a placement exam.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Refer to the General Catalog for course options.

h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Chemical Sciences (Yellow) Track

Course	Title	Hours
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### Academic Career

#### Any Semester

GE CLAS Core: Sustainability <sup>a</sup>		0
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**Hours 0**

#### First Year

##### Fall

ENVS:1085	Fundamentals of Environmental Science <sup>b</sup>	4
CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
EES:1050	Introduction to Geology	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
CSI:1600	Success at Iowa	2

**Hours 17-18**

##### Spring

CHEM:1120	Principles of Chemistry II	4
MATH:1850	Calculus I <sup>b, d</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3

**Hours 14-15**

**Second Year****Fall**

ENVS:2010	Interdisciplinary Environmental Seminar	1
BIOL:1411	Foundations of Biology	4
CHEM:2021	Fundamentals of Chemical Measurements <sup>f</sup>	3
CHEM:2210	Organic Chemistry I	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>

**Spring**

BIOL:1412	Diversity of Form and Function	4
Major: chemical sciences "select 9 s.h." foundation course <sup>h</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
GE CLAS Core: Values and Culture <sup>e</sup>		3
<b>Hours</b>		<b>14-15</b>

**Third Year****Fall**

ENVS:3020	Earth Surface Processes	3
Major: chemical sciences elective course <sup>i</sup>		3
Major: chemical sciences "select 9 s.h." foundation course <sup>j</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>k</sup>		2 - 3
<b>Hours</b>		<b>15-17</b>

**Spring**

CHEM:3120	Analytical Chemistry II	3
CHEM:3250	Inorganic Chemistry	3
Major: chemical sciences policy course <sup>i</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>		4 - 5
<b>Hours</b>		<b>13-14</b>

**Fourth Year****Fall**

GEOG:1050	Foundations of GIS	4
Major: chemical sciences elective course <sup>i</sup>		3
Major: chemical sciences "select 9 s.h." foundation course <sup>j</sup>		3
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
<b>Hours</b>		<b>16</b>

**Spring**

ENVS:2673	Ecology	3
ENVS:3010	Interdisciplinary Environmental Seminar	1
CHEM:3430	Analytical Measurements	3
Major: chemical sciences elective course <sup>i</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: International and Global Issues <sup>e</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>m</sup>

<b>Hours</b>	<b>16</b>
<b>Total Hours</b>	<b>120-127</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Enrollment in chemistry courses requires completion of a placement exam.

d Enrollment in math courses requires completion of a placement exam.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f This course is required for the statistics requirement in the major for all chemical sciences track students.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h The department recommends taking CHEM:2220.

i Refer to the General Catalog for course options.

j The department recommends taking CHEM:3110.

k Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

l This course must be a lab course. See the General Catalog for options.

m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Geosciences (Brown) Track**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>First Year</b>		
<b>Fall</b>		
ENVS:1085	Fundamentals of Environmental Science <sup>b</sup>	4
CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
EES:1050	Introduction to Geology	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
CHEM:1120	Principles of Chemistry II	4

MATH:1850	Calculus I <sup>b, d</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3

**Hours 14-15**

### Second Year

#### Fall

ENVS:2010	Interdisciplinary Environmental Seminar	1
EES:2410	Mineralogy	4
BIOL:1411	Foundations of Biology	4
MATH:1860	Calculus II	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 17-18**

#### Spring

BIOL:1412	Diversity of Form and Function	4
GEOG:1050	Foundations of GIS	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
GE CLAS Core: Values and Culture <sup>e</sup>		3

**Hours 15-16**

#### Summer

Major: geosciences field study course <sup>g</sup>		3
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**Hours 3**

### Third Year

#### Fall

ENVS:3020	Earth Surface Processes	3
EES:3300	Sedimentary Geology	4
PHYS:1400	Basic Physics	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5

**Hours 15-16**

#### Spring

ENVS:2673	Ecology	3
CHEM:2021 or STAT:4200 or STAT:3510	Fundamentals of Chemical Measurements or Statistical Methods and Computing or Biostatistics	3

Major: geosciences foundation course <sup>h</sup>		3 - 4
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GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
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GE CLAS Core: Historical Perspectives <sup>e</sup>		3
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**Hours 16-18**

### Fourth Year

#### Fall

EES:4630	Hydrogeology	4
Major: geosciences foundation course <sup>h</sup>		3 - 4
Major: geosciences elective course <sup>i</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3

**Hours 13-14**

#### Spring

ENVS:3010	Interdisciplinary Environmental Seminar	1
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Major: geosciences policy course <sup>i</sup>		3
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Major: geosciences elective course <sup>i</sup>		3
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GE CLAS Core: International and Global Issues <sup>e</sup>		3
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GE CLAS Core: Social Sciences <sup>e</sup>		3
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Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>

**Hours 13**

**Total Hours 123-131**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Enrollment in chemistry courses requires completion of a placement exam.

d Enrollment in math courses requires completion of a placement exam.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g It is recommended that students take EES:2831 whenever possible.

h Choose from EES:2200, EES:3360, EES:3500, EES:3840, EES:4790.

i Refer to the General Catalog for course options.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Hydrosciences (Blue) Track

Course	Title	Hours
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### Academic Career

Any Semester		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>

### First Year

#### Fall

ENVS:1085	Fundamentals of Environmental Science <sup>b</sup>	4
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CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
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EES:1050	Introduction to Geology	4
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RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	

CSI:1600	Success at Iowa	2
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**Hours 17-18**

#### Spring

CHEM:1120	Principles of Chemistry II	4
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MATH:1850	Calculus I <sup>b, d</sup>	4
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ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	

GE CLAS Core: Diversity and Inclusion <sup>e</sup>	3
<b>Hours</b>	<b>14-15</b>

**Second Year****Fall**

ENVS:2010	Interdisciplinary Environmental Seminar	1
BIOL:1411	Foundations of Biology	4
MATH:1860	Calculus II	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>

**Spring**

BIOL:1412	Diversity of Form and Function	4
PHYS:1511	College Physics I	4
Major: hydrosociences elective course <sup>g</sup>		3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
<b>Hours</b>		<b>15-17</b>

**Third Year****Fall**

EES:4630	Hydrogeology	4
EES:4790	Applied Environmental Geology	3
PHYS:1512	College Physics II	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>

**Spring**

ENVS:2673	Ecology	3
STAT:3510	Biostatistics	3
or STAT:4200	or Statistical Methods and	
or CHEM:2021	Computing	
	or Fundamentals of Chemical Measurements	
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
GE CLAS Core: International and Global Issues <sup>e</sup>		3
Elective course <sup>h</sup>		1 - 3
<b>Hours</b>		<b>14-17</b>

**Summer**

EES:4680	Field Methods in Hydrologic Science <sup>i</sup>	3
<b>Hours</b>		<b>3</b>

**Fourth Year****Fall**

ENVS:3020	Earth Surface Processes	3
GEOG:1050	Foundations of GIS	4
Major: hydrosociences elective course <sup>g</sup>		3 - 4
Major: hydrosociences "select 6 s.h." foundation course <sup>j</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>

**Spring**

ENVS:3010	Interdisciplinary Environmental Seminar	1
Major: hydrosociences policy course <sup>g</sup>		3
Major: hydrosociences "select 6 s.h." foundation course <sup>j</sup>		3

GE CLAS Core: Social Sciences <sup>e</sup>	3
GE CLAS Core: Values and Culture <sup>e</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

<b>Hours</b>	<b>13</b>
<b>Total Hours</b>	<b>123-133</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Enrollment in chemistry courses requires completion of a placement exam.

d Enrollment in math courses requires completion of a placement exam.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Refer to the General Catalog for course options.

h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

i This course is offered every other summer. Check MyUI for course availability since offerings are subject to change.

j Choose from EES:3380, EES:3390, EES:4490, EES:4640, ENVS:3110.

k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Environmental Sciences, Minor

## Requirements

The undergraduate minor in environmental sciences requires a minimum of 15 s.h. in University of Iowa environmental sciences coursework. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The minor in environmental sciences requires the following coursework.

Code	Title	Hours
One of these:		
ENVS:1080/ EES:1080	Introduction to Environmental Science	4
ENVS:1085/ EES:1085	Fundamentals of Environmental Science	4
One environmental sciences foundation course, chosen from these:		
ENVS:2673/ BIOL:2673	Ecology	3
ENVS:3020/ EES:3020/ GEOG:3020	Earth Surface Processes	3
GEOG:1050	Foundations of GIS	4
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3

And:

Courses in one of the four environmental sciences tracks below 7-8

## Tracks

Track courses must include one 3-4 s.h. track foundation course and 3-4 s.h. in track field study coursework. The tracks are biosciences, chemical sciences, geosciences, and hydrosciences.

## Biosciences Track

### Foundation Courses

Code	Title	Hours
BIOL:2246	Entomology Lab	4
BIOL:3172	Evolution	4
EES:3070	Marine Ecosystems and Conservation	3
EES:3220	Evolution of the Vertebrates	4
GEOG:2374/ BIOL:2374	Biogeography	3
GEOG:2950	Environmental Conservation	4
GEOG:3350	Urban Ecology	3
GEOG:4470	Ecological Climatology	3

Iowa Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor

## Field Study Courses

Code	Title	Hours
3-4 s.h. from these:		
ENVS:3095	Field Ecology	4
ENVS:3096	Winter Ecology	2
ENVS:3097	Introduction to Bird Study	2
ENVS:3230	Special Topics (must include field component)	3-4
IALL:3103	Aquatic Ecology	4
IALL:3109	Ecology and Systematics of Algae	4
IALL:3117	Ecology and Systematics of Diatoms	2,4
IALL:3123	Prairie Ecology I	2
IALL:3125	Prairie Ecology II	2
IALL:3126	Ornithology	4

Other Iowa Lakeside Laboratory courses (prefix IALL) may be approved in consultation with an environmental sciences advisor

## Chemical Sciences Track

### Foundation Courses

Code	Title	Hours
CEE:4150/CBE:4420	Environmental Chemistry	3
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CHEM:2230	Organic Chemistry I for Majors	3
CHEM:2240	Organic Chemistry II for Majors	3
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:3250	Inorganic Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3

## Field Study Courses

Code	Title	Hours
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:3430	Analytical Measurements	3

## Geosciences Track

### Foundation Courses

Code	Title	Hours
EES:2200/ ENVS:2200	Historical Geology	4
EES:2410	Mineralogy	4
EES:3300	Sedimentary Geology	4
EES:3360/ GEOG:3360	Soil Genesis and Geomorphology	3
EES:3500	Igneous and Metamorphic Petrology	4
EES:3840	Structural Geology	4
EES:4630	Hydrogeology	4
EES:4790	Applied Environmental Geology	3

## Field Study Courses

Code	Title	Hours
EES:2831	Geologic Field Methods	3
EES:4680	Field Methods in Hydrologic Science	3
GEOG:4010	Field Methods in Physical Geography	3

## Hydrosciences Track

### Foundation Courses

Code	Title	Hours
EES:3110/ ENVS:3110	Chemical Evolution of the Oceans	3
EES:3380/CEE:3328	Fluvial Geomorphology	3
EES:3390	Integrated Watershed Analysis	3
EES:4490	Elements of Geochemistry	3
EES:4630	Hydrogeology	4
EES:4790	Applied Environmental Geology	3

### Field Study Course

Code	Title	Hours
EES:4680	Field Methods in Hydrologic Science	3



# Ethics and Public Policy

## Chair, Department of Philosophy

- David Cuning

## Codirectors, Ethics and Public Policy

- Richard Fumerton (Philosophy), Diane Jeske (Philosophy)

**Undergraduate major:** ethics and public policy (B.A.)

**Faculty:** <https://ethicspublicpolicy.uiowa.edu/people>

**Website:** <https://ethicspublicpolicy.uiowa.edu/>

Ethics and public policy is an interdisciplinary major that presents perspectives on intersecting issues that connect the study of philosophy, economics, law, political science, and sociology. All of these disciplines involve a focus on practical questions concerning how individuals ought to behave and how they ought to regulate the behavior of others.

For example, law exists in order to regulate human behavior, enforce human ideals, and resolve human conflict. And, most people agree that what society should do depends in part on the actual or potential consequences of its actions, and some of the most important consequences of actions and policies are economic. So it is folly to try to reason clearly about how to rectify injustice without thinking long and hard about the economic impact of one's plans. But law and social policy affect more than economics; they have a role in constructing the very fabric of society and the nature of the political state in which we want to live.

Students choose one field of specialization for the major and may find it easy to pursue a second major in another of the major's specialization fields, thus broadening their prospects for choosing graduate schools or beginning professional careers.

The Departments of Economics, Philosophy, Political Science, and Sociology and Criminology collaborate to present the major in ethics and public policy; the major is administered by the Department of Philosophy [p. 920].

## Programs

## Undergraduate Program of Study

### Major

- Major in Ethics and Public Policy (Bachelor of Arts) [p. 506]

# Ethics and Public Policy, B.A.

## Learning Outcomes

The general goals of the major in ethics and public policy are to:

- give students familiarity with the subject matter and methods of four closely related, but distinct disciplines—philosophy, economics, sociology, and political science—acquaintance with which is particularly important for those entering law, government and public service, and related fields;
- teach students to think critically, understand important distinctions, and present and defend positions;
- allow students to see the connections between problems that arise in the four fields that make up the cross-disciplinary major;
- encourage students to solve problems by drawing insights from different fields; and
- prepare students for postgraduate work in one or more of the fields, law school, or any of the indefinitely many careers where the skills fostered in the major will be invaluable.

## Ethics and Public Policy Initiatives

- Increase interactions among majors through events such as clubs and movie nights cosponsored by the Department of Philosophy and the ethics and public policy major.
- Encourage promising students to work individually with faculty on honors projects.
- Continue to improve advising.
- Continue to offer a 1 s.h. course that gives credit to students for participation in some of the programmed lectures, clubs, film screenings, among others.
- Advertise and encourage students to enroll in a 2-3 s.h. course that involves relevant internships.
- Review the department's current survey that can provide more useful and fine-grained advice to improve the ethics and public policy major.

## Requirements

The Bachelor of Arts with a major in ethics and public policy requires a minimum of 120 s.h., including at least 37 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The curriculum includes foundation courses and the work for one field of specialization.

The B.A. with a major in ethics and public policy requires the following coursework.

Code	Title	Hours
	Philosophy Foundation Courses	6
	Economics Foundation Courses	7-8
	Political Science Foundation Courses	6
	Sociology Foundation Courses	6-7

Fields of Specialization Courses	12
<b>Total Hours</b>	<b>37-39</b>

## Foundation Courses

Foundation courses introduce students to each of the disciplines that participate in the major: philosophy, economics, political science, and sociology. These courses provide students with the basic reasoning skills they will need for advanced study. The foundation courses also help students make an informed selection of their specialization field.

All students are required to take PHIL:1636 Principles of Reasoning: Argument and Debate or PHIL:2603 Introduction to Symbolic Logic in order to gain facility with abstract, formal reasoning.

Some courses may be listed in both a foundation area and a specialization field; students may use a course to fulfill only one requirement for the major.

### Philosophy Foundation

#### Reasoning

Code	Title	Hours
One of these:		
PHIL:1636	Principles of Reasoning: Argument and Debate	3
PHIL:2603	Introduction to Symbolic Logic	3

#### Value Theory

Code	Title	Hours
One of these:		
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:2422	Feminist Ethics	3
PHIL:2402	Introduction to Ethics	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PHIL:2436	The Nature of Evil	3

### Economics Foundation

Code	Title	Hours
This course:		
ECON:1100	Principles of Microeconomics	4
One of these:		
ECON:1200	Principles of Macroeconomics	4
ECON:3380	Business and Government	3
ECON:3650	Policy Analysis	3
ECON:3760	Health Economics	3

### Political Science Foundation

#### Foundation

Code	Title	Hours
One of these:		
POLI:1100	Introduction to American Politics	3
POLI:1300	Introduction to Political Thought and Action	3

POLI:1400	Introduction to Comparative Politics	3
POLI:1700	Introduction to Political Analysis	3

## Policy

Code	Title	Hours
One of these:		
POLI:1501	Introduction to American Foreign Policy	3
POLI:3111	American Public Policy	3

## Sociology Foundation

### Theory

Code	Title	Hours
One of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:1030	Contemporary Social Problems	3-4

### Law, Sociology and Criminology

Code	Title	Hours
One of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3
CRIM:3425	Women, Crime, and Justice	3
SOC:1219	Big Ideas: Equality, Opportunity, and Public Policy in America	3
SOC:2130	Sociological Theory	3
SOC:2810	Social Inequality	3
SOC:3510	Medical Sociology	3

## Fields of Specialization

Students select one of the following fields of specialization: philosophy, economics, political science, or sociology. Students must complete four courses in their field (12 s.h.), selected from the appropriate list below.

Some courses may be listed in both a foundation area and a specialization field; students may use a course to fulfill only one requirement for the major.

### Philosophy

Code	Title	Hours
PHIL:2402	Introduction to Ethics	3
PHIL:2415	Bioethics	3
PHIL:2422	Feminist Ethics	3
PHIL:2425	Sex, Marriage, Friendship, and the Law	3
PHIL:2429	War, Terrorism, and Torture	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PHIL:2436	The Nature of Evil	3
PHIL:3342	Multiculturalism and Toleration	3

PHIL:3430	Philosophy of Human Rights	3
PHIL:3510	Neuroethics	3
PHIL:3604	Introduction to Philosophy of Science	3
PHIL:3902	Workshop: Analytical Skills for the LSAT	3
PHIL:3920	Philosophy in Public	1-3
PHIL:4375	Rawls's Political Philosophy	3
PHIL:4480	Analytic Ethics	3
PHIL:4481	Issues in Philosophy of Law	3
PHIL:4482	Early Modern Ethics	3
PHIL:4485	Political Philosophy	3

### Economics

Code	Title	Hours
ECON:3100	Intermediate Microeconomics	3
ECON:3345	Global Economics and Business	3
ECON:3350	Industry Analysis	3
ECON:3380	Business and Government	3
ECON:3620	Economic Growth and Development	3
ECON:3625	Environmental and Natural Resource Economics	3
ECON:3640	Regional and Urban Economics	3
ECON:3650	Policy Analysis	3
ECON:3760	Health Economics	3
ECON:4160	Public Sector Economics	3

### Political Science

Code	Title	Hours
POLI:2417	Comparative Environmental Policy	3
POLI:3101	American Constitutional Law and Politics	3
POLI:3102	The U.S. Congress	3
POLI:3104	Immigration Politics	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3114	Women and Politics in the United States	3
POLI:3116	The Presidency	3
POLI:3117	Bureaucratic Politics and Public Administration	3
POLI:3118	Interest Groups	3
POLI:3120	The Criminal Justice System	3
POLI:3121	The Judicial Process	3
POLI:3126	Environmental Policy	3
POLI:3127	Legislative Policy Seminar	3
POLI:3128	Politics of the U.S. National Park System	3
POLI:3160	Research Task Force: Solving Policy Problems Through Research	3
POLI:3204	Public Opinion	3
POLI:3300	Postmodern Political Theory	3
POLI:3302	Current Political Theory	3

POLI:3305	Modern Political Theory	3
POLI:3306	Problems of Democracy	3
POLI:3350	Games of Politics	3
POLI:3400	Political Economy	3
POLI:3410	Russian Foreign Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3424	Global Development	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3427	Latinas/os/x and the Law	3
POLI:3428	Statecraft, Diplomacy, and World Order	3
POLI:3503	Politics of Terrorism	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3512	International Conflict	3
POLI:3516	The Politics of International Economics	3
POLI:3517	Global Justice	3
POLI:3518	Water Wars: Conflict and Cooperation	3
POLI:3519	Politics of Aging	3
POLI:3522	Ending Wars and Keeping Peace	3
POLI:3530	Diplomacy Lab	3
POLI:3560	Public Policy and Persuasion	3
POLI:3601	Politics of Film	3

## Sociology

Code	Title	Hours
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
SOC:2830	Race and Ethnicity	3
SOC:3171	Drugs and Society	3
SOC:3510	Medical Sociology	3
SOC:3525	Public Opinion	3
SOC:3540	Social Psychology of Good and Evil	3
SOC:3610	Organizations and Modern Society	3

SOC:3650	Education, Schools, and Society	3
SOC:3880	The Sociology of Networks	3
SOC:4200	Sociology of Religion	3
SOC:4540	Political Sociology and Social Movements	3

## Student-Designed Field

In rare circumstances, a student may be given permission to design a specialization field. The student specifies four courses (12 s.h.) numbered 3000 or above, or as considered advanced by the department offering the course. Courses should be interconnected and must suggest a coherent interest. The student-designed field may not duplicate any of the established specialization fields for the major. It also may not include a course that satisfies another requirement for the major.

Students interested in designing their own specialization field should speak with an advisor as early as possible. They must obtain approval from their advisor and from the steering committee of the major in ethics and public policy as soon as possible after they declare the major and before they complete the designated coursework.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Honors students must maintain a g.p.a. of at least 3.50 in work for the major and a cumulative University of Iowa g.p.a. of at least 3.33; the UI cumulative g.p.a. is set by the College of Liberal Arts and Sciences. In order to graduate with honors in the major, they must complete all work for the major and write an acceptable honors thesis on a significant topic related to the major. Students who write their honors thesis in philosophy should consider preparing for the thesis by taking PHIL:3950 Readings in Philosophy; students who write in economics should consult the coordinator of the Ethics and Public Policy program for an appropriate course; students who write in political science should take POLI:4000 Honors Seminar on the Study of Politics; and students who write in sociology and criminology should consider taking SOC:4997 Honors Seminar. Contact the coordinator of the Ethics and Public Policy program for more information.

### University of Iowa Honors Program

In addition to honors in the major, students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the ethics and public policy major.

## Career Advancement

The ethics and public policy major provides an ideal background for law school. It brings an important background to legal studies in fields that both explicitly and implicitly arise in the context of pursuing a J.D. degree. The study of reasoning, an important component of the major, is useful in preparing for the Law School Admission Test (LSAT), the

Graduate Management Admission Test (GMAT), and the Medical College Admission Test (MCAT). The major also prepares students to bring a sophisticated, cross-disciplinary perspective to diverse fields such as government, urban and regional planning, social work, and business.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major.

**Before the third semester begins:** at least one course in the major.

**Before the fifth semester begins:** at least three courses in the major.

**Before the seventh semester begins:** at least seven courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least nine courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Ethics and Public Policy, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SOC:1010 or SOC:1030	Introduction to Sociology or Contemporary Social Problems	3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>b</sup>		4 - 5
Elective course <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-18</b>
<b>Spring</b>		
Major: political science foundation course		3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3

GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>b</sup>	4 - 5
Elective course <sup>c</sup>	2
<b>Hours</b>	
<b>15-17</b>	

#### Second Year

<b>Fall</b>		
ECON:1100	Principles of Microeconomics	4
Major: philosophy foundation (value theory) course		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>b</sup>		4 - 5
Elective course <sup>c</sup>		1
<b>Hours</b>		
<b>16-17</b>		

#### Spring

PHIL:2603 or PHIL:1636	Introduction to Symbolic Logic or Principles of Reasoning: Argument and Debate	3
POLI:3111 or POLI:1501	American Public Policy or Introduction to American Foreign Policy	3
Major: sociology foundation (law, sociology and criminology) course		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>b</sup>		4 - 5
Elective course <sup>c</sup>		3
<b>Hours</b>		
<b>16-17</b>		

#### Third Year

<b>Fall</b>		
Major: economics foundation course		3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		
<b>15-16</b>		

#### Spring

Major: field of specialization course		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		
<b>15</b>		

#### Fourth Year

<b>Fall</b>		
Major: field of specialization course		3
Major: field of specialization course		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		
<b>15</b>		

#### Spring

Major: field of specialization course		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>122-130</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Event Management

## Director, School of Journalism and Mass Communication

- David Ryfe

## Coordinator, Event Management

- Heather J. Spangler (Journalism and Mass Communication)

**Undergraduate certificate:** event management

**Website:** <https://journalism.uiowa.edu/undergraduate/certificate-event-management>

Nearly every kind of organization has a need to create and manage events, from corporations to recreational centers, from hotels to sports teams. The Certificate in Event Management is designed to serve the career goals of a growing number of students who want to learn about the profession and wish to enter the field. It combines experiential learning with academic coursework, preparing students with the practical and intellectual skills necessary to succeed in the industry. The certificate is both interdisciplinary and intercollegiate.

Students who earn the Certificate in Event Management will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event management and careers in the event management industry.

In addition to these core competencies, students gain proficiency in:

- strategic and professional communication (oral, written, visual/design, interpersonal, group, professional, social media, and marketing);
- project management (goal setting, time management, financial, risk management, site and staff management, event design, and technology); and
- cultural and social awareness (religious, cultural, physical, and social nuances that impact event management choices; best practices for safe, inclusive events; and legal and ethical issues).

The School of Journalism and Mass Communication [p. 769] and the Departments of Communication Studies [p. 299], Health and Human Physiology [p. 633] (College of Liberal Arts and Sciences), and the Department of Marketing [p. 1306] (Tippie College of Business) collaborate to offer the certificate. The Certificate in Event Management is administered by the School of Journalism and Mass Communication.

## Programs

## Undergraduate Program of Study Certificate

- Certificate in Event Management [p. 512]

## Courses

## Event Management Courses

**EVNT:2110 Internship in Event Management** 3 s.h.  
Internship for event management certificate. Prerequisites: (EVNT:3154 or SRM:3154) and (EVNT:3260 or SRM:3147).

**EVNT:3154 Foundations of Event Management** 3 s.h.

Large, major special events, professional meetings, and conferences; development and planning, implementation of events, management and evaluation of events; development requirements of planning events, development strategies, budgeting, staffing requirements, resource allocation, site planning, basic risk management requirements, emergency procedures; event implementation policy and procedures; relationship to elements within development stages; event management and evaluation procedures.

**EVNT:3160 Crisis Management** 3 s.h.

Exploration of crisis management through research, speakers, and hands-on experience.

**EVNT:3170 Venue Management** 3 s.h.

Exploration of venue management field through speakers, research, and hands-on experiences.

**EVNT:3180 Sustainable Events** 3 s.h.

Events can have a substantial impact on our natural environment, and choices event managers make are critical in minimizing an event's carbon footprint; students explore sources of event waste, zero-waste event planning, careers in sustainable events, and more.

**EVNT:3185 Topics in Event Management** 3 s.h.

Focus on particular area, issue, approach, or body of knowledge in the world of event planning; topics may include political campaign events, social media events, diversity issues, and risk management.

**EVNT:3260 Event Management Workshop** 3 s.h.

Hands-on experience in event planning; working with clients, conceptualizing events, lining up small and large details, promoting events via social media and other means, carrying out events, and reflecting on outcomes; meet with event planning professionals; complete individual and group projects. Prerequisites: EVNT:3154 or SRM:3154.

**EVNT:3280 Digital Event Management Workshop** 3 s.h.

Hands-on experience in event planning in a digital environment; working with clients, conceptualizing events, lining up small and large details, promoting events via social media and other means, carrying out events, and reflecting on outcomes; individual and group projects.

# Event Management, Certificate

## Requirements

The undergraduate Certificate in Event Management requires a minimum of 21 s.h. of credit, including at least 6 s.h. in event management coursework (prefix EVNT). Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Students take EVNT:3154 Foundations of Event Management or SRM:3154 Foundations of Event Management prior to registering for EVNT:3260 Event Management Workshop or SRM:3147 Sport Event Management. Both core courses must be completed before students register for their internship in one of these: EVNT:2110 or SRM:4196 or SRM:4197 or SRM:4199.

Some of the certificate courses have prerequisites not included in the certificate requirements. Students should select courses for which they have met the prerequisites.

The Certificate in Event Management requires the following coursework.

## Core Courses

Code	Title	Hours
One of these:		
EVNT:3154	Foundations of Event Management	3
SRM:3154	Foundations of Event Management	3
And one of these:		
EVNT:3260	Event Management Workshop	3
SRM:3147	Sport Event Management	3

## Internship

The core courses must be completed prior to enrollment in the internship.

Code	Title	Hours
One of these:		
EVNT:2110	Internship in Event Management	3
SRM:4196	Interscholastic Athletic Administration Field Experience (must enroll in at least 3 s.h.)	1-9
SRM:4197	Sport and Recreation Field Experience (must enroll in at least 3 s.h.)	arr.
SRM:4199	Independent Sport and Recreation Field Experience (must enroll in at least 3 s.h.)	arr.

## Focused Electives

Code	Title	Hours
A minimum of 12 s.h. chosen from these (6 s.h. of focused elective coursework must be numbered 2000 or above with no more than two courses at the 1000 level):		
EVNT:3160	Crisis Management	3
EVNT:3170	Venue Management	3
EVNT:3180	Sustainable Events	3
EVNT:3185	Topics in Event Management (repeatable)	3
EVNT:3260	Event Management Workshop (if not used to satisfy core requirement)	3
ARTS:1070	Elements of Graphic Design	3
BUS:3000	Business Communication and Protocol	3
COMM:1809	Social Marketing Campaigns	3
COMM:1816	Business and Professional Communication	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	3
COMM:1830	Communication Skills for Community Engagement	3
COMM:2044	Political Communication	3
COMM:4044	Political Marketing: Media, Campaigns, and Persuasion	3
ENTR:1350	Foundations in Entrepreneurship	3
ENTR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
JMC:1300	Introduction to Journalism and Strategic Communication	3
JMC:3530	Social Media Marketing	3
JMC:3540/ SPST:3181	The Business of Sport Communication	3
JMC:3710	Fundraising Fundamentals	3
JMC:3720	Nonprofit Communications	3
MKTG:3000	Introduction to Marketing Strategy	3
MKTG:4101	Integrated Marketing Communications	3
POLI:3202	Political Psychology	3
SRM:2065	The Experience Economy	3
SRM:3147	Sport Event Management (if not used to satisfy core requirement)	3
SRM:3158	Sport and Recreation Promotion	3
SRM:3175	Sales in Sport	3
SRM:3178	Communications and Public Relations in Sports	3
SRM:3210	Event Bidding: Processes and Strategies	3



SRM:4197	Sport and Recreation Field Experience (if not used to satisfy internship requirement)	1-3
THTR:3270	Entertainment Design	3
THTR:3510/ DPA:3510/ INTD:3510	Introduction to Arts Management	3
UICB:4415/ ARTS:4415	Calligraphy I: Foundational Hands	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Event Management, Certificate

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students are welcome to begin the Event Management certificate any year.		
<b>Hours</b>		<b>0</b>
<b>Second Year</b>		
<b>Any Semester</b>		
SRM:3154 or EVNT:3154 <sup>a</sup>	Foundations of Event Management or Foundations of Event Management	3
Certificate: event management focused elective course <sup>b</sup>		3
Certificate: event management focused elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Any Semester</b>		
SRM:3147 or EVNT:3260	Sport Event Management or Event Management Workshop	3
Certificate: event management focused elective course numbered 2000 or above <sup>b</sup>		3
<b>Hours</b>		<b>6</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
Certificate: internship <sup>c</sup>		3
Certificate: event management focused elective course numbered 2000 or above <sup>b</sup>		3
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>21</b>

a Taking this course as early as possible and before EVNT:3260 is recommended.

b See the General Catalog for list of approved courses.

c Choose from EVNT:2110, SRM:4196, SRM:4197, SRM:4199.

# French and Italian

## Director, Division of World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Chair, Department of French and Italian

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## General Education Language Coordinators

- Cinzia Blum (Italian), Emilie Destruel (French), Claire Frances (French), Susana J. Nkurlu (Swahili), Yasmine A. Ramadan (Arabic)

**Undergraduate majors:** French (B.A.); Italian (B.A.)

**Undergraduate minors:** Arabic studies; French; Italian

**Graduate degrees:** M.A. in French and Francophone world studies; Ph.D. in French and Francophone world studies

**Faculty:** <https://french-italian.uiowa.edu/people>

**Website:** <https://french-italian.uiowa.edu/>

The Department of French and Italian introduces students to the cultures of France, the Francophone world, Italy, and parts of the Middle East and Africa, providing an understanding of those countries' historical and contemporary importance. It also facilitates development of proficiency in the French, Italian, Arabic, and Swahili languages and fosters critical appreciation of French, Francophone, Italian, and Arabic literatures and cultures.

Faculty expertise enables the department to offer courses in the traditionally recognized historical periods of French literature, various literary genres, and critical theories as well as the Francophone literatures of Canada, North and Sub-Saharan Africa, the Caribbean, and the Indian Ocean. The department has particular strengths in interdisciplinary studies, notably in the areas of comparative arts, film studies, history, and second language acquisition.

Undergraduate students in all majors may satisfy the World Languages requirement of the GE CLAS Core with courses in Arabic, French, Italian, or Swahili; see "Language for GE CLAS Core" below. The department offers other GE CLAS Core courses, and entering students may take the department's First-Year Seminars.

The Department of French and Italian is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 395].

## Language for GE CLAS Core

The Department of French and Italian provides course sequences in four languages—Arabic, French, Italian, and Swahili—that students in all majors may use to fulfill the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. It also offers a variety of language courses that nonmajors may take to satisfy their own educational goals and interests.

### Arabic

The department is the administrative home for Arabic language and culture courses. It offers elementary, intermediate, and advanced Arabic as well as conversational Arabic, for which ARAB:1002 Elementary Modern Standard Arabic II is prerequisite. Students without background in Arabic should begin with ARAB:1001 Elementary Modern Standard Arabic I. Students who have a background in

Arabic should contact the general education coordinator to determine the level at which they should begin Arabic language study at the University of Iowa. See Courses [p. 515] in this section of the Catalog for a list of departmental courses.

Students who wish to fulfill the GE CLAS Core World Languages requirement with Arabic should complete the following course sequence.

Code	Title	Hours
ARAB:1001	Elementary Modern Standard Arabic I	5
ARAB:1002	Elementary Modern Standard Arabic II	5
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5

### French

Students who have a background in French should take the online placement test, which helps determine the level at which a student could begin French language study at the University of Iowa. Students without background in French should begin with FREN:1001 Elementary French I.

Students who wish to fulfill the GE CLAS Core World Languages requirement with French should complete the following sequence.

Code	Title	Hours
FREN:1001	Elementary French I	5
FREN:1002	Elementary French II	5
FREN:2001	Intermediate French I	5
FREN:2002	Intermediate French II	5

Those with previous knowledge of French may be able to fulfill the World Languages requirement with this sequence.

Code	Title	Hours
FREN:1010	First-Year French Review	5
FREN:2001	Intermediate French I	5
FREN:2002	Intermediate French II	5

### Italian

Students who have a background in Italian should take the online placement test. Placement cutoff scores are advisory. Students should also consult with the general education coordinator to determine the level at which they should begin Italian language study at the University of Iowa. Students without background in Italian should begin with ITAL:1101 Elementary Italian I.

Students who wish to fulfill the GE CLAS Core World Languages requirement with Italian should complete the following course sequence.

Code	Title	Hours
ITAL:1101	Elementary Italian I	5
ITAL:1102	Elementary Italian II	5
ITAL:2203	Intermediate Italian I	4
ITAL:2204	Intermediate Italian II	4

Those with strong language-learning abilities or background in another Romance language may be able to substitute ITAL:1103 Intensive Elementary Italian for ITAL:1101

Elementary Italian I and ITAL:1102 Elementary Italian II and fulfill the World Languages requirement with this sequence.

Code	Title	Hours
ITAL:1103	Intensive Elementary Italian	4,6
ITAL:2203	Intermediate Italian I	4
ITAL:2204	Intermediate Italian II	4

## Swahili

The department is the administrative home for Swahili courses. Students may fulfill the GE CLAS Core World Languages requirement by taking the following four-semester sequence. Students who have a background in Swahili should contact the general education coordinator to determine the level at which they should begin Swahili language study at the University of Iowa.

Code	Title	Hours
SWAH:1001	Elementary Swahili I	4
SWAH:1002	Elementary Swahili II	4
SWAH:2001	Intermediate Swahili I	4
SWAH:2002	Intermediate Swahili II	4

## Study Abroad

The department participates in several study abroad programs. Some of them are the University Study Abroad Consortium (USAC) French Studies in Pau and Lyon; University of Minnesota/Paul Valery University Study Abroad in Montpellier; and the Committee on Institutional Cooperation (CIC) Summer French Program in Quebec at the Université Laval. For information about these and other programs abroad, contact International Programs Study Abroad and use its programs search; or see Study Abroad [p. 2205] (University College) in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in French (Bachelor of Arts) [p. 522]
- Major in Italian (Bachelor of Arts) [p. 526]

#### Minors

- Minor in Arabic Studies [p. 529]
- Minor in French [p. 530]
- Minor in Italian [p. 531]

### Graduate Programs of Study

- Master of Arts in French and Francophone World Studies [p. 532]
- Doctor of Philosophy in French and Francophone World Studies [p. 534]

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC) and five All-In-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted

Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignALL lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

## Courses

- French Courses [p. 515]
- Italian Courses [p. 518]
- Arabic Courses [p. 519]
- Swahili Courses [p. 520]

The department offers courses in French, Italian, Arabic, and Swahili. For a detailed description of courses offered each semester, contact the Department of French and Italian. French courses are conducted in French, and Italian courses are conducted in Italian, unless otherwise indicated. Students may not receive credit for a course that is prerequisite to, or whose equivalent is prerequisite to, a higher-level course they have already completed.

## French Courses

French courses numbered 4000-4999 are intended primarily for advanced undergraduates; graduate students should consult with their advisors before registering for these courses.

Undergraduates may count a maximum of one course taught in English toward requirements for the major in French. This restriction does not apply to courses taught in English with an additional semester hour in French. Students should consult with their advisors before registering.

Students who have had significant experience with French through living or studying abroad should consult with the department before enrolling in any French course.

#### **FREN:1000 First-Year Seminar** **1-2 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

#### **FREN:1001 Elementary French I** **5 s.h.**

Introduction to reading, writing, listening, and speaking; for students who have no knowledge of French. GE: World Languages First Level Proficiency.

#### **FREN:1002 Elementary French II** **5 s.h.**

Continuation of FREN:1001; introduction to reading, writing, listening, and speaking. Prerequisites: FREN:1001 or French Placement score of 176 or higher. GE: World Languages Second Level Proficiency.

**FREN:1005 Texts and Contexts: French-Speaking World** 3 s.h.

Development of skills in reading, understanding, and critically engaging with literary texts, and of research skills for informed inquiry; sense of oneself as a situated reader; range of texts reflecting diversity of French and Francophone writers. Taught in English. GE: Interpretation of Literature.

**FREN:1006 Global Sports and National Cultures** 3 s.h.

Overview of the relationship between sports and national cultures in countries around the world; focus on how athletic competitions play a role in the formation of collective identities; includes the Olympic Games in ancient Greece, hockey in Canada, cycling in France, traditional wrestling in Senegal, cricket in England and India, and soccer in Europe, Africa, and Latin America. GE: International and Global Issues.

**FREN:1007 Nature/Ecology French Philosophy and Fiction** 3 s.h.

Representations of the natural world in literary works from 16th to 20th centuries and in film; readings in English translation. Taught in English. GE: Interpretation of Literature.

**FREN:1009 Introduction to Language Learning** 1 s.h.

Preparation for world language study at college level, including study and review strategies. Taught in English.

**FREN:1010 First-Year French Review** 5 s.h.

FREN:1001 and FREN:1002 combined in one intensive course. GE: World Languages Second Level Proficiency.

**FREN:1040 French for Travelers** 2 s.h.

Basic language skills for tourists wanting to increase their French language skills.

**FREN:1510 Cultural Misunderstandings: France and U.S.A.** 3 s.h.

Key moments in the history of relations between the United States and France, from similarities underlying democratic principles to recent divergent worldviews. Taught in English. GE: International and Global Issues.

**FREN:1600 French and Francophone Cultural Activities** 1 s.h.

Credit for attendance and participation at French and Francophone cultural events, including scholarly talks, film screenings, art exhibits, literary readings, conversation hours, French Culture Club meetings, and volunteering as a translator for a medical clinic.

**FREN:2001 Intermediate French I** 5 s.h.

Prerequisites: FREN:1010 or FREN:1002 or French Placement score of 176 or higher. Requirements: completion of prerequisites or two years of high school French. GE: World Languages Third Level Proficiency.

**FREN:2002 Intermediate French II** 5 s.h.

Continuation of FREN:2001. Prerequisites: FREN:2001 or French Placement score of 231 or higher. Requirements: completion of prerequisites or three years of high school French. GE: World Languages Fourth Level Proficiency.

**FREN:2010 Global Science Fiction** 3 s.h.

Science fiction from around the world; spanning poetry, fiction, drama, film, television, comics, mobile phone games, and music; produced on six continents. Taught in English. GE: Diversity and Inclusion. Same as ASIA:2001, RUSS:2001, SPAN:2001, TRNS:2001, WLLC:2001.

**FREN:2473 Cinderella** 3 s.h.

Comparative analysis of Cinderella stories from around the world including Asia, Europe, Africa, South America; readings, discussion, workshops, and writing; consideration of visual and material presentation of Cinderella stories in physical books. Taught in English. Same as TRNS:2473, WLLC:2473.

**FREN:3000 Third-Year French** 3 s.h.

Development of reading skills in French; composition and review of basic grammar structures. Prerequisites: FREN:2002 or French Placement score of 311 or higher.

**FREN:3007 French Phonetics** 3 s.h.

Introduction to French phonetics; sounds of French in isolation and in context to improve pronunciation; audio exercises that emphasize sounds (nasal vowels, [u]-[y] contrast) and prosodic features (intonation, syllabification, liaison). Requirements: FREN:2002 or French Placement score higher than 311.

**FREN:3020 Oral Expression in French I** 3 s.h.

First in a two-course sequence. Prerequisites: FREN:2002 or French Placement score of 311 or higher.

**FREN:3060 Introduction to Reading and Writing in Literature** 3 s.h.

Development of analytical, organizational skills for interpretation of literature; readings in prose, poetry, drama, criticism; emphasis on reading and essay writing. Prerequisites: FREN:2002 or French Placement score of 311 or higher.

**FREN:3120 French Civilization** 3 s.h.

Examination of what constitutes French culture and civilization from pre-Roman period to later 20th-century. Taught in French. Requirements: prior or concurrent enrollment in FREN:3060 or FREN:3300. GE: Historical Perspectives.

**FREN:3130 French-Speaking Cultures** 3 s.h.

Study of cultures of the Caribbean, the Indian Ocean, the Maghreb, Sub-Saharan Africa, South East Asia, Quebec, and Louisiana; approaches include literature, cinema, music, the arts, and media; introduction to field of Francophone studies and promotion of linguistic and cultural diversity. Taught in French. Requirements: prior or concurrent enrollment in FREN:3060 or FREN:3300.

**FREN:3160 Study Abroad: Culture** 3 s.h.

Geography, history, architecture, painting, music of France; readings, slides, video and audio cassettes, visits to sites of cultural significance. Prerequisites: FREN:2002.

**FREN:3195 French Linguistics Lab I** 3 s.h.

Hands-on research experience collecting and analyzing linguistic data. Requirements: at least one linguistics course.

**FREN:3210 Comparative Arts** 3 s.h.

Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Taught in English. Same as ASIA:3210, IWP:3210, SPAN:3211, WLLC:3210.

**FREN:3225 Studies in Modern France** 3 s.h.

Introduction to the study of Modern France (1815-present); history, literature, politics, and culture of the period; emphasis on interdisciplinary investigation of diverse cultural forms. Requirements: prior or concurrent enrollment in FREN:3060 or FREN:3300.

- FREN:3232 French Literary Translation Workshop 3 s.h.**  
Workshop in literary translation from French to English; practical, ethical, and theoretical questions about translation; focus on specific complication of French-English language pair; mapping style, genre, and literary influences of French authors for purpose of translation. Taught in French. Requirements: prior or concurrent enrollment in FREN:3060 or FREN:3300. Same as TRNS:3232.
- FREN:3240 Media French 3 s.h.**  
Introduction to French press and media; students acquire knowledge related to media (e.g., newspapers, magazines, television, radio, social media); introduction to French national newspapers and television stations and their political and cultural orientations; students study articles obtained from different media to develop vocabulary and oral and written comprehension skills; study and discussion of current events in sports, politics, culture, society, and other fields. Taught in French. Requirements: prior or concurrent enrollment in FREN:3060 or FREN:3300.
- FREN:3250 Topics in French Studies I 3 s.h.**  
Requirements: prior or concurrent enrollment in FREN:3060 or FREN:3300.
- FREN:3300 French Grammar 3 s.h.**  
Study of word forms, sentence patterns for more accurate use of French. Prerequisites: FREN:2002 or French Placement score of 311 or higher. Requirements: completion of prerequisites or four years of high school French.
- FREN:3360 Study Abroad: Language 3 s.h.**  
Written and spoken French; listening, speaking, reading, writing in cultural contexts. Prerequisites: FREN:2002.
- FREN:3410 Business French 3 s.h.**  
Language of economics and business; practice in business correspondence and communication, active use of business vocabulary. Offered fall semesters. Requirements: prior or concurrent enrollment in FREN:3060 or FREN:3300.
- FREN:4007 Topics in French Linguistics 3 s.h.**  
Concepts to aid in understanding how the French language works; major areas of linguistics—pronunciation (phonetics and phonology), the structure of words (morphology), the structure of sentences (syntax) and meaning (semantics). Prerequisites: FREN:3300 and FREN:3060.
- FREN:4015 Francophone Cinema 3-4 s.h.**  
Study of pioneering and contemporary Francophone fictional and documentary films from the Caribbean, the Indian Ocean, the Maghreb and Sub-Saharan Africa; cinematic vocabulary and critical concepts related to Francophone intellectual history to closely examine emergence and vibrancy of Francophone cinema, colonial, and postcolonial elements that characterize it, and ideological engagement of filmmakers; exploration of challenges and ground-breaking dynamics of distribution, funding, spectatorship, and free training in filmmaking in Dakar. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300.
- FREN:4017 Global Comics 3-4 s.h.**  
Study of comics and graphic novels from all over the world; focus on gender, sexuality, race, language, migration, and culture; sustained reflection on questions of translation and the global circulation of the medium. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300.
- FREN:4020 Oral Expression in French II 3 s.h.**  
Last in a two-course sequence. Prerequisites: FREN:3020 or FREN:3300 or FREN:3007.
- FREN:4026 French Women Writers 3-4 s.h.**  
Survey of 20th- and 21st-century French women's literature; introduction to French feminist thought; optional discussion section taught in French. Taught in English. Requirements: for 4 s.h. option—FREN:3060 and FREN:3300. Same as GWSS:4026.
- FREN:4070 Introduction to the Study of Meaning 3 s.h.**  
Introduction to the study of meanings and language use in context; meaning outside the literal semantic interpretation of words used including presuppositions and goals of speaker, expectation of listener, speech acts, conversational implicatures, deixis, discourse functions, and other relevant topics. Taught in English. Prerequisites: LING:3001. Same as LING:4070.
- FREN:4080 Post-Colonial Literature in France 3 s.h.**  
Literatures and cultures of Arabo-French (Beur) and Afro-French immigrations. Taught in French. Prerequisites: FREN:3300 and FREN:3060.
- FREN:4090 Quebec Literature 3 s.h.**  
Study of Quebec literature and culture, First Nations' literature and écriture migrante; films and mixed media art enhance analysis of texts, historical and political contexts, and critical understanding of national and linguistic identity and relation between Quebec society, First Nations, immigration, and diversity. Taught in French. Prerequisites: FREN:3300 and FREN:3060.
- FREN:4100 French Cinema 3-4 s.h.**  
Introduction to history of French Cinema. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300. GE: Literary, Visual, and Performing Arts.
- FREN:4110 Francophone Literature of the African Diaspora 3 s.h.**  
Study of literature, cultures, and visual arts of the Caribbean, the Indian Ocean, Sub-Saharan Africa, and the South Pacific; major theoretical paradigms in Francophone studies; variety of topics and interdisciplinary approaches. Taught in French. Prerequisites: FREN:3060 and FREN:3300.
- FREN:4195 French Linguistics Lab II 3 s.h.**  
Hands-on research experience collecting and analyzing linguistic data. Requirements: at least one linguistics course.
- FREN:4210 Slavery Museums, Memorials, and Statues in the United States, Europe, and the Global South 3-4 s.h.**  
Comparative study of museums, memorials, statues, performances, and artistic works that encapsulate the entangled history and memory of transoceanic slave trades and slavery in the United States, the Caribbean, the Indian Ocean, Sub-Saharan Africa, and Europe (France and the United Kingdom); critical tools to analyze public debates over politically charged monuments; exploration of transnational and political predicaments of the contemporary world; approaches include trauma theories, memory studies, history, postcolonial ecocriticism, cultural anthropology, heritage studies and museology, and Francophone cultural critique. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300. Same as MUSM:4310, WLLC:4210.

- FREN:4433 France Under Nazi Occupation, 1940-1944** 3-4 s.h.  
Political, economic, social, and cultural conditions that prevailed following the Nazi conquest of France in 1940; examination of this period of upheaval through work of prominent historians of France; representations of occupied France in literary works, documentary, and fictional films produced during the war and in the politically fraught culture of collective memorialization that formed in aftermath of this national trauma. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300. Same as HIST:4433.
- FREN:4520 Versailles Under the Sun King** 3-4 s.h.  
Survey of culture and literature related to the court of King Louis XIV at Versailles, France. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300.
- FREN:4540 Gender and Sexuality in French Cinema** 3-4 s.h.  
Cultural, historical, and semiotic approach to studying constructions of gender identity and discourses on sexuality in French cinema from 1920s to present; optional discussion section taught in French. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300. Same as GWSS:4540.
- FREN:4750 Topics in French Studies II** 3 s.h.  
French and/or Francophone literature or culture. Taught in French. Prerequisites: FREN:3060 and FREN:3300.
- FREN:4911 French for Reading/Research** 2 s.h.
- FREN:4912 French for Reading/Research** 2 s.h.
- FREN:4990 Independent Study** arr.  
Prerequisites: FREN:3300 and FREN:3060.
- FREN:4995 Honors Research and Thesis** 3 s.h.  
Prerequisites: FREN:3300 and FREN:3060.
- FREN:5000 Teaching and Learning Languages** 3 s.h.  
Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Taught in English. Same as GRMN:5001, SLA:5000, SPAN:5000, WLLC:5000.
- FREN:5001 Introduction to Graduate Study** 2 s.h.  
Expectations, resources, and opportunities of graduate study; introduction to coursework, development of preprofessional competencies. Taught in English.
- FREN:5020 Comparative Stylistics** 3 s.h.  
Translation from English to French, and French to English, including literary texts. Taught in English.
- FREN:6005 Colloquium: Teaching French** 3 s.h.  
Professional training to teach in elementary and intermediate French program; individualized mentoring and pedagogical guidance; for graduate student teaching assistants. Taught in English.
- FREN:6020 Studies in the Seventeenth Century** 3 s.h.
- FREN:6025 Studies in the Eighteenth Century** 3 s.h.  
Studies of French and/or Francophone literature and culture of the 18th century. Taught in French.
- FREN:6080 Modern French Novel** 3 s.h.  
Taught in French.
- FREN:6130 Francophone Thought** 3 s.h.  
Comparative study of intellectual, literary, cultural, social, and historical developments in the Caribbean, the Indian Ocean, the Maghreb, and Sub-Saharan Africa; approaches include cultural theory, literary criticism, cinema, visual arts, women's studies, memory and trauma studies, postcolonial ecologies, and cultural anthropology; examination of key conceptual paradigms and cultivation of skills in critical thinking methodologies; students acquire theoretical tools to explore an interdisciplinary scholarly field and learn to establish connections between the main components of the course and their own research interests. Taught in French. Same as GWSS:6130.
- FREN:6142 Crossing Borders Seminar** 2-3 s.h.  
Taught in English. Same as AFAM:6635, ANTH:6635, COMM:6635, ENGL:6635, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.
- FREN:6750 Topics in French Studies** 3 s.h.
- FREN:6755 French Literature of the 20th/21st Centuries** 3 s.h.  
Advanced survey of French Literature 1900-present in areas of novel, theater, poetry, and essay. Taught in French.
- FREN:6920 Multimedia and Second Language Acquisition** 3 s.h.  
Combination of theory and practice regarding use of multimedia and technology to enhance foreign language teaching and second language acquisition research. Taught in English. Same as GRMN:6920, SLA:6920, SPAN:6920.
- FREN:7000 Thesis** arr.
- FREN:7990 Independent Study** arr.
- ## Italian Courses
- ITAL:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.
- ITAL:1030 Italian for Travelers** 2 s.h.  
Basic language skills for tourists; for students with no previous Italian.
- ITAL:1050 Italy Live** 3 s.h.  
Introduction to Italian language and culture designed for students whose first contact with the language is in Italy; offered through Consortium of Universities for International Studies study abroad program (CUIS/CIMBA) in Paderno del Grappa, Italy.
- ITAL:1101 Elementary Italian I** 5 s.h.  
Beginning instruction in Italian for students with no prior experience in speaking, reading, or understanding Italian. GE: World Languages First Level Proficiency.
- ITAL:1102 Elementary Italian II** 5 s.h.  
Continuation of ITAL:1101; beginning instruction in speaking, reading, and understanding Italian. Prerequisites: ITAL:1101. GE: World Languages Second Level Proficiency.
- ITAL:1103 Intensive Elementary Italian** 4,6 s.h.  
ITAL:1101 and ITAL:1102 combined in one semester; fundamentals of Italian language and culture including reading, writing, comprehension, and speaking skills. Requirements: two years of another foreign language. GE: World Languages Second Level Proficiency.

- ITAL:1540 Topics in Italian** 2 s.h.  
Topics in Italian language, culture, and literature; may include Italian cinema, studies of specific Italian cities, thematic approaches to Italian studies.
- ITAL:2203 Intermediate Italian I** 4 s.h.  
Improvement of skills in writing, speaking, and comprehension beyond the level of elementary Italian. Prerequisites: ITAL:1102. GE: World Languages Third Level Proficiency.
- ITAL:2204 Intermediate Italian II** 4 s.h.  
Improvement of skills in writing, speaking, and comprehension beyond the level of elementary Italian. Prerequisites: ITAL:2203. GE: World Languages Fourth Level Proficiency.
- ITAL:2440 Italian Arts for International Success** 3 s.h.  
Exploration of Italy's centuries-old artistic tradition; students become familiar with some of the most important manifestations of Italian culture and reflect on how the arts have been informing business initiatives. Taught in English. GE: Literary, Visual, and Performing Arts.
- ITAL:2550 Images of Modern Italy** 3-4 s.h.  
Survey of Italy's history since Unification; diverse aspects of modern Italian culture and society through visual and textural materials; optional discussion sections taught in Italian. Taught in English. Requirements: for students earning 4 s.h.—ITAL:2204. GE: Historical Perspectives; Values and Culture.
- ITAL:2660 The Italian American Experience** 3 s.h.  
Exploration of Italian American presence in the U.S. by investigating historical background, multifaceted reality, heritage, and contribution to national culture; examination of Italian American ethnicity as portrayed in American literature, film, and television through an interdisciplinary approach; analysis of how Italian American writers and filmmakers have represented their community and contributed to shape their own cultural identity. Taught in English. GE: Diversity and Inclusion.
- ITAL:2770 The Mafia and the Movies** 3 s.h.  
Exploration of the myth of the Mafia and mobsters and examination of its function through a selection of Italian films; students investigate the multifaceted nature of Italian organized crime, and consider its historical, geographical, social, and economical dimensions. Taught in English. GE: International and Global Issues.
- ITAL:2880 Italian Food Culture** 3 s.h.  
Introduction to Italian food culture; students explore how Italian culinary tradition was born and evolved over time, often reflecting historical and economic developments in the country; the different geographical regions of Italy and how each region established its own food culture, while at the same time being part of a national food culture; how Italian food has become a defining element of Italianness in the world, with focus on the birth of Italian-American foodways. Taught in English. GE: Values and Culture.
- ITAL:2990 Independent Study** arr.
- ITAL:3305 Advanced Italian** 3-4 s.h.  
Improvement of skills in writing, speaking, and comprehension beyond the level of intermediate Italian; activities include class discussions, oral presentations, compositions, readings of modern texts, review and expansion of grammar. Prerequisites: ITAL:2204.
- ITAL:3306 Advanced Italian II** 3-4 s.h.  
Improvement of skills in writing, speaking, and comprehension beyond the level of intermediate Italian; activities include class discussions, oral presentations, compositions, readings of modern texts, review and expansion of grammar. Prerequisites: ITAL:2204.
- ITAL:4550 Topics in Italian Studies** 3 s.h.  
Varied topics. Requirements: at least one course taught in Italian at the 2000 level or above.
- ITAL:4633 Dante's Inferno** 3-4 s.h.  
A virtual poetic journey through Hell; critical reading of Dante's *Inferno*, the first volume of *The Divine Comedy*, and the many ways this text has been interpreted and reinterpreted; while primary focus is on Dante's work, other texts and media are introduced to enhance the reading. Taught in English; discussion sessions in Italian. Requirements: for Italian majors taking 4 s.h. option—ITAL:2204.
- ITAL:4634 The Italian Renaissance** 3 s.h.  
Introduction to literature and culture of the Italian Renaissance; readings address various aspects of late medieval and renaissance culture including mysticism, humanism, women's position vis-à-vis literary tradition, and the relationship between literature and the arts. Taught in Italian. Prerequisites: ITAL:2204.
- ITAL:4660 Transcultural Texts and Translations** 3 s.h.  
Exploration of transcultural texts and films that have contributed to reshape the Italian cultural landscape; analysis and discussion of topics including migration and diaspora, belonging and exclusion, memory and nostalgia, prejudices and other obstacles to integration, use of language as a means of rejection and connection, struggles of new generations, hybrid identities, and imagined transformations that foster constructive interactions between cultures, histories, and languages; reflection and engagement in the practice of translation as a way of honing linguistic and cultural competency. Taught in Italian. Recommendations: at least one course taught in Italian at the 2000 level or above.
- ITAL:4667 Modern Italian Fiction** 3 s.h.  
Survey of major developments in Italian fiction, from birth of the modern novel in the 19th century to present-day transcultural narratives. Taught in Italian. Prerequisites: ITAL:2204.
- ITAL:4668 Modern Italian Poetry and Theater** 3 s.h.  
Survey of major developments in modern Italian poetry and theater in relation to historical and cultural context. Taught in Italian. Prerequisites: ITAL:2204.
- ITAL:4990 Independent Study** arr.
- ITAL:4998 Honors Research and Thesis** 3 s.h.
- ## Arabic Courses
- ARAB:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.
- ARAB:1001 Elementary Modern Standard Arabic I** 5 s.h.  
Speaking, listening, reading, and writing skills. GE: World Languages First Level Proficiency.
- ARAB:1002 Elementary Modern Standard Arabic II** 5 s.h.  
Continuation of ARAB:1001. Requirements: ARAB:1001. GE: World Languages Second Level Proficiency.
- ARAB:1020 Study Abroad: Language (Elementary)** 5 s.h.  
Modern Standard Arabic (MSA); speaking, reading, listening and writing skills. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement.

**ARAB:2001 Intermediate Modern Standard Arabic I** 5 s.h.

Communication in speaking and writing; cultural topics. Requirements: ARAB:1002. GE: World Languages Third Level Proficiency.

**ARAB:2002 Intermediate Modern Standard Arabic II** 5 s.h.

Continuation of ARAB:2001. Requirements: ARAB:2001. GE: World Languages Fourth Level Proficiency.

**ARAB:2006 Transnational Solidarities** 3-4 s.h.

Examination of connections forged by intellectuals, activists, and political thinkers in struggles against systems of colonialism, imperialism, capitalism, and state violence throughout the 20th century; opportunities to make connection with other struggles against racism, supremacy, patriarchy, and domination; optional discussion section taught in Arabic. Taught in English. Requirements: for 4 s.h. option—ARAB:1002. Same as WLLC:2006.

**ARAB:2020 Study Abroad: Language (Intermediate)** 6 s.h.

Modern Standard Arabic (MSA); speaking, reading, listening and writing. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement. Recommendations: one year of Arabic study.

**ARAB:2025 Study Abroad: Culture and Society** 1 s.h.

Introduction to Moroccan culture and society through direct observation and interaction; intensive orientation, cultural exchange activities, learning excursions outside Fez, homestay with a Moroccan family.

**ARAB:2030 Formal Spoken Arabic** 2-3 s.h.

Conversational practice with a native speaker; for students who have completed fourth-semester Arabic. Requirements: ARAB:1002 or ARAB:2002; non-native or non-heritage speaker of Arabic.

**ARAB:2050 Topics in Middle East/Muslim World Studies** 3 s.h.

Contemporary cultural questions and debates in the Muslim and Arabic-speaking world. Taught in English.

**ARAB:3005 Culture and Resistance: The Modern Middle East** 3-4 s.h.

Introduction to literature, cinema, and music of the Modern Middle East; how artists from Arab world, Turkey, and Iran explore their political terrain; how they depict issues of gender and sexuality; impact of the Arab Spring; exploration of art as expression and resistance; intersection between cultural and political; short stories, graphic novels, film, music, and visual arts. Taught in English.

**ARAB:3011 Advanced Modern Standard Arabic I** 3 s.h.

Advanced Arabic grammar and syntax, composition writing, formal conversation (similar to conversations on Arabic mass media); classical Arabic texts, other materials written for persons whose first or official language is Arabic. Requirements: ARAB:2002.

**ARAB:3012 Advanced Modern Standard Arabic II** 3 s.h.

Continuation of ARAB:3011; advanced Arabic grammar and syntax, composition writing, formal conversation (similar to conversations on Arabic mass media); classical Arabic texts, other materials written for persons whose first or official language is Arabic. Requirements: ARAB:3011.

**ARAB:3020 Study Abroad: Language (Advanced)** 6 s.h.

Modern Standard Arabic (MSA); speaking, reading, listening, and writing. Requirements: non-native speaker of Arabic; heritage speaker of Arabic should contact the course supervisor for appropriate placement. Recommendations: two or more years of Arabic language.

**ARAB:3030 Media Arabic** 3 s.h.

Introduction to vocabulary, expressions, and terminology used in Arab print and broadcast media; supplements study in modern standard Arabic. Taught in Arabic. Requirements: ARAB:1002.

**ARAB:3050 Arab Culture Through Dialects** 3 s.h.

Communication in dialectal Arabic, Arabic dialectology, cultural topics, music and film in dialectal Arabic. Requirements: ARAB:1001; non-native or non-heritage speaker of Arabic.

**ARAB:3060 Introduction to Arabic-English Translation** 3 s.h.

Thorough introduction to translation (including theory) with particular emphasis on development of Arabic-to-English translation techniques and acquisition of related knowledge above and beyond language skills; basic problems commonly encountered during translation; development and application of an appropriate strategy for future translations. Prerequisites: ARAB:2001 with a minimum grade of C.

**ARAB:3498 Translate Iowa Project** arr.

Internship with the Translate Iowa Project. Taught in English. Requirements: TRNS:2000 or TRNS:3179 or TRNS:3202 or ENGL:3724 or JPNS:3201 or SPAN:3030 or SPAN:3050 or SPAN:4980. Same as TRNS:3498.

**ARAB:4512 Topics in Global and Transnational Culture** 3-4 s.h.

In-depth look at a theme in cultural expression arising from interactions between countries and regions; focus on contemporary or historical issues; use of materials ranging from literature and the visual arts to music, mass media, and more; general processes through which cultures are formed in mutual and uneven relationships; research project. Taught in English. Recommendations: completion of a GE CLAS Core International and Global Issues course. Same as GRMN:4512, WLLC:4512.

**ARAB:4990 Independent Study** arr.

Material not covered in regularly offered courses; independent study guided by an instructor.

## Swahili Courses

**SWAH:1000 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Taught in English. Requirements: first- or second-semester standing.

**SWAH:1001 Elementary Swahili I** 4 s.h.

Development of basic Swahili conversations; introduction to Kiswahili culture, grammar, and vocabulary necessary for communication; asking and responding to simple and short questions. GE: World Languages First Level Proficiency.

**SWAH:1002 Elementary Swahili II** 4 s.h.

Builds on fundamentals of Kiswahili learned in SWAH:1002; students increase their proficiency in the language; introduction to Swahili language and culture through reading and listening to Swahili authentic materials. Requirements: SWAH:1001. GE: World Languages Second Level Proficiency.



**SWAH:1010 Introduction to Swahili Language and Culture****2 s.h.**

Introduction to Swahili language, history, and culture for anyone who would like to learn more about East Africa, Swahili language, and culture; multidisciplinary sources include texts, newspapers, booklets, films, music videos, pictures, handouts, websites, and a taste of Swahili cuisine; provides a bird's eye view of East African culture; previous knowledge of Swahili not required.

**SWAH:2001 Intermediate Swahili I****4 s.h.**

Development of language skills and intercultural understanding; use simple conversation for everyday life topics, language use for daily basis needs using familiar topics, maintain conversation on simple and relevant topics, and exchange information about subjects of interest; students compare discussions and conversations to their own experiences, read literary texts and biographies, and watch video clips, movies, and documentaries to compare and relate the culture to their own backgrounds. Requirements: SWAH:1002. GE: World Languages Third Level Proficiency.

**SWAH:2002 Intermediate Swahili II****4 s.h.**

Continuation of SWAH:2001; students increase competence in speaking the language and cultural understanding; general Swahili grammar and cultural studies; using the language to talk about job careers, lifestyles, basic rules/policies, complicated situations, purchasing and negotiating prices; development of communicative skills and intercultural understanding by reading a wide variety of texts and types. Requirements: SWAH:2001. GE: World Languages Fourth Level Proficiency.

**SWAH:3006 Conversational Swahili****3 s.h.**

Extensive practice in production and comprehension of spoken Swahili; students read and interpret simple texts, and write sentences and/or paragraphs about various topics; use of online resources to develop topics of discussion; students improve their Swahili grammar and vocabulary skills through conversations and discussions. Requirements: SWAH:1001 or prior background with Swahili.

**SWAH:3007 Advanced Swahili****3 s.h.**

Advanced speaking, listening, reading, and writing skills. Requirements: grade of D+ or higher in SWAH:2002.

**SWAH:3010 Kiswahili for Business****3 s.h.**

World of Swahili business; role of Swahili-speaking countries in world trade; particular focus on business in East Africa. Taught in Swahili. Prerequisites: SWAH:1001.

**SWAH:3090 Topics in Swahili****3 s.h.**

Varied topics in Swahili studies. Taught in Swahili. Prerequisites: SWAH:2002.

**SWAH:4050 Kiswahili in Cyberspace****3 s.h.**

First-hand experience in the Kiswahili cyberworld; how to text in Kiswahili; what is in the Kiswahili blogosphere; where to find news, job and business opportunities, and discussions of health and environmental issues in Kiswahili on the internet; why and how do residents of the Kiswahili-speaking nations of East Africa, from farmers and school teachers to health professionals and business entrepreneurs, use cyberspace; taught primarily in Kiswahili. Prerequisites: SWAH:1002.

**SWAH:4070 Swahili in the Modern World****3 s.h.**

Deep insight into intercultural connections of Swahili and other parts of the world. Taught in Swahili. Prerequisites: SWAH:2001.

**SWAH:4090 Swahili Independent Study****1-3 s.h.**

Material not covered in regularly offered courses; independent study guided by an instructor.

# French, B.A.

## Learning Outcomes

At time of graduation, majors will have reached the equivalent of the intermediate high/advanced low level on the American Council on the Teaching of Foreign Languages (ACTFL) scale in the four areas of speaking, listening, reading, and writing with a special emphasis on literature and culture, language, or French and Arabic, depending on their track.

- Interpersonal communication: ability to interact orally and in writing at a level sufficient for effective communication on a wide range of topics with French-speaking interlocutors from the Francophone world and across cultures.
- Written communication: ability to analyze, synthesize, engage critically, and effectively present written information and argumentation on what is heard, read, or viewed on the literatures and cultures of the Francophone world—France, North-and sub-Saharan Africa, the Indian Ocean, the Caribbean, and the French-speaking communities of North America.
- Cross/intercultural communication: ability to gain knowledge on the various Francophone cultures of the world, and to reflect upon and deal appropriately with their linguistic, cultural, and artistic history and diversity.

## Requirements

The Bachelor of Arts with a major in French requires a minimum of 120 s.h., including 33-37 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Furthering Language Incentive Program (FLIP) credit may not be counted toward the major.

The French Language and Culture Advanced Placement (AP) exam with a score of 4 or higher is considered to be the equivalent to FREN:3000 Third-Year French.

Students majoring in French complete a set of four foundation courses plus the requirements for one of four tracks: the French and Arabic track, the language track, the literature and culture track, or the teaching track.

The B.A. with a major in French requires the following coursework.

Code	Title	Hours
Foundation Courses		12
Track Courses		21-25
<b>Total Hours</b>		<b>33-37</b>

## Foundation Courses

Code	Title	Hours
All of these:		
FREN:3060	Introduction to Reading and Writing in Literature	3
FREN:3300	French Grammar	3
FREN:4020	Oral Expression in French II	3
One of these:		
FREN:3007	French Phonetics	3
FREN:3020	Oral Expression in French I	3

Students must maintain portfolios documenting their progress toward attaining the objectives of the French major.

A maximum of one course taught in English may be counted toward the major, except with the French and Arabic track; courses taught in English with an additional semester hour in French are exempt from this rule. Students should consult with their advisors before registering.

Transfer credit may be accepted, and students are encouraged to participate in study abroad, but the last two courses in the major ordinarily must be completed at the University of Iowa. Transfer credit is evaluated on an individual basis by the faculty in charge of study abroad.

Students choose an emphasis in one of the following four tracks when they declare the major (or later, but before their fourth year).

## Tracks

### French and Arabic Track

The French and Arabic track is designed for students interested in combining study of the French and Arabic languages with history, politics, and religions of Middle Eastern cultures and with a major in another area, such as political science, geography, or history.

Requirements for the French and Arabic track include seven or eight courses (25 s.h.) in addition to the foundation coursework in French. Refer to "Literature and Culture, Language Courses" below for French courses that will satisfy that requirement.

Code	Title	Hours
Three courses in French language, or literature and culture, taught in French, with at least one numbered above 4000		9
Two or three courses in Arabic language beyond first year		10
Two courses on Middle Eastern cultures (prefix FREN or ARAB), taught in French, Arabic, or English, or approved courses from other departments		6

### Language Track

The language track is designed for students with an interest in language and translation, as well as French and Francophone literature and culture. Students work in specific areas such as international business, comparative stylistics, and translation.

Requirements for the language track include seven courses (21 s.h.) in addition to the foundation coursework in French. Refer to "Literature and Culture, Language Courses" below for French courses that will satisfy that requirement.

Code	Title	Hours
FREN:3410	Business French	3
FREN:4007	Topics in French Linguistics	3
Five courses in French language, or literature and culture		15

All language track students take FREN:3410 Business French and FREN:4007 Topics in French Linguistics. Of the remaining five courses, only one may be taught in English under the French department (prefix FREN). This restriction does not apply to courses taught in English with an additional semester hour in French. Students must complete at least one course

numbered above 4000, in addition to the required course FREN:4007.

Courses in French stylistics and textual analysis, another language, economics, political science, and/or business are recommended as adjunct electives.

## Literature and Culture Track

The literature and culture track is designed for students who are interested in combining study of French and Francophone literatures and cultures with a major in another area, such as cinema, communication studies, history, international studies, political science, or journalism.

Requirements for the literature and culture track include seven courses (21 s.h.) in addition to the foundation coursework in French. Refer to "Literature and Culture, Language Courses" below for French courses that will satisfy that requirement.

Code	Title	Hours
	Five courses in literature and culture	15
	Two courses in language, or literature and culture	6

Only one of these courses may be taught in English under the French department (prefix FREN). This restriction does not apply to courses taught in English with an additional semester hour in French. At least two courses must be numbered above 4000.

## Teaching Track

The teaching track is designed for students who intend to earn licensure to teach in elementary and/or secondary schools. Students must successfully complete the requirements for the major in French with the teaching track and must complete the College of Education's Teacher Education Program (TEP), which requires education courses and student teaching (see "Teacher Licensure" below).

Requirements for the French major's teaching track include seven courses (21 s.h.) in addition to the foundation coursework in French. Refer to "Literature and Culture, Language Courses" below for French courses that will satisfy that requirement.

Code	Title	Hours
	Four courses in literature and culture	12
	Three courses from these areas: language, literature and culture	9

Only one of these courses may be taught in English under the French department (prefix FREN). This restriction does not apply to courses taught in English with an additional semester hour in French. At least two courses must be numbered above 4000.

## Literature and Culture, Language Courses

Students can select courses from the following to satisfy track requirements. All courses are taught in French unless otherwise indicated.

### Literature and Culture Courses

Code	Title	Hours
FREN:3000	Third-Year French	3
FREN:3120	French Civilization	3
FREN:3130	French-Speaking Cultures	3

FREN:3160	Study Abroad: Culture	3
FREN:3225	Studies in Modern France	3
FREN:3232	French Literary Translation Workshop	3
FREN:3240	Media French	3
FREN:3250	Topics in French Studies I	3
FREN:4015	Francophone Cinema (taught in English)	3-4
FREN:4017	Global Comics (taught in English)	3-4
FREN:4026	French Women Writers (taught in English)	3-4
FREN:4080	Post-Colonial Literature in France	3
FREN:4090	Quebec Literature	3
FREN:4100	French Cinema (taught in English)	3-4
FREN:4110	Francophone Literature of the African Diaspora	3
FREN:4210	Slavery Museums, Memorials, and Statues in the United States, Europe, and the Global South (taught in English)	3-4
FREN:4433	France Under Nazi Occupation, 1940-1944 (taught in English)	3-4
FREN:4520	Versailles Under the Sun King (taught in English)	3-4
FREN:4540	Gender and Sexuality in French Cinema (taught in English)	3-4
FREN:4750	Topics in French Studies II	3

## Language Courses

Code	Title	Hours
FREN:3000	Third-Year French	3
FREN:3007	French Phonetics	3
FREN:3360	Study Abroad: Language	3
FREN:3410	Business French	3
FREN:4007	Topics in French Linguistics	3
FREN:4070	Introduction to the Study of Meaning (taught in English)	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

Majors who want to earn teacher licensure should choose the French teaching track. See "Teaching Track" above.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must have a g.p.a. of at least 3.50 for work undertaken in the department and a cumulative University of Iowa g.p.a. of at least 3.33.

To graduate with honors in the major, departmental honors students must register for FREN:4995 Honors Research and Thesis or one honors-designated course numbered above 4000. They must complete an honors thesis or the equivalent (e.g., translation, comparative stylistics, cultural studies, or research) in French and must present their work to a faculty committee.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the French major.

## Career Advancement

Students majoring in French may combine their studies with courses in education to prepare for jobs in high school teaching. They may go on to graduate study in areas such as French, comparative literature, and other interdisciplinary areas as preparation for college-level teaching. Or they may combine other skills and studies with their major in French to prepare for challenging career opportunities in international government, business, finance, travel, communications, and other fields where the knowledge of more than one language is essential.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** competence in first-year French.

**Before the fifth semester begins:** second-year French (FREN:2002 Intermediate French II).

**Before the seventh semester begins:** three of the four requirements for the major, FREN:3007 French Phonetics or FREN:3020 Oral Expression in French I, FREN:3060 Introduction to Reading and Writing in Literature, FREN:3300 French Grammar, one or two other courses in the major, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** FREN:4020 Oral Expression in French II and three more courses in the major; for the French language track, FREN:3410 Business French and FREN:4007 Topics in French Linguistics.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### French, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
A maximum of one course taught in English may be counted toward the major, except in the French and Arabic track. <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
FREN:1001	Elementary French I <sup>c, d</sup>	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture <sup>e</sup>		3
Elective course <sup>f</sup>		1
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
FREN:1002	Elementary French II <sup>c, d</sup>	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
FREN:2001	Intermediate French I <sup>c, d</sup>	5
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
FREN:2002	Intermediate French II <sup>c, d</sup>	5
GE CLAS Core: International and Global Issues <sup>e</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>16</b>
<b>Third Year</b>		
<b>Fall</b>		
FREN:3007 or FREN:3020	French Phonetics or Oral Expression in French I	3
FREN:3060	Introduction to Reading and Writing in Literature	3

FREN:3300	French Grammar	3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
Elective course <sup>f</sup>		3

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**Hours** **15**

### Spring

FREN:4020	Oral Expression in French II	3
Major: French track course <sup>g</sup>		3 - 4
Major: French track course <sup>g</sup>		3 - 4
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		1

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**Hours** **16-18**

### Fourth Year

#### Fall

Major: French track course <sup>g</sup>		3 - 4
Major: French track course <sup>g</sup>		3 - 4
Major: French track course (if needed) <sup>g</sup>		3 - 4
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3

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**Hours** **15-18**

#### Spring

Major: French track course <sup>g</sup>		3 - 4
Major: French track course <sup>g</sup>		3 - 4
Major: French track course (if needed) <sup>g</sup>		3 - 4
GE: Social Sciences <sup>e</sup>		3
Elective course <sup>f</sup>		3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)

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**Hours** **15-18**

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**Total Hours** **121-131**

- a Courses taught in English with an additional semester hour in French are exempt from this rule. Students should consult with their advisors before registering.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c FREN:1001, FREN:1002, FREN:2001, and FREN:2002 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students complete 21-25 s.h. in track courses. Required coursework varies by track.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Italian, B.A.

## Why Study Italian?

Italian is the gateway to one of the world's richest cultures. Italy has the most United Nations Educational, Scientific and Cultural Organization (UNESCO) world heritage sites—artistic treasures considered to be of universal value—of any country in the world, due to its history as the birthplace of the Roman Empire and the Renaissance. In addition to an internationally recognized cultural patrimony, the country also has one of the world's largest economies. Italy is a world leader in design, fashion, art restoration, the culinary arts, robotics, shipbuilding, electromechanical machinery, machine tool manufacturing, construction machinery, space engineering, pharmaceuticals, and genetic mapping. Music, cinema, and sports also speak Italian. The video, *Italy the Extraordinary Commonplace*, highlights Italy's important contributions.

Students pursue Italian studies for cultural reasons, for travel and study plans in Italy, and because it enhances their competitiveness in today's marketplace. Since an estimated 950 Italian companies have offices in the U.S., and the U.S. is the third-ranked country of destinations for Italian export, many employers are seeking people who speak both Italian and English. A major in Italian opens doors to careers in a variety of fields; see Career Advancement [p. 527] in this section of the Catalog.

## Italian: Languages, Culture, and Creativity

The major in Italian provides many opportunities for growth in the language and for increased cultural fluency through dynamic, in-class learning experiences and extracurricular activities such as the Italian Table (weekly conversation hours) and the film series, *Italian Movie Nights*.

## Learning Outcomes

The goal is for students who graduate with a major in Italian to be able to:

- understand any spoken language even when delivered at fast native speed;
- communicate effectively, in both oral and written discourse, considering varying registers and cultural contexts;
- read with ease all forms of the written language, including complex texts such as specialized articles and literary works;
- reflect with critical insight on a range of topics in Italian literature, history, and contemporary culture;
- explain the significance of a representative selection of figures, texts, and tendencies in the literature and other forms of cultural production from the target language-speaking world;
- recognize and reflect in an informed way on cultural differences as well as shared values between Italian culture and their native cultures; and
- develop an intellectual engagement and reflective sensibility that will contribute to their lifelong learning.

## Requirements

The Bachelor of Arts with a major in Italian requires a minimum of 120 s.h., including 32-33 s.h. of work for the

major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students may count a maximum of 9 s.h. (three courses) of approved upper-level transfer or study abroad credit toward the major in Italian, but they must take either ITAL:3305 Advanced Italian or ITAL:3306 Advanced Italian II at the University of Iowa. The Italian Language and Culture Advanced Placement (AP) exam with a score of 4 or higher may be used to complete the General Education (GE) World Languages requirement and applied to requirements for the Italian major or minor, or used as elective hours.

The B.A. with a major in Italian requires the following coursework.

Code	Title	Hours
All of these:		
ITAL:2203	Intermediate Italian I	4
ITAL:2204	Intermediate Italian II	4
ITAL:3305	Advanced Italian	4
ITAL:3306	Advanced Italian II	4
ITAL:4550	Topics in Italian Studies	3
ITAL:4633	Dante's Inferno	4
ITAL:4660	Transcultural Texts and Translations	3
ITAL:4667	Modern Italian Fiction	3
One of these:		
ITAL:2550	Images of Modern Italy	4
An additional course taught in Italian numbered above 3000		3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

Majors who want to earn teacher licensure should include an additional 2 s.h. in their work for the major. They should consult the director of undergraduate studies.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must have a g.p.a. of at least 3.50 for work undertaken in the department and a cumulative University of Iowa g.p.a. of at least 3.33.

To graduate with honors in the major, students must register for ITAL:4998 Honors Research and Thesis and one honors-designated course numbered 3000 or above. They must complete an honors thesis or the equivalent (e.g., translation, comparative stylistics, cultural studies, or research) in Italian and must present their work to a faculty committee.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Italian major.

### Career Advancement

A background in Italian is helpful for students planning careers in international business, tourism, and teaching, as well as for opera singers, musicians, art and art history majors, and for those who study architecture, fashion, and design. With more than a thousand Italian companies doing business in the United States, the major in Italian combines well with career options in a wide variety of fields.

Students majoring in Italian may combine their studies with courses in education to prepare for jobs in high school teaching. They may go on to graduate study in areas such as Italian, comparative literature, and other interdisciplinary areas as preparation for college-level teaching. Several Italian majors go on to law school. Or they may combine other skills and studies with their major in Italian to prepare for challenging career opportunities in international government, business, finance, public relations, journalism, education, archaeology, arts administration, nongovernmental organizations, publishing, library science, politics, travel and tourism, hospitality management, communications, the culinary arts, and in other fields where the knowledge of more than one language is essential.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** competence in first-year Italian.

**Before the fifth semester begins:** competence in second-year Italian (ITAL:2204 Intermediate Italian II).

**Before the seventh semester begins:** four courses in the major numbered above 3000 and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** a total of at least five courses in the major numbered above 3000.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and enough semester hours to graduate.

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course choice and sequence will vary and should be discussed with an academic advisor. For more sample plans, see MyUI.

## Italian, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ITAL:1101	Elementary Italian I <sup>b, c</sup>	5
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>e</sup>		2
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
ITAL:1102	Elementary Italian II <sup>b, c</sup>	5
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>16-17</b>
<b>Second Year</b>		
<b>Fall</b>		
ITAL:2203	Intermediate Italian I <sup>c</sup>	4
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
ITAL:2204	Intermediate Italian II <sup>c</sup>	4
Major: course taught in Italian (prefix ITAL) numbered above 3000 or ITAL:2550 Images of Modern Italy <sup>f, g</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
ITAL:3305	Advanced Italian <sup>f</sup>	4
ITAL:4667	Modern Italian Fiction	3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
ITAL:3306	Advanced Italian II <sup>f</sup>	4
ITAL:4550	Topics in Italian Studies	3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16</b>

**Fourth Year****Fall**

ITAL:4633	Dante's Inferno <sup>f</sup>	4
GE CLAS Core:	Literary, Visual, and Performing Arts <sup>d</sup>	3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16</b>

**Spring**

ITAL:4660	Transcultural Texts and Translations	3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>h</sup>

<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>126-129</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b ITAL:1101 and ITAL:1102 do not count for credit toward the major. Language level placement will be determined by the online placement test score and consultation with the Director of Italian Studies. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in Italian courses requires an online placement exam and consultation with the Director of Italian Studies, unless enrolling in a first-semester-level course.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students pursuing the Italian major must take this course for 4 s.h.
- g Fulfills a major requirement and may fulfill a GE requirement.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Arabic Studies, Minor

## Requirements

The undergraduate minor in Arabic studies requires a minimum of 16 s.h. earned in Arabic courses (prefix ARAB) considered intermediate (2000 level) or advanced (3000 level). A maximum of 3 s.h. may be taken in approved coursework taught in English. At least 12 s.h. must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

## Required Coursework

Code	Title	Hours
Both of these:		
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5

## Courses Taught in English

Students may apply 3 s.h. of the following approved coursework taught in English toward the minor.

Code	Title	Hours
ARAB:2006	Transnational Solidarities	3
ARAB:2050	Topics in Middle East/Muslim World Studies	3
ARAB:3005	Culture and Resistance: The Modern Middle East	3
Related elective (program approval required)		3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Arabic Studies, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in Arabic studies requires a minimum of 16 s.h. earned in Arabic courses considered intermediate (2000 level) or advanced (3000 level) for the minor.		
At least 12 s.h. must be taken at the University of Iowa.		
Students must maintain a GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.		
Coursework in the minor may not be taken pass/non-pass.		
A maximum of 3 s.h. may be taken in approved coursework taught in English. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

### First Year

#### Fall

ARAB:1001	Elementary Modern Standard Arabic I <sup>b, c</sup>	5
<b>Hours</b>		<b>5</b>

#### Spring

ARAB:1002	Elementary Modern Standard Arabic II <sup>b, c</sup>	5
<b>Hours</b>		<b>5</b>

### Second Year

#### Fall

ARAB:2001	Intermediate Modern Standard Arabic I <sup>b</sup>	5
<b>Hours</b>		<b>5</b>

#### Spring

ARAB:2002	Intermediate Modern Standard Arabic II <sup>b</sup>	5
<b>Hours</b>		<b>5</b>

### Third Year

#### Fall

ARAB:3011	Advanced Modern Standard Arabic I <sup>a</sup>	3
<b>Hours</b>		<b>3</b>

#### Spring

ARAB:3012	Advanced Modern Standard Arabic II <sup>a</sup>	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>26</b>

a See General Catalog for approved courses.

b Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

c This course is a prerequisite for the required minor courses.

# French, Minor

## Requirements

The undergraduate minor in French requires a minimum of 15 s.h. earned in advanced French courses (prefix FREN) numbered 3000 or above, including at least 9 s.h. taken at the University of Iowa. All courses for the minor must be taught in French. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The French Language and Culture Advanced Placement (AP) exam with a score of 4 or higher is considered to be the equivalent to FREN:3000 Third-Year French. Furthering Language Incentive Program (FLIP) credit may not be counted toward the minor.

Credit from the University Studies Abroad Consortium (USAC) programs in Pau and Lyon, France, and the Study in Montpellier program in France counts as University of Iowa credit for the minor; 6 s.h. earned in other study abroad programs may be counted toward the minor.

Those who plan to use their work toward a minor in French as academic background for earning teacher licensure should contact the Office of Student Services in the College of Education about requirements.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### French, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in French requires a minimum of 15 s.h. in courses considered advanced for the minor (3000 level or above). 9 s.h. must be taken at the University of Iowa. All courses for the minor must be taught in French.		
Students must maintain a GPA of 2.00 in all courses for the minor and in all UI courses for the minor.		
Coursework in the minor may not be taken pass/non-pass.		
Furthering Language Incentive Program (FLIP) credit may not be counted toward the minor.		
The French Language and Culture Advanced Placement (AP) exam with a score of 4 or higher is considered to be the equivalent to FREN:3000 Third-Year French.		
Study Abroad: credit from the University Studies Abroad Consortium and the Study in Montpellier programs in France counts as University of Iowa credit for the minor; 6 s.h. earned in other study abroad programs may be counted toward the minor.		
<b>Hours</b>		<b>0</b>

### First Year

#### Fall

FREN:1001	Elementary French I <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>

#### Spring

FREN:1002	Elementary French II <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>

### Second Year

#### Fall

FREN:2001	Intermediate French I <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>

#### Spring

FREN:2002	Intermediate French II <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>

### Third Year

#### Fall

Minor: advanced French course (prefix FREN, numbered 3000 or above)		3
<b>Hours</b>		<b>3</b>

#### Spring

Minor: advanced French course (prefix FREN, numbered 3000 or above)		3
<b>Hours</b>		<b>3</b>

### Fourth Year

#### Fall

Minor: advanced French course (prefix FREN, numbered 3000 or above)		3
<b>Hours</b>		<b>3</b>

#### Spring

Minor: advanced French course (prefix FREN, numbered 3000 or above)		3
Minor: advanced French course (prefix FREN, numbered 3000 or above)		3
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>35</b>

a This course is a prerequisite for the required minor courses.

b Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

# Italian, Minor

## Requirements

The undergraduate minor in Italian requires a minimum of 15 s.h., including 12 s.h. earned in advanced Italian courses (prefix ITAL) numbered above 3000 taken at the University of Iowa. All courses for the minor must be taught in Italian. Images of Modern Italy (ITAL:2550) and Dante's Inferno (ITAL:4633), if taken for 4 s.h. (includes discussion section in Italian), will count toward the 12 s.h. of advanced courses required for the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Credit for the Italian Language and Culture Advanced Placement (AP) exam with a score of 4 or higher or Furthering Language Incentive Program (FLIP) credit equivalent to ITAL:2204 Intermediate Italian II may be counted toward the 3 s.h. maximum of lower-level courses allowed for the minor.

Those who plan to use their work toward a minor in Italian as academic background for earning teacher licensure should contact the Office of Student Services in the College of Education about requirements.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Italian, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in Italian requires a minimum of 15 s.h., including 12 s.h. earned in advanced courses (prefix ITAL, numbered above 3000) taken at the University of Iowa.		
Students must maintain a GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.		
Coursework in the minor may not be taken pass/non-pass.		
Credit for the Italian Language and Culture Advanced Placement (AP) exam with a score of 4 or higher or Furthering Language Incentive Program (FLIP) credit equivalent to ITAL:2204 Intermediate Italian II may be counted toward the 3 s.h. maximum of lower-level courses allowed for the minor.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ITAL:1101	Elementary Italian I <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
ITAL:1102	Elementary Italian II <sup>a, b</sup>	5
<b>Hours</b>		<b>5</b>

### Second Year

#### Fall

ITAL:2203	Intermediate Italian I <sup>a, b</sup>	4
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<b>Hours</b>		<b>4</b>
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#### Spring

ITAL:2204	Intermediate Italian II <sup>a, c</sup>	4
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<b>Hours</b>		<b>4</b>
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### Third Year

#### Fall

Minor: advanced Italian course (prefix ITAL, numbered above 3000) <sup>d</sup>		3
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<b>Hours</b>		<b>3</b>
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#### Spring

Minor: advanced Italian course (prefix ITAL, numbered above 3000) <sup>d</sup>		3
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<b>Hours</b>		<b>3</b>
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### Fourth Year

#### Fall

Minor: advanced Italian course (prefix ITAL, numbered above 3000) <sup>d</sup>		3
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<b>Hours</b>		<b>3</b>
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#### Spring

Minor: advanced Italian course (prefix ITAL, numbered above 3000) <sup>d</sup>		3
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<b>Hours</b>		<b>3</b>
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<b>Total Hours</b>		<b>30</b>
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a Language level placement will be determined by the online placement test score and consultation with the Director of Italian Studies. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

b This course is a prerequisite for the required minor courses.

c Students may also take an Italian elective course d All courses for the minor must be taught in Italian;

ITAL:2550 and ITAL:4633, if taken for 4 s.h. (includes discussion section in Italian), will count towards the 12 s.h. of advanced courses required for the minor.

# French and Francophone World Studies, M.A.

The Master of Arts in French and Francophone world studies is offered with an optional French education emphasis.

For more detailed information on graduate degrees in French and Francophone world studies, contact the Department of French and Italian or visit its website.

## Learning Outcomes

- Mastery level of competence and proficiency in spoken and written French. Ability to change between languages and registers with ease as well as express sophisticated ideas in both English and French.
- Ability to perform a formal analysis of literary texts from a variety of genres, including narrative, poetry, theater, and those situated at the limits between traditional notions of genre as well as the visual arts.
- Knowledge of the various periods and subfields of French and Francophone literature from the Renaissance to the present, including major literary, cultural, and historical movements, and the relationship between France and its former colonies.
- Understanding of critical theory and its potential use for analyzing objects of study from a variety of media.
- Ability to think critically and make sustained and convincing arguments in relation to scholarship in the field, as well as express original opinions and thinking, as evidenced in a body of scholarship such as final papers.

## Requirements

The Master of Arts program in French and Francophone world studies requires a minimum of 30 s.h. of graduate credit and is offered with or without thesis.

Thesis students may apply up to 6 s.h. of thesis credit toward the 30 s.h. required for the degree. They must take a written and oral examination on their areas of study and must defend their thesis at the time of the comprehensive examination. The thesis prospectus must be accepted one year before a student defends the thesis.

Nonthesis students must pass a written and oral examination. With permission of the director of graduate studies and the department chair, nonthesis students may earn up to 6 s.h. of the required 30 s.h. outside the department or transfer up to 6 s.h. of coursework completed at another institution.

All M.A. students must complete the following coursework.

Code	Title	Hours
FREN:5001	Introduction to Graduate Study	2
FREN:5020	Comparative Stylistics	3
At least four graduate-level literature or culture courses numbered 5000 or above		

## French Education Emphasis

The Master of Arts program with French education emphasis requires a minimum of 38 s.h. of graduate credit in French. The program is intended primarily for prospective secondary school and community college teachers. Candidates must pass a final written and oral examination.

All French education emphasis students must complete the following coursework.

Code	Title	Hours
FREN:5001	Introduction to Graduate Study	2
FREN:5020	Comparative Stylistics	3
Courses in French literature numbered 5000 or above (minimum requirement)		9

## Admission

Applicants must have completed the equivalent of the University of Iowa undergraduate major in French. They also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants for fall semester whose application materials are received in the department by January 15 have the best chance to be admitted and receive financial aid. They must submit academic transcripts, letters of recommendation from three persons familiar with their past academic work, a statement of purpose in taking graduate work, and one or more samples of original writing, one of which should be in French, that show their ability to pursue graduate work in French (an honors thesis, term paper, seminar paper, or other course papers).

## Financial Support

Teaching assistantships are offered through the department, and University fellowships and scholarships are available through the Graduate College. Contact the Department of French and Italian for details.

Exchange assistantship agreements with the University of Pau and the University of Poitiers provide one year of residence at these universities in France for graduate students.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### French and Francophone World Studies, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
FREN:5001	Introduction to Graduate Study	2
FREN:5020	Comparative Stylistics	3
Literature or culture course <sup>c</sup>		3
		<b>8</b>

**Spring**

Literature or culture course <sup>c</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
<b>Hours</b>	<b>9</b>

**Second Year****Fall**

Literature or culture course <sup>c</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	2
<b>Hours</b>	<b>8</b>

**Spring**

Literature or culture course <sup>c</sup>	3
Elective course <sup>d</sup>	2
Final Exam <sup>e</sup>	
<b>Hours</b>	<b>5</b>

<b>Total Hours</b>	<b>30</b>
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- a Students may complete 38 s.h. of graduate level coursework for the French education emphasis. In addition to fulfilling the requirements for the MA non-thesis, an additional 9 s.h. of coursework in French literature numbered 5000 or above is required. Graduate elective coursework may be reduced by 1 s.h. if students choose to complete the French education emphasis.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Complete at least four graduate-level literature or culture courses numbered 5000 or above.
- d May apply 6 s.h. towards the degree from coursework outside the department, including graduate transfer coursework.
- e Written and oral exam on areas of study.

# French and Francophone World Studies, Ph.D.

For more detailed information on graduate degrees in French and Francophone world studies, contact the Department of French and Italian or visit its website.

## Learning Outcomes

- Mastery level of competence and proficiency in spoken and written French. Ability to change between languages and registers with ease as well as express sophisticated ideas in both English and French.
- Ability to perform a formal analysis of literary texts from a variety of genres, including narrative, poetry, theater, and those situated at the limits between traditional notions of genre as well as the visual arts.
- Knowledge of the various periods and subfields of French and Francophone literature from the Renaissance to the present, including major literary, cultural, and historical movements, and the relationship between France and its former colonies.
- Understanding of critical theory and its potential use for analyzing objects of study from a variety of media.
- Ability to think critically and make sustained and convincing arguments in relation to scholarship in the field, as well as express original opinions and thinking, as evidenced in a body of scholarship such as final papers or a dissertation.

## Requirements

The Doctor of Philosophy program in French and Francophone world studies requires a minimum of 72 s.h. of graduate credit, including credit earned for the M.A. degree.

The Ph.D. takes at least three years of graduate study, including at least one year spent in residence at the University of Iowa. Students must pass a comprehensive examination and make a successful oral defense of their dissertation.

Requirements for the Ph.D. with a major in French and Francophone world studies include the following.

Code	Title	Hours
FREN:5001	Introduction to Graduate Study	2
FREN:7000	Thesis (6 s.h. minimum)	6
A 5000-level course or one above that in critical theory approved by the director of graduate studies		3

Students must possess fifth-semester or equivalent proficiency in a foreign language other than French. They are required to spend at least one year teaching as graduate assistants in the department.

## Admission

An M.A. in French is prerequisite to admission to the Ph.D. program in French and Francophone world studies. However, successful completion of an M.A. in French does not necessarily qualify a student for doctoral study.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants for fall semester whose application materials are received in the department by January 15 have the best chance to be admitted and receive financial aid. They must submit academic transcripts, letters of recommendation from three persons familiar with their past academic work, a statement of purpose in taking graduate work, and one or more samples of original writing, one of which should be in French, that show their ability to pursue graduate work in French (an honors thesis, term paper, seminar paper, or other course papers).

## Financial Support

Teaching assistantships are offered through the department, and University fellowships and scholarships are available through the Graduate College. Contact the Department of French and Italian for details.

Exchange assistantship agreements with the University of Pau and the University of Poitiers provide one year of residence at these universities in France for graduate students.

## Career Advancement

The Ph.D. program is designed to prepare students for research, teaching, and professional service normally required of college and university faculty members.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### French and Francophone World Studies, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; typically 30 s.h. of graduate transfer credits taken for the master's from an accredited institution allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Doctoral students must possess fifth-semester or equivalent proficiency in a foreign language other than French and are required to spend at least one year teaching as a graduate assistant in the department.		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
FREN:5001	Introduction to Graduate Study	2
FREN:5000	Teaching and Learning Languages <sup>c, d</sup>	3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
		<b>Hours</b>
		<b>11</b>

<b>Spring</b>		
Critical Theory course <sup>e</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Elective course <sup>d</sup>		2
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>8</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Dissertation Prospectus <sup>f</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Comprehensive Exam <sup>g</sup>		
FREN:7000	Thesis <sup>h</sup>	2
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
FREN:7000	Thesis <sup>h</sup>	2
<b>Hours</b>		<b>2</b>
<b>Fourth Year</b>		
<b>Fall</b>		
FREN:7000	Thesis <sup>h</sup>	1
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
FREN:7000	Thesis <sup>h</sup>	1
Final Exam <sup>i</sup>		
<b>Hours</b>		<b>1</b>
<b>Total Hours</b>		<b>42</b>

a Students entering with fewer than 30 s.h. of coursework from the master's degree must work with their faculty advisor to complete the needed appropriate graduate coursework.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Teaching assistants are required to take FREN:5000.

d Work with faculty advisor to determine appropriate graduate level elective coursework and sequence.

e Must be a 5000-level or above course approved by the director of graduate studies.

f Defend prospectus by end of third year.

g Typically completed during third year fall semester; consists of three four-hour examinations followed by an oral examination.

h Complete a minimum total of 6 s.h.

i Dissertation defense.

# Gender, Women's, and Sexuality Studies

## Chair

- Hyae-weol Choi

## Director, Graduate Studies

- Naomi Greyser

## Director, Undergraduate Studies

- Aniruddha Dutta

**Undergraduate majors:** gender, women's, and sexuality studies (B.A.); social justice (B.A.)

**Undergraduate minors:** gender, health, and healthcare equity; gender, women's, and sexuality studies; social justice

**Graduate certificate:** gender, women's, and sexuality studies

**Faculty:** <https://clas.uiowa.edu/gwss/people>

**Website:** <https://clas.uiowa.edu/gwss/>

Gender, women's, and sexuality studies (GWSS) is an interdisciplinary field that promotes social justice and full citizenship by asking when and how gender intersects with sexuality, class, race, ethnicity, nationality, globalization, and physical ability in ways that can exclude and oppress but that also can enrich cultures and expand opportunities. GWSS trains students to investigate how gender and sexuality shape challenges people face in areas such as the environment, culture and the media, education, health, violence, and the economy. Critical thinking and analysis and development of expertise in writing, research, and presentation provide the program's graduates with the professional skills they will need to pursue careers or graduate study in a wide variety of fields or academic disciplines.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Gender, Women's, and Sexuality Studies (Bachelor of Arts) [p. 547]
- Major in Social Justice (Bachelor of Arts) [p. 552]

#### Minors

- Minor in Gender, Health, and Healthcare Equity [p. 559]
- Minor in Gender, Women's, and Sexuality Studies [p. 560]
- Minor in Social Justice [p. 561]

### Graduate Program of Study

#### Certificate

- Certificate in Gender, Women's, and Sexuality Studies [p. 564]

## Courses

- Gender, Women's, and Sexuality Studies Courses [p. 536]
- Social Justice Courses [p. 544]

## Gender, Women's, and Sexuality Studies Courses

### GWSS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

### GWSS:1001 Introduction to Gender, Women's, and Sexuality Studies 3 s.h.

Introduction to feminist interdisciplinary study of women's lives, with emphasis on race, class, sexual orientation; work, family, culture, political and social change. GE: Diversity and Inclusion.

### GWSS:1002 Diversity and Power in the U.S. 3 s.h.

How the intersection of gender, race, class affects individual experience, national ideology, social institutions; interdisciplinary perspective. GE: Diversity and Inclusion.

### GWSS:1003 Introduction to Social Justice 3 s.h.

Introduction to principles and theories of social justice; students examine the history of influential social movements in the United States and the world in the last century; how intersectionality can create tensions between and among members of social movements; how race, class, gender, age, geography, and our bodies play a role in the application of theories of social justice. GE: Diversity and Inclusion. Same as SJUS:1001.

### GWSS:1046 Environmental Politics in India 3 s.h.

How resources, commodities, people, and ideas cross borders; examination of globalization through issues of technology, social justice, environment; perspectives from anthropology, gender studies, geography, energy science, and development. GE: International and Global Issues. Same as ANTH:1046, GEOG:1046, SJUS:1046.

### GWSS:1060 Sex and Popular Culture in America 3 s.h.

Critical and historical introduction to representation of human sexuality in American popular culture from World War II to the present. GE: Values and Culture. Same as AMST:1060, ENGL:1410.

### GWSS:1070 Asian American Women Writers 3 s.h.

Introduction to major Asian American women writers of 20th and 21st centuries; construction of gender within Asian American communities and diverse experiences of Asians in America; novels, short stories, memoirs, films, and historical and critical texts.

### GWSS:1074 Inequality in American Sport 3 s.h.

Cultural meanings of sport in contemporary U.S. culture; sport experiences, inclusion, and exclusion as affected by social class, gender and sexuality, age and ability, race and ethnicity, and religion. GE: Diversity and Inclusion. Same as AMST:1074, SPST:1074.

### GWSS:1310 Gender and Society 3 s.h.

Role and status of women in society; sex differences, sex role socialization, theories about origin and maintenance of sexual inequalities, changes in social life cycle of women, implications for social institutions and processes; focus on contemporary United States. GE: Values and Culture. Same as SOC:1310.



**GWSS:1600 Wonder Woman Unleashed: A Hero for Our Times** 3 s.h.

Development of the woman warrior archetype in mythology (Athena/Minerva and Artemis/Diana), literature (Camilla from *The Aeneid* by Virgil), and history (Artemisia and Joan of Arc); focus on the development of Amazon narratives in *Metamorphoses* by Ovid, *The Book of the City of Ladies* by Christine de Pizan, and *On Famous Women* by Boccaccio; students read *Wonder Woman Chronicles* and one or two critical studies on the subject, which may include *The Secret History of Wonder Woman* by Jill Lepore. Same as WLLC:1600.

**GWSS:2000 Desire, Consent, and Sex in U.S. Culture(s): Replacing Coercion and Violence with Respect** 3 s.h.

Exploration of desire, sex, consent, and sexual violence in practical and theoretical dimensions; recent demands by students to change the way sexual violence is addressed; lectures by scholars, activists, and professionals; sexual violence, rape culture, and sexuality-based oppression confronted with academic/therapeutic/political knowledge; real world strategies to help better understand and combat sexual violence, theories. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**GWSS:2041 Gender, Communication, and Culture** 3 s.h.

Social construction of gender and gendered identities across a range of communicative settings in contemporary U.S. society, including relationships, schools, organizations, media, and social movements; how communication creates, reproduces, sustains, and sometimes challenges and changes the meaning of gender and, with that, cultural structures and practices. Same as COMM:2041.

**GWSS:2046 Gender, Sexuality, and Space** 3 s.h.

Introduction to feminist and queer theories of social space; material and symbolic construction of gender and sexuality; communicating gender and sexuality in different social spaces and scales in historical and contemporary contexts. Same as COMM:2045.

**GWSS:2050 Jews, Judaism, and Social Justice** 3 s.h.

Jewish frameworks for grappling with justice and ethics from ancient world to present day; emphasis on internal diversity of Jewish experience as well as interactions with dominant and other minority cultures. Same as HIST:2150, RELS:2250, SJUS:2050.

**GWSS:2052 Women in Islam and the Middle East** 3 s.h.

Women in the Islamic community and in non-Muslim Middle Eastern cultures; early rise of Islam to modern times; references to women in the Qur'an and Sunnah, stories from Islamic history; women and gender issues. GE: International and Global Issues; Values and Culture. Same as RELS:2852.

**GWSS:2075 Gender, Sexuality, and Media** 3 s.h.

Mediated representations of gender and sexuality (television, film, and internet) to understand how these complex and complicated codes influence meaning of sex, sexuality, and gender; contemporary and historical examples used to engage texts that illuminate cultural conceptions of femininity, masculinity, heterosexuality, and homosexuality; cases that confuse and trouble the stability of these categories. Same as COMM:2075.

**GWSS:2078 Women, Sport, and Culture** 3 s.h.

Feminist analysis of girls' and women's sports experiences, including reproduction of gender through sport, recent changes in women's intercollegiate athletics, media representations of women's sport, feminist critiques, alternatives to sport. Same as SPST:2078.

**GWSS:2080 The Cultural Politics of HIV-AIDS** 3 s.h.

Complex historical shifts in cultural perceptions about HIV-AIDS in the U.S. and transnationally; controversies around HIV-AIDS and their links with questions of gender and sexuality; how HIV-AIDS subsequently became the basis of a transnational industry comprising nongovernmental organizations, donors, and activists across the global north and south, starting from 1980s in the U.S. when HIV-AIDS first emerged into public sphere as a gay disease; link between HIV-AIDS and ideologies of development or progress, neocolonialism, and emergence of lesbian, gay, bisexual, transgender, intersex, and questioning (LGBTIQ) movements in many parts of world. Recommendations: background in gender studies, and completion of rhetoric or at least one social sciences course. Same as GHS:2080.

**GWSS:2102 Anthropology of Marriage and Family** 3 s.h.

Classic anthropological theories of kinship and marriage, including topics such as cousin marriage and incest; recent work on new reproductive technologies and transnational marriage. Same as ANTH:2102.

**GWSS:2108 Gendering India** 3 s.h.

Aspects of Indian culture, including nation, family, sexuality, work, and religion, through the lens of gender; Hindu India, differences in region, caste, and class. Same as ANTH:2108.

**GWSS:2120 Gender and Technology** 3 s.h.

Study of the technology field as it relates to gender in global perspective; core topics may include gender and STEM fields, gender in technology workplaces, and gender in the design and use of technological products such as mobile technology, artificial intelligence, and video games. Same as ANTH:2120.

**GWSS:2151 Global Migration in the Contemporary World** 3 s.h.

Examination of social, economic, and cultural dimensions of global migration in the contemporary world from a transnational and anthropological perspective; primary focus is on Asian migration to the United States, but in comparison to other migration trajectories. Recommendations: an introductory course in cultural anthropology is useful, but not required. GE: Diversity and Inclusion. Same as ANTH:2151, IS:2151.

**GWSS:2160 Love and Romance in America** 3 s.h.

Exploration of the role of love and romance in the American experience; analysis of love and romance in their association with American ideals—pursuit of happiness, upward mobility, and liberation of self, nation, and world; history of romance as a genre; contemplation of picket fences, free love, bromance, valentines, green cards, desperate housewives, break-ups, hook-ups, and (un)happily ever after. Same as AMST:2160.

**GWSS:2172 The History of African American Women from Slavery to Freedom** 3 s.h.

Survey of African American women's history from its beginnings through emancipation and Reconstruction; expansion of slavery in the South and its gendered implications, ways Black women influenced antebellum slave culture, female modes of resistance, abolition of slavery in the North, and ways Northern emancipation shaped Black women's experiences in the region; development of a free Black community and Black women's roles in these new social configurations; African American female body under slavery; impact of war and revolution on African American women's lives; Black women's experiences during Reconstruction.

**GWSS:2190 Love Rules: Law and the Family Across Cultures** 3 s.h.

Recent debates over legalizing gay marriage remind us that the law is not an abstract concept, it is a social creation that emphasizes certain cultural norms over others, both powerful and changeable; family law outlines what one cultural vision of relationships—those between lovers, parent and child, and between kin—supposedly should look like in a given society, a vision always marked by gendered, racial, and sexual divisions of power; students consider what happens when legal norms intersect with diverse ways that people make families through topics including marriage, divorce, custody, and surrogacy across the world. Same as ANTH:2190, IS:2190.

**GWSS:2193 Literature, Culture, and Women** 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:2193.

**GWSS:2200 The Racial and Gender Construction of Identity, Citizenship, and Rights in America** 3 s.h.

Survey of how race and gender has affected notions of identity and inclusion/exclusion in the social and political sphere, and access to citizenship rights. Same as SJUS:2200.

**GWSS:2222 Women in Premodern East Asian Literature** 3 s.h.

Reading of East Asian literature portraying women from the first millennium B.C.E. through the 1800s; discussion of issues related to representations of women and conventional social, familial roles in premodern China, Korea, and Japan; cross-cultural comparison of different perceptions and portrayals of women in premodern East Asian literary traditions. Taught in English. Recommendations: completion of all ESL courses. GE: Diversity and Inclusion. Same as ASIA:2222, WLLC:2222.

**GWSS:2250 The History of Social Justice Movements** 3 s.h.

History of contemporary social movements in the U.S. and how these movements have directly affected policies related to environment, food, reproductive justice, civil rights, immigration, labor, race, and gender; students read, explore, discuss, and write about the history of contemporary social movements in the U.S. that had lasting effects on policies related to environment, agriculture, health, reproductive justice, civil rights, labor, race, gender, and immigration; exploration of multiple modes of representation and resistance including protests, boycotts, strikes, music, art, writing, riots, civil disobedience, theater, poetry, dance, and poetry. Same as HIST:2250, SJUS:2250.

**GWSS:2300 Race, Class, Gender, and Labor: Worker Struggles for Legal Rights in the United States** 3 s.h.

Students familiar with the gig economy and the "Fight for \$15" examine historical tensions between the working class, middle class, poor, and the one percent—at the intersections of race and gender—and how these diverse groups wielded their influence on the legal system in order to gain power; students examine how workers in the United States joined together, put their bodies on the line for social justice, and created radical, legal change. Same as SJUS:2300.

**GWSS:2400 Health, Intersectionality, and Diversity** 3 s.h.

Exploration of intersectionality related to gender and health disparities, particularly as they impact diverse populations in the United States. Same as CPH:2240, LATS:2400.

**GWSS:2422 Feminist Ethics** 3 s.h.

Philosophical evaluation of gender as a pervasive and persistent structuring principle for social inequality. Same as PHIL:2422.

**GWSS:2500 Love, War, Activism: Stories About Women from Across the World** 3 s.h.

Literary and cinematic representations of gender in works by authors and directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of love, sexuality, friendship, and parenting; shifts in gender identities and relations that result from social and political crises. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:2570, SJUS:2500.

**GWSS:2571 Visualizing Human Rights** 3 s.h.

Cinematic representations of human rights issues in films by directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of race relations in colonial and postcolonial societies; public health issues, specifically women's and children's rights in context of the HIV/AIDS pandemic. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:2571, SJUS:2571.

**GWSS:2600 Men, Masculinity, Identity, and Health** 3 s.h.

Impact of male gender roles, masculine identity, and biology on men's health throughout the life course; focus on description, causes, and possible solutions for health related disparities for men in general and for men of color; concepts including machismo, caballerismo, John Henryism, Man Points, hegemonic, and other gender roles related to promoting and reducing quality of health and well-being of U.S. males.

**GWSS:2650 Global Reproduction** 3 s.h.

History of birth control and work of activists and organizations that emerged to promote it; troubling connections that spawned between reproductive rights and population control movements. Same as GHS:2650.

**GWSS:2651 Gender and Sexuality in the Ancient World** 3 s.h.

Survey of gender and sexuality issues in the social, political, and religious life of ancient Greece and Rome; evidence from literature, the visual arts, archaeology. Requirements: completion of GE CLAS Core Rhetoric and sophomore standing. GE: Values and Culture. Same as CLSA:2651.

**GWSS:2674 Food, Body, and Belief: A Global Perspective** 3 s.h.

Exploration of local, national, and global forces that shape food consumption, body image, and spiritual practices. Taught in English. Same as GHS:2674, RELS:2674.

**GWSS:2700 Transgender People, Politics, and Cultures****3 s.h.**

How people live across and beyond social differentiation of sex and gender; how practices of identity building and political resistance transform or negotiate with social structures of gender, race, and class; burgeoning field of transgender studies which pushes to interrogate some fundamental aspects of human societies and question how supposedly "natural" categories of sex and gender are constructed and transformed; exploration of lives, politics, and subcultures of people who differ from gender norms in the United States and across the world; how transgender cultures and politics negotiate with structures of race and class. Recommendations: background in gender studies or social sciences.

**GWSS:2800 African American Women, Health, Hair, and Sexuality****3 s.h.**

From the exotic to the erotic, African American women's bodies have been constructed to fulfill a variety of personal and cultural fantasies as well as social functions that are "killing us softly"; how cultural icons and myths of Black women—Jezebel, Mammy, Tragic Mulatto, Aunt Jemima, Sapphire, Matriarch, Welfare Queen, and more recently, the overachieving Black woman—shape and create restrictions and visions of the self that contribute to health disparities; engaging Black feminist/womanist theory to explore how larger images influence everyday acts of self-care and pleasure, such as hair and sexuality, on the health of African American women. Same as AFAM:2800.

**GWSS:2900 Love, Sex, and Money: Sexuality and Exchange Across Cultures****3 s.h.**

Everything from pop songs to advertisements warn us of the evils of gold diggers, "blingsexuals," or "buyfriends"; in America, money is seen to corrupt the purity and authenticity of love and desire, but money also is an inevitable part of sex, love, and intimacy; cross-cultural examination of how relationships between love, money, and sexuality are organized in different places; different ways people form relationships with lovers, spouses, and persons who enable childbearing; rethinking gender roles, work, value, and power. Same as ANTH:2191.

**GWSS:3005 Practicum****3-4 s.h.**

Experience in volunteer work for organizations that provide services for women. Prerequisites: GWSS:1001. Same as SJUS:3005.

**GWSS:3010 Transnational Sexualities****3 s.h.**

How ideas about normative and nonnormative sexuality, gender/sexual identities, and related social movements travel across geographical, political, and cultural boundaries; potentials and limits of using conceptual frameworks (i.e., sexuality, gender, LGBT, queer) across the west and global south; how sexuality always intersects with race, class, nationhood, and transnational systems of power; power structures that shape gender/sexuality through a transnational approach; connection of inequalities within the United States with those across the world. Same as GHS:3015.

**GWSS:3050 Topics in Gender, Women's, and Sexuality Studies****1,3 s.h.**

Representative topics: American Indian/First Nations Women; population and the environment; feminism and the family; women, health, and healing; women of color.

**GWSS:3078 Archiving Women's History****3 s.h.**

Exploration of girls' and women's history in Iowa through collections at the Iowa Women's Archives; introduction to archival research, digital humanities, and Omeka (a digital collection and exhibit platform) with focus on sport-related collections; guided individualized research and exhibit development. Same as AMST:3078, SPST:3078.

**GWSS:3100 LGBTQ/Queer Studies****3 s.h.**

Overview of queer theory and queer studies; development of critical thinking skills in relation to cultural constructions of gender, sexuality, race, and other identity categories.

**GWSS:3101 Anthropology of Sexuality****3 s.h.**

Practice, definition, and regulation of sex in different cultures and times; use of anthropological tools, including cross-cultural comparison and social constructionist analysis; how social and historical forces shape sex; how a range of topics relate to sexuality, including science, love, work, globalization, ethnicity, health, aging, pornography, and deviance; focus on ways that dynamics (i.e., class, race, gender norms) shape people's culturally and historically specific ways of having and thinking about sex. Same as ANTH:3101.

**GWSS:3105 Contraception Across Time and Cultures****3 s.h.**

Methods and history of contraception; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Taught in English. Same as CLSA:3105, GHS:3105, GRMN:3105, WLLC:3105.

**GWSS:3118 Politics of Reproduction****3 s.h.**

Debates over women's reproductive experience, including its medicalization. Same as ANTH:3118.

**GWSS:3121 Love, Marriage, and Family in India****3 s.h.**

Anthropological understandings of love in India and the region of South Asia more broadly; emphasis on contemporary society; filial and motherly love, arranged marriage and romantic love, devotional and artistic expressions, love between siblings. Same as ANTH:3121.

**GWSS:3130 Blacks and Jews: Race, Ethnicity, and Culture in America****3 s.h.**

Examination of the historical relationship between Blacks and Jews from antebellum era to present. Same as HIST:3252, SJUS:3130.

**GWSS:3131 Gender and Sexuality in East Asia****3 s.h.**

Examination of historical construction of gender and sexuality in East Asia from mid-19th century to present. Same as ASIA:3431, RELS:3431.

**GWSS:3133 Anthropology of Race****3 s.h.**

Anthropological perspectives on race: history of race in anthropology; social, cultural, and political dimensions of race; intersections with gender; biology of human diversity. Recommendations: introductory course in social sciences. Same as ANTH:3133, SJUS:3133.

**GWSS:3138 Writing to Change the World****3 s.h.**

Writers who can frame questions, weigh competing perspectives, structure an argument, and write with clarity and respect for diverse audiences as powerful agents for change; writers who have inspired human rights movements; public forms of writing with local organizations whose missions are shaped by social attitudes to gender and sexuality; conducting research and evaluation of evidence; best practices for communicating and collaborating; skills needed to be an effective advocate. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as SJUS:3138.

- GWSS:3150 Feminist Readings of History** 3 s.h.  
Feminist analysis has revolutionized the writing of history—not only on gender and sexuality, but also on topics as diverse as politics, economics, international relations, and social hierarchies (e.g., race, class, ability, religion); students examine feminist transformations of history with specific topics chosen by instructor. Same as HIST:3150.
- GWSS:3154 Sexuality in the United States** 3 s.h.
- GWSS:3157 Gender, Sexuality, and Human Rights** 3 s.h.  
History of gender and sexuality as components in international human rights activism and law; current debates, representative topics. Same as HIST:3157.
- GWSS:3171 Higher Education and Social Justice** 3 s.h.  
Reflection of students' place within educational systems; development of rhetorical tools for successful advocacy; advocacy through writing for change within higher education and the UI; student loans, racial segregation, social and economic immobility, free speech, data insecurity, sexual assault. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3171, SJUS:3171.
- GWSS:3173 Gender, Sexuality, and Literature** 3 s.h.  
Representations of gender, class, and sexuality in British, American, or postcolonial literature. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3173.
- GWSS:3177 Women and Their Bodies in Health and Illness** 3 s.h.  
Basic facts about structure and functioning of female body; particular attention to adjustments the body makes during normal physiological events (menstruation, sexuality, reproduction, menopause) and during illness processes; women's mental and physical health issues in relation to women's lives and roles in society; relationship of women as consumers, practitioners, and activists to health system; achievements and limitations of women's health movements; anti-oppression, intersectionalities, and cross-cultural perspectives. Same as NURS:3739.
- GWSS:3185 Global Women's Cinema** 3 s.h.  
Introduction to contemporary women's cinema and feminist filmmaking from around the world; emphasis on post-1968 period and cinema produced outside the United States. Same as WLLC:3185.
- GWSS:3200 Theories for Gender, Women's, and Sexuality Studies** 3 s.h.  
Historical and contemporary theoretical approaches to the study of gender and sexuality; emphasis on interdisciplinary methods of analysis and interpretation.
- GWSS:3257 Civil Rights and Racial Justice: A Tour Through the South** 1-3 s.h.  
Exploration of the history of modern civil rights movement through lectures, shared readings, videos, and discussion; includes preparation and two-week tour of civil rights sites in the South. Prerequisites: SJUS:1001 or SJUS:2250 or GWSS:1002 or CCCC:2220 or AFAM:1030 or AFAM:2268 or HIST:2268 or AFAM:3053 or AMST:3053 or HIST:3253 or HIST:3232 or HIST:4260 or AFAM:3100 or HIST:3160 or HIST:3260 or AFAM:3260 or HIST:3282 or GWSS:3282 or HIST:4130 or HIST:4260. Same as AFAM:3257, HIST:3257, SJUS:3257.
- GWSS:3280 Women and Power in U.S. History Through the Civil War** 3 s.h.  
Exploration of how women, as political actors, shaped the outcome of familiar events (the American Revolution, the Civil War); how they organized social movements around important issues of their lives such as the abolition of slavery and the right to consent to sexual intimacy; how women's inequality was established in law and social practice; how women thought about and challenged inequality, both as individuals and in social movements. Same as HIST:3280.
- GWSS:3282 Women and Power in U.S. History Since the Civil War** 3 s.h.  
Major events and themes in U.S. women's history from late 19th century to present; how women's experiences have differed from men's; exploration of distinct, but interconnected histories of different groups of women; changing ideals of femininity; women's experience of industrialization, immigration, depression, war, and sexual revolution; women's activism for social reform, women's rights, labor, civil rights, peace, and the New Right. Same as HIST:3282.
- GWSS:3300 Mothers and Motherhood** 3 s.h.  
Treatment of motherhood; role of motherhood and devaluation of social status. Same as ANTH:3300.
- GWSS:3326 The Politics of Progress: NGOs, Development, and Sexuality** 3 s.h.  
How nonprofit sector increasingly plays a significant role in countering socioeconomic inequalities in the United States and global south; role of nonprofit organizations in relation to governmental policies of development, transnational funders, and ideas of sexual progress; critics of development institutions' arguments that western ideas of progress impose and adversely affect groups they claim to empower, yet also may foster struggles for social justice that go beyond development policy; examination of transnational nonprofit sector in relation to gender/sexuality and how it impacts women and gender/sexual minorities around the world. Recommendations: background in gender studies or social sciences. Same as GHS:3327.
- GWSS:3350 Transnational Feminism** 3 s.h.  
Exploration of feminist perspectives from the United States and outside of the United States; how geopolitics shapes understanding of familiar feminist issues (e.g., reproduction, cultural practices, sexualities, poverty); emphasis on global south regions and populations. Same as ANTH:3125, IS:3350.
- GWSS:3375 Women and Poverty** 3 s.h.  
Examination of women's experiences of poverty in the U.S.; scholarship that seeks to better understand the complex intersections of gender and class, with specific emphasis on poverty; students meet and interact with professionals working in Iowa, addressing poverty and related issues, and engage in an ongoing dialogue about the causes, consequences, and possible solutions to poverty in communities and beyond; coursework and discussions focus specifically on unique challenges women encounter as they navigate their way through and/or out of poverty using an intersectional approach.

**GWSS:3400 Advocacy and Engagement Colloquium****1-3 s.h.**

How to capitalize on volunteer experience; how experience can lead to careers in health care, law, advocacy, social work, social justice, education; issues related to domestic violence, community education, sexual assault; health care for women, youth, and LGBTQ populations; health care inequities, social justice; field journal. Recommendations: active volunteer work at feminist-centered organizations in Iowa, completion of 40-hour training, plan to serve organization for up to ten or more hours each month, and attendance at regularly scheduled volunteer meetings. Same as SJUS:3400.

**GWSS:3421 Performing Autobiography****3 s.h.**

Advanced seminar and workshop; immersive readings in genre of contemporary autobiographical work, scholarship and criticism, and performance texts and videos as established artists have developed them; students write and perform their own original pieces stemming from personal experiences and interests. Recommendations: RHET:1030. Same as THTR:3421.

**GWSS:3425 Women, Crime, and Justice****3 s.h.**

Overview of women's experiences with crime and criminal justice system, with reference to experiences of men for purposes of comparison; role of race, ethnicity, and poverty in women's experiences; causes of crime, inequalities in police-citizen interactions, imprisonment, and other aspects of criminal justice system experience. Same as CRIM:3425.

**GWSS:3427 Family, Gender, and Society in Early Modern Europe****3 s.h.**

Social and gender ideologies as inscribed in patterns of authority (household, church, state); ranges of human endeavor (intellectual, psychological, biological); community organization (social, economic, legal, sexual); their influence on concept of community. Same as HIST:3427.

**GWSS:3430 Women on Stage****3 s.h.**

Examination of how and why women in the United States have expressed themselves through theatre and performance from 1776 to present; students study plays as performed events in specific times and places for specific audiences through works by African American, Asian American, European American, Latina, Native American, and lesbian/queer writers; what the theater—as a public, embodied art form—offers female writers; how stakes differ for women of diverse backgrounds in using this often suspect and uniquely powerful medium in particular historical moments; how changing definitions of gender and sexuality come into play; prior background in theater not required. Same as AMST:3430, THTR:3430.

**GWSS:3459 Making Change, Making History: Iowa's Black Activists and Digital History****3 s.h.**

From the 1830s through the end of the 19th century, African Americans formed local, state, and national meetings called "Colored Conventions," where they strategized about how to achieve social justice; students explore Iowa's connections to this history of political activism. Same as HIST:3259, SJUS:3459.

**GWSS:3460 Girls' Studies****3 s.h.**

Introduction to the interdisciplinary field of girls' studies; examination of social constructions of girlhood with focus on contemporary girls in the U.S. and globally; media and popular culture representations of girls; girl culture and psychology; girls' lived experiences of sexism, racism, classism, and homophobia; topics include body, sexuality and identity, education, differences of race, class and nationality, and forms of girls' political activism.

**GWSS:3475 Working for Social Justice****3 s.h.**

Identification and pursuit of careers in a wide range of fields where people advocate for and engage issues of social justice; writing self-assessments, résumés, sample employment application letters, statements of purpose; development of e-portfolios that highlight areas of student research and expertise; mock interview practice; Pomerantz Career Center resources; interviewing professionals in careers focused on social justice and feminist issues; local internship and volunteer possibilities; national and international educational and career opportunities for making a difference in the world. Same as SJUS:3475.

**GWSS:3550 Social Justice, Religion, and Spirituality: Faith and Belief Ignited****3 s.h.**

Examination of some distinctively American traditions of religion, spirituality, and social justice, including women and men who have channeled their religio-spiritual beliefs into social justice in their communities; historical and anthropological focus; examination of U.S. movements (e.g., the Catholic Worker movement, the United Farm Workers movement, the civil rights movement, iterations of the feminist movement); direct involvement with the communities. Same as RELS:3550, SJUS:3550.

**GWSS:3570 Transnational and Postcolonial Writing by Women****3 s.h.**

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3570.

**GWSS:3600 Art, Feminist Practice, and Social Justice****3 s.h.**

Issues related specifically to gender, women's, and sexuality studies through the arts; themes include broad social issues such as violence, sexual assault, incarceration, reproduction, immigration, and labor; students explore a theme and work with community partners to address the theme through social practice in the arts. Recommendations: prior courses in gender, women's, and sexuality studies, or courses in social work, art education, or studio arts.

**GWSS:3620 Narrative Medicine, Social Justice, and the End of Life****3 s.h.**

Role of narrative in health care practice, decisions, and ethics; narrative production of patient and professional selves in health care; varied practices, diverse perspectives, and situated production of medical and health care knowledge. Prerequisites: RHET:1030. Same as SJUS:3620.

**GWSS:3650 Freedom, Democracy, and Revolution****3 s.h.**

Investigation of the relationship between freedom, democracy, and revolution in American history; beginning with primary founding documents that grew out of the American Revolution, students explore the ideological and concrete expressions of these ideas, particularly as they affect race and gender; meaning, significance, and boundaries of revolution; space between slavery and freedom; considerations of women's inclusion in the body politic; relationship between political and economic democracy; and questions about whose voices should define the terms of the debate.

**GWSS:3700 Narratives of Gender and Masculinity 3 s.h.**

Engaging with and deconstructing the stories men and women tell about what it means to be a man in the 21st century; topics may include cultural differences in the construction of gender and masculinity, queer masculinity, masculinity and social justice movements (especially feminism), history of the present moment in masculinity, masculinity from a nonbinary perspective, literary representations of masculinity, and masculinity in mass culture. Requirements: completion of GE CLAS Core Rhetoric.

**GWSS:3750 Born in the USA: Fertility and Reproduction 3 s.h.**

Exploration of when, why, how, and with whom Americans bear children; comparison to other developed and developing countries in the world; infertility and its treatments; ethics of surrogacy; voluntary childlessness; rapid rise of nonmarital childbearing in the U.S. and other countries; politics of childbirth; declining populations; rapid aging of rich where women have basically stopped having children. Same as SOC:3750.

**GWSS:3900 Research for Public Engagement 3 s.h.**

Emphasis on interdisciplinary reading, writing, research, and oral presentation skills necessary for pursuing socially engaged scholarship at a high level; students practice how to read for an argument, summarize and evaluate the ideas of others, and formulate their own positions within critical controversies.

**GWSS:3950 Academic Internship 1-3 s.h.**

Work under supervision of a faculty member on a scholarly or creative project related to the department or campus, or work with the director of undergraduate studies as a media, digital publishing, or teaching intern; students receive credit for the internship depending on the number of hours they work, learning objectives they develop, and meetings, written reports, and other research-related or self-evaluative writing they contract to do with the supervising faculty member. Prerequisites: GWSS:1001 or SJUS:1001. Requirements: gender, women's, and sexuality studies or social justice major or minor. Same as SJUS:3950.

**GWSS:3990 Independent Readings and Research in Gender, Women's, and Sexuality Studies arr.**

Topics not covered in regular curriculum.

**GWSS:4000 Sex/Text: Engendering the Essay 3 s.h.**

Analysis and discussion of significant essays that have engaged and articulated sexuality and gender in contemporary societies; students write and workshop on these topics: bodies are battlegrounds, gender is convoluted, sex is serious; gender and sexuality are emotionally charged, politically volatile, and socially complex issues. Recommendations: major or minor in writing-intensive disciplines, or previous writing classes.

**GWSS:4026 French Women Writers 3-4 s.h.**

Survey of 20th- and 21st-century French women's literature; introduction to French feminist thought; optional discussion section taught in French. Taught in English. Requirements: for 4 s.h. option—FREN:3060 and FREN:3300. Same as FREN:4026.

**GWSS:4090 Senior Research Seminar 3 s.h.**

Design and development of individual creative or scholarly projects in the field of gender, women's and sexuality studies; emphasis on strengthening students' research and writing skills; synthesizing, extending, and applying work already completed in the major. Prerequisites: GWSS:1001 or GWSS:1002 and GWSS:3900. Requirements: two women's studies courses numbered above GWSS:1001.

**GWSS:4095 Honors Senior Thesis arr.**

Supervised research, writing.

**GWSS:4140 Feminist Activism and Global Health 3 s.h.**

How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: ANTH:1101 or GWSS:1001 or CPH:1400 or GHS:2000. Same as ANTH:4140, CBH:4140, GHS:4140.

**GWSS:4169 Feminist Rhetorics 3 s.h.**

Exploration of multiple, varied, and complex histories of U.S. feminisms from rhetorical perspectives; focus on primary documents, the letters, speeches, essays, and manifesto/as that shaped women's movements and inspire social change from late 18th century to present; social, political, and personal issues that feminists sought to address and transform, communicative and rhetorical methods utilized, and implications of these efforts for women's lives and broader U.S. American culture. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248). Same as COMM:4169.

**GWSS:4180 Gender and Sexuality in Comics 3 s.h.**

Critical and historical examination of representations of gender and sexual identities in comics and graphic novels, including nonfiction and popular genres.

**GWSS:4540 Gender and Sexuality in French Cinema 3-4 s.h.**

Cultural, historical, and semiotic approach to studying constructions of gender identity and discourses on sexuality in French cinema from 1920s to present; optional discussion section taught in French. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300. Same as FREN:4540.

**GWSS:4800 Seminar in Comparative Literature 3 s.h.**

Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Taught in English. Same as CL:4800, GRMN:4800, TRNS:4800, WLLC:4801.

**GWSS:4820 Sociology of Sexuality 3 s.h.**

Sociological perspectives on sexuality, including theoretical and conceptual developments, empirical regularities, and social implications; sexual expression in the United States. Prerequisites: SOC:1010 or SOC:1030. Same as SOC:4820.

**GWSS:5000 Foundations for Gender, Women's, and Sexuality Studies 3 s.h.**

Theory, methodology, practice, archive, and robust stakes of the interdisciplinary field of gender, women's, and sexuality studies (GWSS); analysis and discussion of the history and possible futures of the field, as well as the relationship of GWSS to student's developing interests and areas of study.

**GWSS:5120 Reading Transnational Feminist Theory****3 s.h.**

Issues in transnational feminist scholarship, including coloniality and globalization as related to domains of gendered work, cultural traditions, and development; interdisciplinary readings—including from qualitative social science—consider connections across the Global North and South. Same as ANTH:5120.

**GWSS:5500 Tell Magazine Writing and Publishing Workshop****3 s.h.**

Students serve as editorial, writing, and production staff for *Tell*, the Department of Gender, Women's, and Sexuality Studies' digital magazine; *Tell* explores issues of race, class, gender, sexuality, ability, national identity, and other differences of power and privilege often absent in mainstream publications; students learn technical aspects of digital publication management, write their own stories and columns for the magazine and its ongoing blog, create digital and graphic materials, organize outreach events and manage social media outlets for the magazine, and work as editors and collaborative partners with one another and with writers and artists who submit work for publication. Prerequisites: GWSS:5000.

**GWSS:6050 Seminar: Gender, Women's, and Sexuality Studies****3 s.h.**

Special topics in gender, women's, and sexuality studies.

**GWSS:6130 Francophone Thought****3 s.h.**

Comparative study of intellectual, literary, cultural, social, and historical developments in the Caribbean, the Indian Ocean, the Maghreb, and Sub-Saharan Africa; approaches include cultural theory, literary criticism, cinema, visual arts, women's studies, memory and trauma studies, postcolonial ecologies, and cultural anthropology; examination of key conceptual paradigms and cultivation of skills in critical thinking methodologies; students acquire theoretical tools to explore an interdisciplinary scholarly field and learn to establish connections between the main components of the course and their own research interests. Taught in French. Same as FREN:6130.

**GWSS:6238 Gender and Education in Historical Perspective****3 s.h.**

Gender in context of history of education in the United States; coeducation in common schools, academies, and high schools; women's arrival and experiences as college students; masculinity in higher education; single-sex versus coeducation; emphasis on conflicting historical interpretations. Same as EPLS:6238.

**GWSS:6239 LGBTQ History in Education****3 s.h.**

Lesbian, gay, bisexual, transgender, and questioning (LGBTQ) issues in context of history of education in United States; LGBTQ teachers, students, and studies in K-12 and higher education; emphasis on differences in historical interpretations. Same as EPLS:6239.

**GWSS:6300 Writing for Learned Journals****1-4 s.h.**

Seminar that supports graduate students in bringing written work to publishable form; analysis of target journals' audiences, interests, and citation politics; submission and the publication process; response to reader reports and criticism; best writing and research practices; discussion of knowledge cultures and discourses in disciplines and the contemporary academy. Same as AMST:6300, GRAD:6300, RHET:6330.

**GWSS:6345 New Materialisms****3 s.h.**

Exploration of new strategies for rupturing persistent dichotomies of subject/object, representation/real, culture/nature, and active humans/passive things offered by theories of the vitality and agency of matter; introduction to origins of and developments in new materialisms; oriented to interdisciplinary inquiry and application to research in the humanities, broadly conceived; particular attention to actor-network theory, feminism, queer theory, infrastructuralism, and materialist theories of media. Same as COMM:6345.

**GWSS:6350 Gender and Religion****3 s.h.**

What contemporary religious and spiritual groups and their members believe about sex, sexuality, and gender; how they define and redefine what it means to be a "man" and a "woman"; exploration of contemporary "conservative" and "progressive" cosmologies and theologies; underlying beliefs that construct these perspectives and the impact on individual and group practices; broader implications of individual and group beliefs and practices on national and global policies. Same as RELS:6350.

**GWSS:6415 Seminar: Language, Gender, and Sexuality****3 s.h.**

Role of language and discourse in cultural constructions of gender identities and relations, including domination and subordination; theoretical perspective and methodological approaches that have shaped thought on the language/gender nexus. Same as ANTH:6415, LING:6415.

**GWSS:6990 Independent Study****arr.****GWSS:7000 Gender, Women's, and Sexuality Studies Graduate Practicum****1-3 s.h.**

Volunteer work experience, or conceptualization and execution of research projects. Prerequisites: GWSS:5000.

**GWSS:7122 Readings: History of Gender and Sexuality****arr.**

Topics in international and transnational history of gender and sexuality. Same as HIST:7122.

**GWSS:7205 New Histories: U.S. Slavery****arr.**

Our approach to study of slavery and discipline of history have been upended by recent works by and about women; exploration of that scholarship and consideration of where it takes us in grappling with systems and subjectivity of slavery. Same as AFAM:7205, HIST:7205.

**GWSS:7214 Readings: African American Women's History****arr.**

Same as AFAM:7214, HIST:7214.

**GWSS:7220 Readings: History of Sexuality in the United States****arr.**

History of sexuality within the family, its move into the marketplace; social customs and taboos, methods of birth control and abortion, religion, medical and psychological writings, state policies. Same as HIST:7220.

**GWSS:7275 Readings in the History of Women and Gender in the U.S.A.****arr.**

Same as HIST:7275.

**GWSS:7400 Graduate Research Conference Presentation** 1 s.h.

Crafting a presentation for the annual James F. Jakobsen Graduate Conference each spring; students work with an existing creative and/or scholarly project from another class or context; discussion of an array of presentation practices in gender, women's, and sexuality studies including interactivity, accessibility, audience engagement, workshopping, recursive revision, institutional justice, and various experiments with form, genre, discipline, body, and language; for students pursuing the Certificate in Gender, Women's, and Sexuality Studies. Prerequisites: GWSS:5000. Requirements: gender, women's, and sexuality studies graduate certificate standing.

**GWSS:7435 Readings: Women, Men, and Gender in Modern Europe** arr.

Same as HIST:7435.

**GWSS:7805 Readings in Middle East History** arr.

Global perspective on major topics in modern history of the Middle East and North Africa including gender, sexuality, race, and empire. Same as HIST:7805.

## Social Justice Courses

**SJUS:1001 Introduction to Social Justice** 3 s.h.

Introduction to principles and theories of social justice; students examine the history of influential social movements in the United States and the world in the last century; how intersectionality can create tensions between and among members of social movements; how race, class, gender, age, geography, and our bodies play a role in the application of theories of social justice. GE: Diversity and Inclusion. Same as GWSS:1003.

**SJUS:1046 Environmental Politics in India** 3 s.h.

How resources, commodities, people, and ideas cross borders; examination of globalization through issues of technology, social justice, environment; perspectives from anthropology, gender studies, geography, energy science, and development. GE: International and Global Issues. Same as ANTH:1046, GEOG:1046, GWSS:1046.

**SJUS:1600 War Stories** 3 s.h.

Exploration of the history of U.S. conflicts from Vietnam to the War on Terror through novels, film, and other cultural forms; specific focus on how U.S. social structures influence experiences of war. Same as AMST:1600, LATS:1600.

**SJUS:2000 Theories of Social Justice** 3 s.h.

Introduction to important theories of intersectional feminist social justice. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Recommendations: prior or concurrent enrollment in SJUS:1001 strongly recommended for social justice majors or minors.

**SJUS:2050 Jews, Judaism, and Social Justice** 3 s.h.

Jewish frameworks for grappling with justice and ethics from ancient world to present day; emphasis on internal diversity of Jewish experience as well as interactions with dominant and other minority cultures. Same as GWSS:2050, HIST:2150, RELS:2250.

**SJUS:2135 Rhetorics of Diversity and Inclusion** 3 s.h.

How language is at the root of oppression while also being a powerful tool to enact social justice; students explore the roles of rhetoric in constructing diversity and examine how different bodies and minds are ascribed value based on their alignment with cultural attitudes toward normalcy, ability, race, gender, sexuality, and more; students use written, spoken, and/or signed language and digital forms of expression to create a more inclusive environment in and beyond the classroom. GE: Diversity and Inclusion. Same as RHET:2135.

**SJUS:2200 The Racial and Gender Construction of Identity, Citizenship, and Rights in America** 3 s.h.

Survey of how race and gender has affected notions of identity and inclusion/exclusion in the social and political sphere, and access to citizenship rights. Same as GWSS:2200.

**SJUS:2250 The History of Social Justice Movements** 3 s.h.

History of contemporary social movements in the U.S. and how these movements have directly affected policies related to environment, food, reproductive justice, civil rights, immigration, labor, race, and gender; students read, explore, discuss, and write about the history of contemporary social movements in the U.S. that had lasting effects on policies related to environment, agriculture, health, reproductive justice, civil rights, labor, race, gender, and immigration; exploration of multiple modes of representation and resistance including protests, boycotts, strikes, music, art, writing, riots, civil disobedience, theater, poetry, dance, and poetry. Same as GWSS:2250, HIST:2250.

**SJUS:2294 Indigenous Art Activism and Social Justice** 3 s.h.

Examination of the Native and political aspects of Native arts in the 19th and 20th centuries, from drawings and material culture produced for tourists and collectors to works that explicitly address Native oppression through federal policies, popular cultural appropriations, and colonial representations of Indigenous peoples; emphasis on Indigenous interpretations of colonial and settler history and culture through various media and representations of Indigenous identity and politics. Same as HIST:2294, NAIS:2294.

**SJUS:2300 Race, Class, Gender, and Labor: Worker Struggles for Legal Rights in the United States** 3 s.h.

Students familiar with the gig economy and the "Fight for \$15" examine historical tensions between the working class, middle class, poor, and the one percent—at the intersections of race and gender—and how these diverse groups wielded their influence on the legal system in order to gain power; students examine how workers in the United States joined together, put their bodies on the line for social justice, and created radical, legal change. Same as GWSS:2300.

**SJUS:2500 Love, War, Activism: Stories About Women from Across the World** 3 s.h.

Literary and cinematic representations of gender in works by authors and directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of love, sexuality, friendship, and parenting; shifts in gender identities and relations that result from social and political crises. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:2570, GWSS:2500.



- SJUS:2571 Visualizing Human Rights** 3 s.h.  
Cinematic representations of human rights issues in films by directors from the Global South; development of historical and cultural lines of inquiry to examine artistic representations of race relations in colonial and postcolonial societies; public health issues, specifically women's and children's rights in context of the HIV/AIDS pandemic. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:2571, GWSS:2571.
- SJUS:3005 Practicum** 3-4 s.h.  
Experience in volunteer work for organizations that provide services for women. Prerequisites: GWSS:1001. Same as GWSS:3005.
- SJUS:3130 Blacks and Jews: Race, Ethnicity, and Culture in America** 3 s.h.  
Examination of the historical relationship between Blacks and Jews from antebellum era to present. Same as GWSS:3130, HIST:3252.
- SJUS:3133 Anthropology of Race** 3 s.h.  
Anthropological perspectives on race: history of race in anthropology; social, cultural, and political dimensions of race; intersections with gender; biology of human diversity. Recommendations: introductory course in social sciences. Same as ANTH:3133, GWSS:3133.
- SJUS:3138 Writing to Change the World** 3 s.h.  
Writers who can frame questions, weigh competing perspectives, structure an argument, and write with clarity and respect for diverse audiences as powerful agents for change; writers who have inspired human rights movements; public forms of writing with local organizations whose missions are shaped by social attitudes to gender and sexuality; conducting research and evaluation of evidence; best practices for communicating and collaborating; skills needed to be an effective advocate. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as GWSS:3138.
- SJUS:3171 Higher Education and Social Justice** 3 s.h.  
Reflection of students' place within educational systems; development of rhetorical tools for successful advocacy; advocacy through writing for change within higher education and the UI; student loans, racial segregation, social and economic immobility, free speech, data insecurity, sexual assault. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3171, GWSS:3171.
- SJUS:3190 Global Debt** 3 s.h.  
Economies as cultural systems that emphasize the role of worldviews and "meaning-making" in organizing economies; debt as a key mechanism in creation and maintenance of relationships; focus on how exchange, distribution, and obligation serve to shore up or sever various social institutions and links between debt, inequality, and power; debt in various forms, from a round of drinks to student loans, and from the U.S. mortgage crisis to development aid; diverse array of economies—from gift exchange to ceremonial destruction of wealth, and from Melanesia to Wall Street—to evaluate assumptions that undergird different systems of debt and credit. Requirements: introductory course in anthropology or international studies or gender, women's, and sexuality studies. Same as ANTH:3190, IS:3190.
- SJUS:3250 Literature and Social Justice** 3 s.h.  
How literature from various time periods—American and global—has enacted, represented, depicted, or encouraged forms and acts of social justice; students study various genres (e.g., essay, poem, autobiography, short story, fiction) and learn how literature has been used to conceptualize social justice, address national and global inequities, and take up complex and intersecting issues of power and privilege. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:3170.
- SJUS:3257 Civil Rights and Racial Justice: A Tour Through the South** 1-3 s.h.  
Exploration of the history of modern civil rights movement through lectures, shared readings, videos, and discussion; includes preparation and two-week tour of civil rights sites in the South. Prerequisites: SJUS:1001 or SJUS:2250 or GWSS:1002 or CCCC:2220 or AFAM:1030 or AFAM:2268 or HIST:2268 or AFAM:3053 or AMST:3053 or HIST:3253 or HIST:3232 or HIST:4260 or AFAM:3100 or HIST:3160 or HIST:3260 or AFAM:3260 or HIST:3282 or GWSS:3282 or HIST:4130 or HIST:4260. Same as AFAM:3257, GWSS:3257, HIST:3257.
- SJUS:3400 Advocacy and Engagement Colloquium** 1-3 s.h.  
How to capitalize on volunteer experience; how experience can lead to careers in health care, law, advocacy, social work, social justice, education; issues related to domestic violence, community education, sexual assault; health care for women, youth, and LGBTQ populations; health care inequities, social justice; field journal. Recommendations: active volunteer work at feminist-centered organizations in Iowa, completion of 40-hour training, plan to serve organization for up to ten or more hours each month, and attendance at regularly scheduled volunteer meetings. Same as GWSS:3400.
- SJUS:3415 Latina/o/x Protest, Movement, Resistance** 3 s.h.  
Examination of history, form, and function of protest, social movement, and resistance by Latina/o/x peoples in the United States. Same as AMST:3415, LATS:3415.
- SJUS:3420 Latinas/os/x and the Law** 3 s.h.  
Introduction and survey of Latina/o/x legal history; topics include segregation, educational rights, immigration, voting rights, citizenship, and the criminal justice system. Same as AMST:3420, LATS:3420, POLI:3427.
- SJUS:3430 Queer Latina/o/x Studies** 3 s.h.  
Relationship of Latina/o/x culture with gender, sexuality, and queerness. Same as AMST:3450, LATS:3430.
- SJUS:3459 Making Change, Making History: Iowa's Black Activists and Digital History** 3 s.h.  
From the 1830s through the end of the 19th century, African Americans formed local, state, and national meetings called "Colored Conventions," where they strategized about how to achieve social justice; students explore Iowa's connections to this history of political activism. Same as GWSS:3459, HIST:3259.

**SJUS:3475 Working for Social Justice 3 s.h.**

Identification and pursuit of careers in a wide range of fields where people advocate for and engage issues of social justice; writing self-assessments, résumés, sample employment application letters, statements of purpose; development of e-portfolios that highlight areas of student research and expertise; mock interview practice; Pomerantz Career Center resources; interviewing professionals in careers focused on social justice and feminist issues; local internship and volunteer possibilities; national and international educational and career opportunities for making a difference in the world. Same as GWSS:3475.

**SJUS:3510 Topics in Social Justice 3 s.h.**

Students deep dive into a specific topic that invites research and debate about the ways cultures understand social justice—human rights in relation to gender and sexuality, race and ethnicity, generations, class religion, species, and environment.

**SJUS:3550 Social Justice, Religion, and Spirituality: Faith and Belief Ignited 3 s.h.**

Examination of some distinctively American traditions of religion, spirituality, and social justice, including women and men who have channeled their religio-spiritual beliefs into social justice in their communities; historical and anthropological focus; examination of U.S. movements (e.g., the Catholic Worker movement, the United Farm Workers movement, the civil rights movement, iterations of the feminist movement); direct involvement with the communities. Same as GWSS:3550, RELS:3550.

**SJUS:3560 Public Policy and Persuasion 3 s.h.**

Students build their skill set in policy analysis, formation, and communication through a social justice lens; engagement in service learning projects in one Iowa community, where work done directly impacts that community's ability to make changes; development of effective writing and oral presentation styles that can be adapted to different audiences; focus on homelessness policy using social policy and social justice concepts to explore work of policy makers who have "right-sized" existing systems to serve communities in crisis and propose solutions to systemic problems that disadvantage marginalized populations. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as PBAF:3560, POLI:3560, RHET:3560.

**SJUS:3620 Narrative Medicine, Social Justice, and the End of Life 3 s.h.**

Role of narrative in health care practice, decisions, and ethics; narrative production of patient and professional selves in health care; varied practices, diverse perspectives, and situated production of medical and health care knowledge. Prerequisites: RHET:1030. Same as GWSS:3620.

**SJUS:3950 Academic Internship 1-3 s.h.**

Work under supervision of a faculty member on a scholarly or creative project related to the department or campus, or work with the director of undergraduate studies as a media, digital publishing, or teaching intern; students receive credit for the internship depending on the number of hours they work, learning objectives they develop, and meetings, written reports, and other research-related or self-evaluative writing they contract to do with the supervising faculty member. Prerequisites: GWSS:1001 or SJUS:1001. Requirements: gender, women's, and sexuality studies or social justice major or minor. Same as GWSS:3950.

**SJUS:3990 Independent Study in Social Justice arr.**

Topics not covered in regular social justice curriculum.

**SJUS:4080 Advocacy and Engagement Capstone 3 s.h.**

Design and development of individual creative or scholarly projects in the field of social justice; emphasis on strengthening student's research and writing skills; synthesizing and extending work already completed in the social justice major. Prerequisites: SJUS:1001 and SJUS:2250 and GWSS:1002 and GWSS:3138.

**SJUS:4085 Social Justice Bachelor of Arts Honors Senior Thesis 3 s.h.**

Work on honors thesis in social justice. Requirements: honors standing, and completion (or in progress) of coursework for B.A. in social justice.

# Gender, Women's, and Sexuality Studies, B.A.

Students who major in gender, women's, and sexuality studies (GWSS) explore the ways that gender and sexuality intersect with class, race, ethnicity, nationality, and transnational processes. Students develop interdisciplinary research and writing skills, the ability to address structural inequalities from the local to the global level, and the critical tools necessary to work toward social transformation and social justice. GWSS majors participate in two high-impact experiences that prepare them for careers in a wide range of fields. They participate in a practicum at a community-based site where they learn to integrate feminist theory and practice; then, during their senior year, they do rigorous, original research for critical or creative projects on topics of their own choosing.

## Learning Outcomes

Students graduating with a major in gender, women's, and sexuality studies will demonstrate how to:

- apply feminist intersectional theory in scholarly and creative practice;
- evaluate issues, research problems, and construct arguments using GWSS tools and concepts;
- communicate effectively with diverse audiences through speech, writing, and other forms of creative and scholarly expression; and
- work collaboratively with others in diverse communities using core GWSS strengths and skills.

## Requirements

The Bachelor of Arts with a major in gender, women's, and sexuality studies (GWSS) requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students may declare the major at any time. They are advised by the Academic Advising Center until they have earned 30 s.h. of credit. Transfer credit is evaluated case by case; a maximum of 12 s.h. of transfer credit may be counted toward the degree. Students may count a maximum of 9 s.h. completed for another major, minor, or certificate toward the gender, women's, and sexuality studies major.

Work for the major consists of the undergraduate core, distribution requirements, and electives. The undergraduate core includes a practicum and culminates in a research seminar.

The B.A. with a major in gender, women's, and sexuality studies requires the following coursework.

Code	Title	Hours
	Undergraduate Core	9-10
	Distribution Requirements	12-14
	Electives	12
	Capstone Courses	6
<b>Total Hours</b>		<b>39-42</b>

## Undergraduate Core

The undergraduate core consists of three courses. GWSS:1001 Introduction to Gender, Women's, and Sexuality Studies examines cultural and social beliefs about sex, gender, race, class, and sexuality; GWSS:1002 Diversity and Power in the U.S. explores the intersections of race, class, and gender in the United States. GWSS:3005/SJUS:3005 Practicum teaches students how to apply feminist intersectional concepts in a practicum experience organized in collaboration with community partners.

Code	Title	Hours
All of these:		
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:1002	Diversity and Power in the U.S.	3
GWSS:3005/ SJUS:3005	Practicum	3-4

## Distribution Requirements

The distribution requirements (total of at least 12 s.h.) are chosen from the following lists. They include one GWSS theory course, one transnational theory course, one GWSS course with a global/comparative focus, and one GWSS or other course with a race/ethnicity focus. Students may request permission from the director of undergraduate studies to use courses not on these lists; ideally, these courses should be offered by the Department of Gender, Women's, and Sexuality Studies (prefix GWSS). At least half of the material in global/comparative topics courses must have a non-U.S. context.

## Theory

Code	Title	Hours
One of these:		
GWSS:3100	LGBTQ/Queer Studies	3
GWSS:3200	Theories for Gender, Women's, and Sexuality Studies	3

## Transnational Theory

Code	Title	Hours
One of these:		
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3

## Global/Comparative Focus

Code	Title	Hours
One of these:		
GWSS:2052/ RELS:2852	Women in Islam and the Middle East	3
GWSS:2108/ ANTH:2108	Gendering India	3
GWSS:2151/ ANTH:2151/IS:2151	Global Migration in the Contemporary World	3

GWSS:2222/ ASIA:2222/ WLLC:2222	Women in Premodern East Asian Literature	3	GWSS:3133/ ANTH:3133/ SJUS:3133	Anthropology of Race	3
GWSS:2500/ ENGL:2570/ SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3	GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
GWSS:2571/ ENGL:2571/ SJUS:2571	Visualizing Human Rights (if not taken to fulfill the Race/Ethnicity in the U.S. Focus area)	3	GWSS:3459/ HIST:3259/ SJUS:3459	Making Change, Making History: Iowa's Black Activists and Digital History	3
GWSS:2650/ GHS:2650	Global Reproduction	3	SJUS:1001/ GWSS:1003	Introduction to Social Justice	3
GWSS:2674/ GHS:2674/ RELS:2674	Food, Body, and Belief: A Global Perspective	3	SJUS:2050/ GWSS:2050/ HIST:2150/ RELS:2250	Jews, Judaism, and Social Justice	3
GWSS:2700	Transgender People, Politics, and Cultures	3	SJUS:2200/ GWSS:2200	The Racial and Gender Construction of Identity, Citizenship, and Rights in America	3
GWSS:2900/ ANTH:2191	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3	SJUS:2250/ GWSS:2250/ HIST:2250	The History of Social Justice Movements	3
GWSS:3101/ ANTH:3101	Anthropology of Sexuality	3	SJUS:3130/ GWSS:3130/ HIST:3252	Blacks and Jews: Race, Ethnicity, and Culture in America	3
GWSS:3121/ ANTH:3121	Love, Marriage, and Family in India	3	SJUS:3250/ ENGL:3170	Literature and Social Justice	3
GWSS:3131/ ASIA:3431/ RELS:3431	Gender and Sexuality in East Asia	3	ENGL:3459/ AFAM:3459	African American Literature Before 1900	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3	ENGL:3460/ AFAM:3460	African American Literature After 1900	3
GWSS:3185/ WLLC:3185	Global Women's Cinema	3	HIST:2266/ AFAM:2266	Civil War and Emancipation	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3	HIST:2267/ AFAM:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
GWSS:3427/ HIST:3427	Family, Gender, and Society in Early Modern Europe	3	HIST:3275/ AFAM:3275	History of Slavery in the U.S.A.	3-4
GWSS:4026/ FREN:4026	French Women Writers	3-4	SSW:3847	Discrimination, Oppression, and Diversity	3
GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3			
GWSS:4540/ FREN:4540	Gender and Sexuality in French Cinema	3-4			
SJUS:1046/ ANTH:1046/ GEOG:1046/ GWSS:1046	Environmental Politics in India	3			
ANTH:2190/ GWSS:2190/IS:2190	Love Rules: Law and the Family Across Cultures	3			

A Native American and Indigenous studies course (prefix NAIS) numbered 2000 or above that does not fulfill a GE CLAS Core requirement

A Latina/o/x studies course (prefix LATS) numbered 2000 or above that does not fulfill a GE CLAS Core requirement

## Electives

Students must complete 12 s.h. of GWSS/SJUS courses numbered 1000-4999; at least 6 s.h. of the 12 s.h. must be completed from the upper-level GWSS/SJUS courses numbered 3000-4999. Students can count GWSS distribution area requirement courses as electives if they were not used to fulfill their area requirements. With the instructor's permission, honors students may count a graduate-level course numbered 5000 or above toward the electives requirement.

In choosing electives, students are encouraged to pursue a course of study that emphasizes breadth and depth in a specific discipline (anthropology, English, and history, among others) or a focus area (art, writing, literature, sexuality, media, global and transnational studies, race and ethnicity, health, and so on).

## Race/Ethnicity in the U.S. Focus

Code	Title	Hours
One of these:		
GWSS:2172	The History of African American Women from Slavery to Freedom	3
GWSS:2571/ ENGL:2571/ SJUS:2571	Visualizing Human Rights (if not taken to fulfill the Global/Comparative Focus area)	3
GWSS:2800/ AFAM:2800	African American Women, Health, Hair, and Sexuality	3

## Capstone Courses

These courses help students develop and create their capstone projects. Students can select either option A or option B.

### Option A

Students first take GWSS:3900 in the fall semester of their final year, which focuses on developing advanced research, reading, and writing skills and choosing capstone topics. In the spring of their senior year, students take GWSS:4090, a research and writing workshop in which students work collaboratively with their classmates to complete their creative or scholarship capstone work, including creating a poster for the end of the semester Senior Research Poster Show.

Students who write an honors thesis enroll in GWSS:4095 in the spring semester of their senior year.

Code	Title	Hours
This course:		
GWSS:3900	Research for Public Engagement	3
One of these:		
GWSS:4090	Senior Research Seminar	3
GWSS:4095	Honors Senior Thesis	3

### Option B

In the fall semester of their final year, students complete SJUS:3400/GWSS:3400 which requires community service work at a related social justice organization. In the spring of their senior year, students complete SJUS:4080, in which they develop an individual creative or scholarly project that pulls together their lived and community experiences, their academic learning, and significant research. The project culminates with a poster displayed at the Senior Research Poster Show.

Students who write an honors thesis enroll in SJUS:4085 in the spring semester of their senior year.

Code	Title	Hours
This course:		
SJUS:3400/ GWSS:3400	Advocacy and Engagement Colloquium	3
One of these:		
SJUS:4080	Advocacy and Engagement Capstone	3
SJUS:4085	Social Justice Bachelor of Arts Honors Senior Thesis	3

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in the major. Students must write an honors thesis that requires two semesters of work during the senior year: fall (thesis research by enrolling in GWSS:3990 Independent Readings and Research in Gender, Women's, and Sexuality Studies) and spring (thesis writing by enrolling in GWSS:4095 Honors Senior Thesis).

Students who intend to graduate with honors in the major should meet with the gender, women's, and sexuality studies (GWSS) director of undergraduate study before the end of their junior year. They also must select a faculty member to serve as their honors thesis supervisor before they begin their thesis work. The department recommends that students consider faculty members from whom they have taken GWSS courses.

Students have the option of enrolling in GWSS:3990 Independent Readings and Research in Gender, Women's, and Sexuality Studies in the fall as a way to pursue their honors research for credit. They also may create an honors contract for a GWSS course numbered 3000 or above taught by the honors thesis supervisor or complete a graduate readings course or a seminar related to their thesis subject.

Students must meet the requirements of either capstone Option A or Option B.

### Option A

Students enroll in GWSS:3900 Research for Public Engagement in the fall semester. They write their honors thesis during the spring semester in GWSS:4095 Honors Senior Thesis. While enrolled in this course, honors students work with students in GWSS:4090 Senior Research Seminar. Participation allows students to take part in a workshop-style course where their research and writing receive extensive review from classmates and instructors, and they partake in the department's end of the year Senior Research Poster Show.

### Option B

Students enroll in SJUS:3400/GWSS:3400 Advocacy and Engagement Colloquium in the fall semester. They write their honors thesis during the spring semester in SJUS:4085 Social Justice Bachelor of Arts Honors Senior Thesis. While enrolled in this course, honors students work with students in SJUS:4080 Advocacy and Engagement Capstone, and they partake in the department's end of the year Senior Research Poster Show.

GWSS students earning honors in more than one major may choose to complete a single thesis that satisfies the honors requirements of both departments. Students must have thesis advisors in both departments, and both advisors must approve the final project.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the gender, women's, and sexuality studies major.

### Career Advancement

Gender, women's, and sexuality studies (GWSS) majors develop the critical skills and problem-solving abilities needed for engaging the challenges of contemporary life. Graduates work in diverse settings, such as government and nonprofit agencies, newspaper offices, human resource departments, museums, theaters, international human rights organizations, schools, and hospitals. They do fund raising, political organizing, teaching, writing, research, advocacy work, counseling, diversity training, and marketing. They

become social workers, nurse midwives and doctors, editors, librarians, business managers, grant writers, campaign directors, educational administrators, program coordinators, lawyers, and professors.

A GWSS undergraduate education provides a solid foundation for pursuing graduate degrees from schools of social work, public health, law, education, international relations, public affairs and public policy, and medicine. The major also prepares students for a wide range of graduate programs, including gender and women's studies, history, anthropology, urban education, creative writing, political science, human rights, human sexuality, and counseling.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** GWSS:1001 Introduction to Gender, Women's, and Sexuality Studies.

**Before the fifth semester begins:** GWSS:1002 Diversity and Power in the U.S. and two GWSS electives.

**Before the seventh semester begins:** one GWSS distribution course (theory or comparative/non-U.S. focus) and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** GWSS:3005 Practicum; GWSS:3900 Research for Public Engagement (Capstone Option A) or SJUS:3400/GWSS:3400 Advocacy and Engagement Colloquium (Capstone Option B); one more GWSS distribution course (theory or comparative/non-U.S. focus); and at least one more GWSS elective.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Gender, Women's, and Sexuality Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		
<b>0</b>		
<b>First Year</b>		
<b>Fall</b>		
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture <sup>b</sup>		3
CSI:1600	Success at Iowa	2

Elective course <sup>c</sup>		3
<b>Hours</b>		<b>14-15</b>

#### Spring

GWSS:1002	Diversity and Power in the U.S.	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>b</sup>		4
GE CLAS Core: Social Sciences <sup>b</sup>		3
Elective course <sup>c</sup>		2

#### Hours

**15-16**

#### Second Year

##### Fall

Major: elective course <sup>d</sup>		3
Major: race/ethnicity in the U.S. focus course <sup>e</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>c</sup>		3

#### Hours

**16-17**

##### Spring

Major: global/comparative focus course <sup>e</sup>		3
Major: elective course <sup>d</sup>		3
GE CLAS Core: International and Global Issues <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>c</sup>		3

#### Hours

**16-17**

#### Third Year

##### Fall

GWSS:3005	Practicum	3
Major: theory course <sup>e</sup>		3
GE CLAS Core: Historical Perspectives <sup>b</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5

#### Hours

**16-17**

##### Spring

Major: transnational theory course <sup>e</sup>		3
Major: 3000-level or above elective course <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3

#### Hours

**16-17**

#### Fourth Year

##### Fall

GWSS:3900 or SJUS:3400	Research for Public Engagement <sup>g</sup> , or Advocacy and Engagement Colloquium <sup>h</sup>	3
Major: 3000-level or above elective course <sup>d</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>b</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		2

#### Hours

**14**

**Spring**

Major; 2nd capstone course (completion of option A or B) <sup>g, i</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>122-128</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d Students select at least 12 s.h. in major electives with a minimum of 6 s.h. numbered 3000 or above.

e See the General Catalog for list of approved courses.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Students who choose capstone option A complete GWSS:3900 and either GWSS:4090 or GWSS:4095. Students who choose capstone option B complete SJUS:3400 and either SJUS:4080 or SJUS:4085.

h Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

i Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Social Justice, B.A.

Students who major in social justice expand their knowledge by integrating theory and engagement with real world field experiences. They approach social justice through the arts, history, literature, comparative religious studies, political science, philosophy, health education, and gender, women's, and sexuality studies.

Social justice students:

- explore how the intersections of geography, race, class, gender, sexuality, health, economics, and history create networks of privilege and oppression across the globe through coursework and reflect on situations they encounter in the field;
- read, write, listen, and act through coursework and fieldwork in order to understand how conditions are created for change on the local, regional, and national level historically, ethically, politically, and personally;
- learn about selected history of social movements, how those movements emerged, and the impacts those movements had on policy, populations, the environment, and culture through engagement in a core course;
- develop a deeper understanding of issues, practice, research, and theory related to social justice in one or more areas of study within the traditional disciplines of the liberal arts through 9 s.h. of coursework in an area of specialization; and
- prepare for employment and/or for graduate study in various fields through high quality internships and educational experiences, including anthropology, political science, law, criminology, health, the cultural sector, social services, business, nonprofit management, or public history projects.

## Learning Outcomes

Students graduating with a degree in social justice will:

- explore how an intersectional lens can magnify the tensions within constructed identities based on race, ethnicity, gender and gender expression, geography, language, citizenship, sexuality, class, age, ability, and religion to practices of oppression and discrimination;
- learn about historical moments when oppression and discrimination have influenced policy, culture, law, and corporeal practices and find recurring patterns in current events, culture, and policy; and
- express ways their personal experiences and scholarly ideas connect to larger political, environmental, social, and geographical contexts, issues, and problems.

## Requirements

The Bachelor of Arts with a major in social justice requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students may declare the major at any time. They are advised by the Academic Advising Center until they have earned 30 s.h. of credit. Transfer credit is evaluated case by case; a maximum of 6 s.h. of transfer credit may be counted toward the degree. Foundation courses must be completed at the University of Iowa. Students may count a maximum of 9 s.h.

completed for another major, minor, or certificate toward the social justice major.

Work for the major consists of foundation coursework, core courses, an emphasis area, and a capstone experience. A course may only be applied to one area for credit.

The B.A. with a major in social justice requires the following coursework.

Code	Title	Hours
Foundation Courses		12
Core Courses		12
Social Justice Emphasis Area		9
Capstone		6
<b>Total Hours</b>		<b>39</b>

## Foundation Courses

The foundation consists of four courses (minimum of 12 s.h.). Two introductory courses, SJUS:1001 Introduction to Social Justice and SJUS:2000 Theories of Social Justice, orient students to the major conceptual areas that constitute social justice as an interdisciplinary field; SJUS:2250 The History of Social Justice Movements explores past and present social justice movements in the U.S. and their impact on policy and culture; and GWSS:3138 Writing to Change the World provides students with opportunities to enhance their writing skills to effect change.

Code	Title	Hours
All of these:		
SJUS:1001/ GWSS:1003	Introduction to Social Justice	3
SJUS:2000	Theories of Social Justice	3
SJUS:2250/ GWSS:2250/ HIST:2250	The History of Social Justice Movements	3
GWSS:3138/ SJUS:3138	Writing to Change the World	3

## Core Courses

### Human Rights, Diversity, Activism

Code	Title	Hours
Two of these:		
SJUS:1600/ AMST:1600/ LATS:1600	War Stories	3
SJUS:2050/ GWSS:2050/ HIST:2150/ RELS:2250	Jews, Judaism, and Social Justice	3
SJUS:2135/ RHET:2135	Rhetorics of Diversity and Inclusion	3
SJUS:2200/ GWSS:2200	The Racial and Gender Construction of Identity, Citizenship, and Rights in America	3
SJUS:2500/ ENGL:2570/ GWSS:2500	Love, War, Activism: Stories About Women from Across the World	3
SJUS:2571/ ENGL:2571/ GWSS:2571	Visualizing Human Rights	3



SJUS:3130/ GWSS:3130/ HIST:3252	Blacks and Jews: Race, Ethnicity, and Culture in America	3
SJUS:3133/ ANTH:3133/ GWSS:3133	Anthropology of Race	3
SJUS:3475/ GWSS:3475	Working for Social Justice	3
SJUS:3620/ GWSS:3620	Narrative Medicine, Social Justice, and the End of Life	3
GWSS:2080/ GHS:2080	The Cultural Politics of HIV- AIDS	3
GWSS:2172	The History of African American Women from Slavery to Freedom	3
GWSS:2800/ AFAM:2800	African American Women, Health, Hair, and Sexuality	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3
HIST:3217/ LAS:3217/ LATS:3217	Latina/o/x Immigration	3
HIST:3232	History of American Inequality	3
HIST:3275/ AFAM:3275	History of Slavery in the U.S.A.	3-4
HIST:4101	History of Human Rights	3
HIST:4478	Holocaust in History and Memory	3
HRTS:2115/IS:2115	Introduction to Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
HRTS:3906	Global Crises and Human Rights	3
LATS:3104/ LAS:3104/ POLI:3104	Immigration Politics	3
NAIS:2292/ HIST:2292	Introduction to Native American Law and Policy	3
PHIL:3430	Philosophy of Human Rights	3
POLI:1900	Introduction to the Politics of Race	3
RELS:3855/IS:3855	Human Rights and Islam	3
RHET:3560/ PBAF:3560/ POLI:3560/ SJUS:3560	Public Policy and Persuasion	3
SOC:2810	Social Inequality	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3
SSW:3847	Discrimination, Oppression, and Diversity	3

## Social Justice Movements: Politics, History, Culture, Art

Code	Title	Hours
Two of these:		
SJUS:2294/ HIST:2294/ NAIS:2294	Indigenous Art Activism and Social Justice	3
SJUS:2300/ GWSS:2300	Race, Class, Gender, and Labor: Worker Struggles for Legal Rights in the United States	3
SJUS:3171/ ENGL:3171/ GWSS:3171	Higher Education and Social Justice	3
SJUS:3250/ ENGL:3170	Literature and Social Justice	3
SJUS:3459/ GWSS:3459/ HIST:3259	Making Change, Making History: Iowa's Black Activists and Digital History	3
SJUS:3550/ GWSS:3550/ RELS:3550	Social Justice, Religion, and Spirituality: Faith and Belief Ignited	3
GWSS:2650/ GHS:2650	Global Reproduction	3
GWSS:2700	Transgender People, Politics, and Cultures	3
GWSS:3280/ HIST:3280	Women and Power in U.S. History Through the Civil War	3
GWSS:3282/ HIST:3282	Women and Power in U.S. History Since the Civil War	3
GWSS:3600	Art, Feminist Practice, and Social Justice	3
AFAM:3053/ AMST:3053/ HIST:3253	The Civil Rights Movement	3
COMM:2054	Movements, Protest, Resistance	3
ENGL:2463/ AFAM:2463	Topics in African American Literature (when topic is the Harlem Renaissance)	3
ENGL:3515	Topics in Postcolonial Studies (when topic is revolutionary Caribbean: Cuba and Puerto Rico)	3
HIST:3232	History of American Inequality	3
HIST:4260	The Sixties in America	3
IS:3200	Sustainable Development	3
LATS:3550	Topics in Latina/o/x Studies: History and Culture	3

## Social Justice Emphasis Area

Students choose one emphasis area from the following lists and complete three or more courses for 9 s.h.; two of the courses must be numbered 3000 or above. A course used to satisfy the core requirement cannot be taken to satisfy an emphasis area requirement. Students may substitute courses with approval of the social justice advisor. They also may include one study abroad course related to social justice, including the India Winterim Program; see Study Abroad [p. 2205] in the Catalog. In addition, students may create

their own emphasis area in collaboration with the social justice advisor.

## The Arts and Social Change

Code	Title	Hours
SJUS:3171/ ENGL:3171/ GWSS:3171	Higher Education and Social Justice	3
SJUS:3250/ ENGL:3170 GWSS:3600	Literature and Social Justice	3
AFAM:3245/ RELS:3745	Art, Feminist Practice, and Social Justice	3
	Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter	3
ARTS:3400	Grant Writing in the Arts	3
ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3
DANC:2065	Performing Power/ Performing Protest: The Body, Identity, and the Image	3
EDTL:3204	Art Education Studio and Field Components	3
MUS:1687	Orientation to Music Therapy	2
THTR:2605/ EDTL:2963	Monsters, Victims, and Villains: Changing Perceptions	3
THTR:3421/ GWSS:3421	Performing Autobiography	3
THTR:4510/ DPA:4510/ ENTR:4510/ INTD:4510	Arts Leadership Seminar	3
WRIT:2100	Writing and Community Outreach	3
WRIT:2101	Writers in the Community	1
WRIT:4100	Iowa Youth Writing Project Mentorship Practicum	1-3

## The Environment and Ecological Justice

Code	Title	Hours
SJUS:1046/ ANTH:1046/ GEOG:1046/ GWSS:1046	Environmental Politics in India	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
CPH:4200	Agriculture, Food Systems, and Sustainability	3
EES:3070	Marine Ecosystems and Conservation	3

GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:2950	Environmental Conservation	4
GEOG:3340	Ecosystem Services	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3

## Gender, Women's, and Sexuality Studies

Code	Title	Hours
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:1046/ ANTH:1046/ GEOG:1046/ SJUS:1046	Environmental Politics in India	3
GWSS:2000	Desire, Consent, and Sex in U.S. Culture(s): Replacing Coercion and Violence with Respect	3
GWSS:2108/ ANTH:2108	Gendering India	3
GWSS:2160/ AMST:2160	Love and Romance in America	3
GWSS:2190/ ANTH:2190/IS:2190	Love Rules: Law and the Family Across Cultures	3
GWSS:2500/ ENGL:2570/ SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3
GWSS:2650/ GHS:2650	Global Reproduction	3
GWSS:2900/ ANTH:2191	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3
GWSS:3005/ SJUS:3005	Practicum	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3100	LGBTQ/Queer Studies	3
GWSS:3118/ ANTH:3118	Politics of Reproduction	3
GWSS:3200	Theories for Gender, Women's, and Sexuality Studies	3

GWSS:3280/ HIST:3280	Women and Power in U.S. History Through the Civil War	3	GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
GWSS:3300/ ANTH:3300	Mothers and Motherhood	3	GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3	ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3	COMM:2086	Global Media Studies	3
GWSS:3750/ SOC:3750	Born in the USA: Fertility and Reproduction	3	COMM:4131/ IS:4131	Globalization and Culture	3
AMST:3430/ GWSS:3430/ THTR:3430	Women on Stage	3	HIST:3126	History of Globalization	3
ANTH:4140/ CBH:4140/ GHS:4140/ GWSS:4140	Feminist Activism and Global Health	3	POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3
COMM:2041/ GWSS:2041	Gender, Communication, and Culture	3	POLI:3512	International Conflict	3
COMM:2075/ GWSS:2075	Gender, Sexuality, and Media	3	RELS:3431/ ASIA:3431/ GWSS:3131	Gender and Sexuality in East Asia	3
COMM:4169/ GWSS:4169	Feminist Rhetorics	3	RELS:3855/IS:3855	Human Rights and Islam	3
HIST:3282/ GWSS:3282	Women and Power in U.S. History Since the Civil War	3	SPAN:2200/ LAS:2200	Introduction to Spanish American Cultures	3
JMC:3175	Gender and Mass Media	3	SPAN:3230	Modern Mexico	3
POLI:3114	Women and Politics in the United States	3			
RELS:3431/ ASIA:3431/ GWSS:3131	Gender and Sexuality in East Asia	3			
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3			
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3			

## Global and Transnational Studies

Code	Title	Hours
GWSS:2108/ ANTH:2108	Gendering India	3
GWSS:2151/ ANTH:2151/IS:2151	Global Migration in the Contemporary World	3
GWSS:2500/ ENGL:2570/ SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3
GWSS:2650/ GHS:2650	Global Reproduction	3
GWSS:2700	Transgender People, Politics, and Cultures	3
GWSS:2900/ ANTH:2191	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3121/ ANTH:3121	Love, Marriage, and Family in India	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3

## Health

Code	Title	Hours
SJUS:3620/ GWSS:3620	Narrative Medicine, Social Justice, and the End of Life	3
GWSS:2080/ GHS:2080	The Cultural Politics of HIV- AIDS	3
GWSS:2400/ CPH:2240/ LATS:2400	Health, Intersectionality, and Diversity	3
GWSS:2600	Men, Masculinity, Identity, and Health	3
GWSS:2800/ AFAM:2800	African American Women, Health, Hair, and Sexuality	3
GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
ANTH:2164/ GHS:2164	Culture and Healing: An Introduction to Medical Anthropology	3
ANTH:2181/ ASP:2181/ GHS:2181	The Anthropology of Aging	3
ANTH:2182/ GHS:2182	Africa: Health and Society	3
ANTH:3110/ GHS:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
ANTH:3151/ ASP:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152/ ASP:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ASP:3150	Psychology of Aging	3
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2

CPH:2400	The U.S. Health System in a Global Context	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:3500/ GHS:3500	Global Public Health	3
ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3
GHS:3620	Global Health and Human Rights	3
GHS:3720	Contemporary Issues in Global Health	3
HIST:3162/ GHS:3162	History of Global Health	3
JMC:3150/ CBH:3150/ GHS:3150	Media and Health	3
PSY:2930	Abnormal Psychology: Health Professions	3
RELS:3580/ ANTH:3113/ ASIA:3561/ GHS:3113	Religion and Healing	3

## Race and Ethnicity in the U.S.

Code	Title	Hours
SJUS:1600/ AMST:1600/ LATS:1600	War Stories	3
SJUS:3130/ GWSS:3130/ HIST:3252	Blacks and Jews: Race, Ethnicity, and Culture in America	3
GWSS:3133/ ANTH:3133/ SJUS:3133	Anthropology of Race	3
GWSS:3459/ HIST:3259/ SJUS:3459	Making Change, Making History: Iowa's Black Activists and Digital History	3
AMST:2700/ AFAM:2700	The Black Image in Sequential Art: Comics, Graphic Novels, and Anime	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America	3
COMM:2076/ AFAM:2076	Race, Ethnicity, and Media	3
ENGL:2463/ AFAM:2463	Topics in African American Literature	3
ENGL:2465/ AFAM:2465	Selected African American Authors	3
ENGL:3444	Literatures of the American Peoples	3
ENGL:3459/ AFAM:3459	African American Literature Before 1900	3
ENGL:3460/ AFAM:3460	African American Literature After 1900	3
HIST:2267/ AFAM:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
HIST:3217/ LAS:3217/ LATS:3217	Latina/o/x Immigration	3

HIST:4216/ LAS:4216	Mexican American History	3
LATS:3420/ AMST:3420/ POLI:3427/ SJUS:3420	Latinas/os/x and the Law	3
POLI:1900	Introduction to the Politics of Race	3
RELS:3745/ AFAM:3245	Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter	3
SOC:2830	Race and Ethnicity	3
SPAN:3400/ LATS:3400	Chicano Literature and Culture	3
SPAN:3440/ LATS:3440	Topics in Latina/o/x Literature and Culture	3
SPAN:4820/ AMST:4800/ LATS:4800	Latina/o/x Popular Culture	3
SSW:3847	Discrimination, Oppression, and Diversity	3

An African American studies course (prefix AFAM) numbered 2000 or above that does not fulfill a GE CLAS Core requirement

A Latina/o/x studies course (prefix LATS) numbered 2000 or above that does not fulfill a GE CLAS Core requirement

A Native American and Indigenous studies course (prefix NAIS) numbered 2000 or above that does not fulfill a GE CLAS Core requirement

## Capstone

Students complete all of the requirements for either Option A or Option B.

### Option A

Students complete a senior project and the following two courses.

In the fall semester of their final year, students complete SJUS:3400 Advocacy and Engagement Colloquium which requires community service work at a related social justice organization. In the spring, students complete SJUS:4080 Advocacy and Engagement Capstone, in which they develop an individual creative or scholarly project that pulls together their lived and community experiences, their academic learning, and significant research. The project culminates with a poster shown at the Senior Research Poster Show.

Code	Title	Hours
Both of these:		
SJUS:3400/ GWSS:3400	Advocacy and Engagement Colloquium	3
SJUS:4080	Advocacy and Engagement Capstone	3

### Option B

Students prepare for the capstone by completing GWSS:3900 Research for Public Engagement during the fall semester which focuses on developing advanced research, reading, and writing skills and choosing their capstone topics. Senior Research Seminar (GWSS:4090), taken during the spring semester of their final year, provides a platform for students to share their capstone research and writing. Students create

either extended essays that document their research using the style manual of their choice or produce creative work alongside an annotated research bibliography. At the end of the semester, students make posters that represent the subject, content, and significance of their research and present them at the Senior Research Seminar Poster Show.

Code	Title	Hours
Both of these:		
GWSS:3900	Research for Public Engagement	3
GWSS:4090	Senior Research Seminar	3

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. Honors students must write an honors thesis that requires two semesters of work during the senior year: fall (thesis research by enrolling in GWSS:3990 Independent Readings and Research in Gender, Women's, and Sexuality Studies) and spring (thesis writing by enrolling in SJUS:4085 Social Justice Bachelor of Arts Honors Senior Thesis).

Students who intend to graduate with honors in the major should meet with the social justice advisor before the end of their junior year. They also must select a faculty member to serve as their honors thesis supervisor before they begin their thesis work. The department recommends that students consider faculty members from whom they have taken SJUS/GWSS courses.

### Capstone Option A

Code	Title	Hours
Both of these:		
SJUS:3400/ GWSS:3400	Advocacy and Engagement Colloquium (fall)	3
SJUS:4085	Social Justice Bachelor of Arts Honors Senior Thesis	3

### Capstone Option B

Code	Title	Hours
Both of these:		
GWSS:3900	Research for Public Engagement	3
GWSS:4095	Honors Senior Thesis	3

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the social justice major.

## Career Advancement

The social justice major prepares students for careers in diverse fields. Graduates may work in nonprofit and

governmental agencies, international organizations, think tanks, research and policy institutes, foundations, religious and cultural institutions, schools, universities, businesses, and health care settings. Their positions may relate to the emphasis areas they developed in the major, addressing issues such as human rights, the environment and ecological justice, racial and ethnic diversity, poverty, improving the lives of women and girls, sustainability, education, public health, and the arts and social change.

Students also are well prepared to continue their studies in a wide range of graduate programs and professional schools.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** SJUS:1001 Introduction to Social Justice, SJUS:2000 Theories of Social Justice, SJUS:2250 The History of Social Justice Movements, and GWSS:3138 Writing to Change the World.

**Before the seventh semester begins:** two social justice movement courses; two courses in human rights, diversity, activism; and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 9 s.h. in the emphasis area and plan a capstone option with advisor.

**During the eighth semester:** capstone requirement, all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Social Justice, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
SJUS:1001	Introduction to Social Justice <sup>b</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4

GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>	3
SJUS:2000 Theories of Social Justice	3
GE CLAS Core: Social Sciences <sup>c</sup>	3
Elective course <sup>d</sup>	3

**Hours 15-16**

### Second Year

#### Fall

SJUS:3138 Writing to Change the World	3
SJUS:2250 The History of Social Justice Movements	3

GE CLAS Core: Values and Culture <sup>c</sup>	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>	4 - 5
Elective course <sup>d</sup>	3

**Hours 16-17**

#### Spring

Major: core course in human rights, diversity, activism	3
Major: emphasis area course <sup>f</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>	4 - 5
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>	3
Elective course <sup>d</sup>	3

**Hours 16-17**

### Third Year

#### Fall

Major: core course in social justice movements: politics, history, culture, art	3
Major: emphasis area course (3000 level or above) <sup>f</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>	4 - 5
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>	3
Elective course <sup>d</sup>	3

**Hours 16-17**

#### Spring

Major: emphasis area course (3000 level or above) <sup>f</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>	4 - 5
Major: core course in social justice movements: politics, history, culture, art	3
GE CLAS Core: Historical Perspectives <sup>c</sup>	3
Elective course <sup>d</sup>	3

**Hours 16-17**

### Fourth Year

#### Fall

SJUS:3400 Advocacy and Engagement or GWSS:3900 Colloquium <sup>g, h</sup> or Research for Public Engagement	3
Major: core course in human rights, diversity, activism	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

#### Spring

GWSS:4090 Senior Research Seminar <sup>g, i</sup> or SJUS:4080 or Advocacy and Engagement Capstone	3
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GE CLAS Core: International and Global Issues <sup>c</sup>	3
Major: emphasis area course (3000 level or above) <sup>f</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

**Hours 15**

**Total Hours 124-130**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f A course used to satisfy the core requirement cannot be taken to satisfy an emphasis area requirement.

g Students who choose capstone option A complete SJUS:3400 and SJUS:4080. Students who choose capstone option B complete GWSS:3900 and GWSS:4090.

h Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

i Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Gender, Health, and Healthcare Equity, Minor

Health care evolves continually, and capable professionals will be in high demand. In order to meet the national and international challenges posed by a rapidly changing field, people must be knowledgeable, able to innovate, and willing to learn. Upon completion of the minor in gender, health, and healthcare equity, students will possess the knowledge and skills necessary to think critically about the complex intersections of gender, race, sexuality, and class in relation to health, illness, and health care.

## Requirements

The undergraduate minor in gender, health, and healthcare equity requires a minimum of 15 s.h. of coursework, including at least 12 s.h. completed at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework for the minor may not be taken pass/nonpass.

Students may count a maximum of 3 s.h. from another University of Iowa major, minor, or certificate toward the GHHE minor.

The minor in gender, health, and healthcare equity requires the following coursework.

Code	Title	Hours
Core Courses		6
Health Equity Courses		9-10
<b>Total Hours</b>		<b>15-16</b>

## Core Courses

Code	Title	Hours
Two of these:		
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:1002	Diversity and Power in the U.S.	3
SJUS:1001/ GWSS:1003	Introduction to Social Justice	3

## Health Equity Courses

Code	Title	Hours
Three of these:		
GWSS:2080/ GHS:2080	The Cultural Politics of HIV-AIDS	3
GWSS:2400/ CPH:2240/ LATS:2400	Health, Intersectionality, and Diversity	3
GWSS:2650/ GHS:2650	Global Reproduction	3
GWSS:2700	Transgender People, Politics, and Cultures	3
GWSS:2800/ AFAM:2800	African American Women, Health, Hair, and Sexuality	3
GWSS:3005/ SJUS:3005	Practicum (placement must be in a health care or social service setting)	3-4

GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3154	Sexuality in the United States	3
GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3
CPH:1400	Fundamentals of Public Health	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3
GHS:3036	Ethics, Politics, and Global Health	3
GHS:3070/ GEOG:3070	Hungry Planet: Global Geographies of Food	3
GHS:3110/ ANTH:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
GHS:3620	Global Health and Human Rights	3
GHS:4003	Case Studies in Global Health Inequities	3
HIST:3508/ GHS:3508/LAS:3508	Disease and Health in Latin American History	3
HIST:3755/ GHS:3555/IS:3555	Understanding Health and Disease in Africa	3
SOC:3750/ GWSS:3750	Born in the USA: Fertility and Reproduction	3

# Gender, Women's, and Sexuality Studies, Minor

## Requirements

The undergraduate minor in gender, women's, and sexuality studies (GWSS) requires a minimum of 15 s.h. of coursework, including at least 12 s.h. completed at the University of Iowa. Students must take GWSS:1001 Introduction to Gender, Women's, and Sexuality Studies and 12 s.h. in courses numbered 2000 or above. They may count GWSS:1002 Diversity and Power in the U.S. toward the 12 s.h. requirement. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework for the minor may not be taken pass/nonpass.

Students may count a maximum of 3 s.h. from another University of Iowa major, minor, or certificate toward the GWSS minor.



# Social Justice, Minor

## Requirements

The undergraduate minor in social justice requires a minimum of 15 s.h. of coursework, including at least 12 s.h. completed at the University of Iowa. Students must take SJUS:1001/GWSS:1003 Introduction to Social Justice and 12 s.h. in courses numbered 2000 or above. They may count GWSS:1002 Diversity and Power in the U.S. toward the 12 s.h. requirement. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students may count a maximum of 3 s.h. from another University of Iowa major, minor, or certificate toward the social justice minor.

The minor in social justice requires the following coursework.

Code	Title	Hours
Foundation Courses		6
Human Rights, Diversity, Activism Course		3
Social Justice Movements: Politics, History, Culture, Art Course		3
Elective		3
<b>Total Hours</b>		<b>15</b>

## Foundation Courses

Code	Title	Hours
This course:		
SJUS:1001/ GWSS:1003	Introduction to Social Justice	3
One of these:		
SJUS:2000	Theories of Social Justice	3
SJUS:2250/ GWSS:2250/ HIST:2250	The History of Social Justice Movements	3
GWSS:3138/ SJUS:3138	Writing to Change the World	3

## Human Rights, Diversity, Activism

Code	Title	Hours
One of these:		
SJUS:1600/ AMST:1600/ LATS:1600	War Stories	3
SJUS:2050/ GWSS:2050/ HIST:2150/ RELS:2250	Jews, Judaism, and Social Justice	3
SJUS:2135/ RHET:2135	Rhetorics of Diversity and Inclusion	3
SJUS:2200/ GWSS:2200	The Racial and Gender Construction of Identity, Citizenship, and Rights in America	3
SJUS:2500/ ENGL:2570/ GWSS:2500	Love, War, Activism: Stories About Women from Across the World	3

SJUS:2571/ ENGL:2571/ GWSS:2571	Visualizing Human Rights	3
SJUS:3130/ GWSS:3130/ HIST:3252	Blacks and Jews: Race, Ethnicity, and Culture in America	3
SJUS:3133/ ANTH:3133/ GWSS:3133	Anthropology of Race	3
SJUS:3475/ GWSS:3475	Working for Social Justice	3
SJUS:3620/ GWSS:3620	Narrative Medicine, Social Justice, and the End of Life	3
GWSS:1002	Diversity and Power in the U.S.	3
GWSS:2080/ GHS:2080	The Cultural Politics of HIV-AIDS	3
GWSS:2172	The History of African American Women from Slavery to Freedom	3
GWSS:2800/ AFAM:2800	African American Women, Health, Hair, and Sexuality	3
GWSS:3138/ SJUS:3138	Writing to Change the World (if not used as a Foundation course)	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:3177/ NURS:3739	Women and Their Bodies in Health and Illness	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
GWSS:4140/ ANTH:4140/ CBH:4140/ GHS:4140	Feminist Activism and Global Health	3
HIST:3217/ LAS:3217/ LATS:3217	Latina/o/x Immigration	3
HIST:3232	History of American Inequality	3
HIST:3275/ AFAM:3275	History of Slavery in the U.S.A.	3-4
HIST:4101	History of Human Rights	3
HIST:4478	Holocaust in History and Memory	3
HRTS:2115/IS:2115	Introduction to Human Rights	3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
LATS:3104/ LAS:3104/ POLI:3104	Immigration Politics	3
NAIS:2292/ HIST:2292	Introduction to Native American Law and Policy	3
PHIL:3430	Philosophy of Human Rights	3
POLI:1900	Introduction to the Politics of Race	3
RELS:3855/IS:3855	Human Rights and Islam	3

RHET:3560/ PBAF:3560/ POLI:3560/ SJUS:3560	Public Policy and Persuasion	3
SOC:2810	Social Inequality	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3
SSW:3847	Discrimination, Oppression, and Diversity	3

## Social Justice Movements: Politics, History, Culture, Art

Code	Title	Hours
One of these:		
SJUS:2000	Theories of Social Justice (if not used as a Foundation course)	3
SJUS:2250/ GWSS:2250/ HIST:2250	The History of Social Justice Movements (if not used as a Foundation course)	3
SJUS:2294/ HIST:2294/ NAIS:2294	Indigenous Art Activism and Social Justice	3
SJUS:3250/ ENGL:3170	Literature and Social Justice	3
SJUS:3459/ GWSS:3459/ HIST:3259	Making Change, Making History: Iowa's Black Activists and Digital History	3
SJUS:3550/ GWSS:3550/ RELS:3550	Social Justice, Religion, and Spirituality: Faith and Belief Ignited	3
GWSS:2650/ GHS:2650	Global Reproduction	3
GWSS:2700	Transgender People, Politics, and Cultures	3
GWSS:3280/ HIST:3280	Women and Power in U.S. History Through the Civil War	3
GWSS:3282/ HIST:3282	Women and Power in U.S. History Since the Civil War	3
GWSS:3600	Art, Feminist Practice, and Social Justice	3
AFAM:3053/ AMST:3053/ HIST:3253	The Civil Rights Movement	3
COMM:2054	Movements, Protest, Resistance	3
ENGL:2463/ AFAM:2463	Topics in African American Literature (when topic is the Harlem Renaissance)	3
ENGL:3515	Topics in Postcolonial Studies (when topic is revolutionary Caribbean: Cuba and Puerto Rico)	3
HIST:3232	History of American Inequality	3
HIST:4260	The Sixties in America	3
IS:3200	Sustainable Development	3
LATS:3550	Topics in Latina/o/x Studies: History and Culture	3

## Elective

Courses used to satisfy the Foundation Courses requirement; the Human Rights, Diversity, Activism requirement; or the Social Justice Movements: Politics, History, Culture, Art requirement listed above may not be used to satisfy the elective requirement.

Code	Title	Hours
One of these:		
GWSS:2571/ ENGL:2571/ SJUS:2571	Visualizing Human Rights	3
GWSS:3005/ SJUS:3005	Practicum	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3100	LGBTQ/Queer Studies	3
GWSS:3118/ ANTH:3118	Politics of Reproduction	3
GWSS:3200	Theories for Gender, Women's, and Sexuality Studies	3
GWSS:3300/ ANTH:3300	Mothers and Motherhood	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
AFAM:3500/ HIST:3160/ RELS:3808	Malcolm X, King, and Human Rights	3
ANTH:2190/ GWSS:2190/IS:2190	Love Rules: Law and the Family Across Cultures	3
ANTH:3103	Environment and Culture	3
ANTH:3110/ GHS:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
ANTH:3151/ ASP:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ANTH:3152/ ASP:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
ANTH:4140/ CBH:4140/ GHS:4140/ GWSS:4140	Feminist Activism and Global Health	3
ASP:3150	Psychology of Aging	3
COMM:4131/ IS:4131	Globalization and Culture	3
COMM:4169/ GWSS:4169	Feminist Rhetorics	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:3500/ GHS:3500	Global Public Health	3
EES:3070	Marine Ecosystems and Conservation	3
ENGL:3444	Literatures of the American Peoples	3

ENGL:3555/ AFAM:3555	Topics in African Cinema (when topic is visualizing human rights)	3	SPAN:3400/ LATS:3400	Chicano Literature and Culture	3
ENGL:3580	Identity and Social Issues	3	SPAN:3440/ LATS:3440	Topics in Latina/o/x Literature and Culture	3
GEOG:3340	Ecosystem Services	3	SPAN:4820/ AMST:4800/ LATS:4800	Latina/o/x Popular Culture	3
GEOG:3400	Iowa Environmental Policy in Practice	3	SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3
GEOG:3760/ GHS:3760	Hazards and Society	3	SSW:3796	Family Violence	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3			
GHS:3620	Global Health and Human Rights	3			
GHS:3720	Contemporary Issues in Global Health	3			
HIST:3126	History of Globalization	3			
HIST:3162/ GHS:3162	History of Global Health	3			
HIST:3217/ LAS:3217/ LATS:3217	Latina/o/x Immigration	3			
HIST:3282/ GWSS:3282	Women and Power in U.S. History Since the Civil War	3			
HIST:4101	History of Human Rights	3			
HIST:4216/ LAS:4216	Mexican American History	3			
HIST:4260	The Sixties in America	3			
HRTS:3910/IS:3910	Human Rights Advocacy	3			
JMC:3150/ CBH:3150/ GHS:3150	Media and Health	3			
LATS:3420/ AMST:3420/ POLI:3427/ SJUS:3420	Latinas/os/x and the Law	3			
NAIS:2292/ HIST:2292	Introduction to Native American Law and Policy	3			
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3			
POLI:3111	American Public Policy	3			
POLI:3114	Women and Politics in the United States	3			
POLI:3150	Problems in American Politics	3			
POLI:3512	International Conflict	3			
PSY:3560	Psychology of Gender	3			
RELS:3431/ ASIA:3431/ GWSS:3131	Gender and Sexuality in East Asia	3			
RELS:3580/ ANTH:3113/ ASIA:3561/ GHS:3113	Religion and Healing	3			
RELS:3745/ AFAM:3245	Twentieth- and Twenty-first- Century African American Religion: Civil Rights to Black Lives Matter	3			
RELS:3855/IS:3855	Human Rights and Islam	3			
SOC:2830	Race and Ethnicity	3			
SPAN:3230	Modern Mexico	3			

# Gender, Women's, and Sexuality Studies, Graduate Certificate

## Requirements

The graduate Certificate in Gender, Women's, and Sexuality Studies (GWSS) requires 16 s.h. of coursework. All students must maintain a g.p.a. of at least 3.00 in work for the certificate.

Certificate requirements include a foundations course and a capstone course. In GWSS:7400 Graduate Research Conference Presentation, students revise an existing research-based project into a dynamic GWSS presentation which they present at the annual Jakobsen Conference (or, in some semesters, at a department-sponsored symposium). Students receive advising and research mentorship from the director of graduate studies, as well as peer review in scheduled capstone workshops.

The certificate program is open to University of Iowa graduate students working toward a degree; interested students should contact the director of graduate studies to discuss the program's parameters and how the certificate might best support and enhance their course of study.

Students may not use the same course to satisfy more than one certificate requirement.

The Certificate in Gender, Women's, and Sexuality Studies requires the following coursework.

Code	Title	Hours
GWSS:5000	Foundations for Gender, Women's, and Sexuality Studies	3
GWSS:7400	Graduate Research Conference Presentation	1
Electives		12
<b>Total Hours</b>		<b>16</b>

## Electives

Certificate students complete four elective courses (12 s.h.). Students are strongly encouraged to include at least one course with a transnational focus; one course with a focus on U.S. diversity; and one course on theories of gender, women, feminism, and/or sexuality. Where appropriate, GWSS courses offered in a student's home department may count toward the certificate as elective coursework; however, students are encouraged to take at least one GWSS course outside their home department for the purpose of interdisciplinary breadth. The director of graduate studies can advise and discuss coursework options and parameters with students.

# Geographical and Sustainability Sciences

## Chair

- David A. Bennett

## Director, Undergraduate Studies

- Silvia Secchi

## Director, Graduate Studies

- Heather A. Sander

**Undergraduate majors:** geography (B.A., B.S.); sustainability science (B.S.)

**Undergraduate minors:** geographic information science; geography

**Undergraduate certificate:** geographic information science

**Graduate degrees:** M.A. in geography; Ph.D. in geography

**Faculty:** <https://clas.uiowa.edu/geography/people/faculty>

**Website:** <https://clas.uiowa.edu/geography/>

The importance of geographical and sustainability sciences is rooted in the complexity of social and environmental problems. We live on a dynamic planet, one that is constantly changing in response to human and natural processes that are highly interconnected. Geographers study the interactions of people and their environment to better understand these intricately related processes. At the University of Iowa, the department teaches and conducts research on human and natural systems and how interactions between these systems shape the world we live in. Cutting edge technologies, such as geographic information systems (GIS), satellite imagery, and Global Positioning System (GPS), are used to help inform decision making at geographic scales and to analyze and visualize geographic processes.

The Department of Geographical and Sustainability Sciences offers undergraduate programs leading to a Bachelor of Arts or Bachelor of Science degree. Undergraduate students with a major in geography select from three tracks: environmental studies, geographic information science (GISci), and health and society. Each track requires introductory and upper-level geography and sustainability courses, as well as coursework from other departments. The department also offers the B.S. with a major in sustainability science. In addition, the department offers a minor in geography and a minor and certificate in geographic information science. It administers the interdisciplinary environmental policy and planning major and collaborates with other departments to offer the undergraduate Certificates in Social Science Analytics and Sustainability (see below). The department also participates in the University's internship program for students; see Career Center Programs [p. 2171] (University College) in the Catalog.

Geography and sustainability courses provide a background for many related professions including law, health care, planning (urban, regional, environmental, or transportation), conservation, sustainability, environmental or transportation engineering, and international business, and are commonly required for students preparing to teach at elementary and secondary levels.

Geographical and sustainability science students acquire valuable skills in computer-based geographic information systems (GIS) software used to investigate and solve many environmental and social problems. Opportunities for graduates with GIS training are growing rapidly in both private

and governmental organizations. To gain related knowledge, get hands-on experience, and conduct independent research, students have access to the department's state-of-the-art Geographical Information Systems Instructional Lab (GISIL). For more information, see Facilities [p. 566] in this section of the Catalog.

The Department of Geographical and Sustainability Sciences offers Master of Arts and Doctor of Philosophy degrees. Graduate programs focus on studies that extend understanding of the environmental consequences of human decisions at local, regional, and global scales; processes that lead to geographic patterns in health and disease; technologies that help capture, represent, visualize, and analyze geographic patterns and processes; and processes that produce ecosystem services and sustainable futures. Within this broad domain, the department has strengths in environmental justice, environmental modeling, urban ecology, GIScience and GIS, land use/land cover change, and health geography. The mission of the graduate program is to empower graduates with the ability to conduct significant research. In addition to offering graduate degree programs, the department administers the geoinformatics subprogram of the graduate informatics certificate; see the Certificate in Informatics [p. 1756] (Graduate College) in the Catalog.

## GE CLAS Core Courses

The Department of Geographical and Sustainability Sciences offers a number of courses that students in other majors may use to satisfy requirements of the College of Liberal Arts and Sciences GE CLAS Core. Look for courses with the prefix GEOG under "Natural Sciences," "Social Sciences," and "International and Global Issues" in the GE CLAS Core [p. 20] section of the Catalog. Nonmajors also may choose geographical and sustainability sciences courses as electives.

## Related Certificates

### Social Science Analytics

The Department of Geographical and Sustainability Sciences collaborates with the Departments of Political Science, Sociology and Criminology, and Statistics and Actuarial Science to offer the undergraduate program in social science analytics. The Department of Political Science administers the certificate; see the Certificate in Social Science Analytics [p. 1047] in the Catalog.

### Sustainability

The Department of Geographical and Sustainability Sciences collaborates with the Departments of Biology, Earth and Environmental Science, and Civil and Environmental Engineering (College of Engineering), as well as the School of Planning and Public Affairs (Graduate College) and the Tippie College of Business to offer the undergraduate program in sustainability. The certificate is administered by University College; see the Certificate in Sustainability [p. 2226] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Geography (Bachelor of Arts) [p. 572]
- Major in Geography (Bachelor of Science) [p. 580]
- Major in Sustainability Science (Bachelor of Science) [p. 588]

#### Minors

- Minor in Geographic Information Science [p. 593]
- Minor in Geography [p. 594]

#### Certificate

- Certificate in Geographic Information Science [p. 595]

### Graduate Programs of Study

#### Majors

- Master of Arts in Geography [p. 597]
- Doctor of Philosophy in Geography [p. 599]

## Facilities

The department houses three geographic information computational laboratories. They support a variety of geographic information system (GIS) software packages, including the latest software from Esri (ArcGIS) and Erdas (Imagine) as well as a suite of other commercial and open-source software. All lab computers are regularly updated to ensure that they are capable of running the latest software at peak performance.

The Geographical Information Systems Instructional Lab (GISIL) is the department's center for GIS teaching as well as a place where students conduct geographic and GIS-related projects. It is equipped with 27 networked student workstations, instructional support technology (e.g., CRT projection), and a suite of peripherals, including a LiDAR 3D scanner, high-end global positioning system (GPS) units, and a large-format printer.

The environmental modeling and GIS research laboratories contain state-of-the-art machines (Windows and Linux platforms), geoprocessing and statistical software, and an array of software development tools. Projects requiring massive storage or high performance computing have access to additional resources managed by the University's Information Technology Services research support group. The University of Iowa is a charter member of Internet2, with a high performance network link to the Department of Geographical and Sustainability Sciences. The University also is a member of the University Consortium on Geographic Information Science.

To aid studies of water resources and physical geography, the department has a laboratory for the analysis of vegetation, soil, and water quality. The laboratory has a variety of field equipment, including soil probes, portable meteorological stations, GPS, ground-based 3D LiDAR, anemometers, spectrometers, light sensors, and data loggers.

Faculty and graduate students participate in multidisciplinary working groups through the University's Program in Applied

Mathematical and Computational Sciences [p. 1699], the Center for Global and Regional Environmental Research, the Center for Health Effects of Environmental Contamination, International Programs, the Institute for Rural and Environmental Health, the Iowa Quaternary Studies Group, and the Public Policy Center. Participation in multidisciplinary working groups also is available through interdisciplinary research grants with investigators from other University of Iowa academic units, for example, the College of Engineering, the Carver College of Medicine, and the College of Public Health.

Geographic researchers also have access to other University of Iowa resources, such as the University's Main Library, whose collections include more than 115,500 maps; 3,600 atlases and reference works; and around 100,000 aerial photographs, primarily of Iowa.

## Courses

- Geography Courses [p. 566]
- Sustainability Science Courses [p. 571]

### Geography Courses

**GEOG:1000 First-Year Seminar** **1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**GEOG:1020 The Global Environment** **3 s.h.**  
Underlying processes driving human/environment interaction, including climate change, deforestation, and natural disasters; environmental challenges, including declining biological diversity; human response to more frequent severe climate events; production of a more sustainable future. GE: Sustainability. GE: Natural Sciences without Lab.

**GEOG:1021 The Global Environment Lab** **1 s.h.**  
Laboratory application of concepts discussed in GEOG:1020; computer-based and traditional approaches to the investigation of earth's processes, including earthquakes, water and energy balances, climate and weather, and soil development. Corequisites: GEOG:1020, if not taken as a prerequisite. GE: Natural Sciences Lab only.

**GEOG:1030 Our Digital Earth** **3 s.h.**  
New technologies that have revolutionized how people navigate in unfamiliar places, locate friends and colleagues, manage cities, and confront environmental problems during the past decade; fundamental concepts related to how geographic information is used to better understand and manage the world and our everyday lives.

**GEOG:1046 Environmental Politics in India** **3 s.h.**  
How resources, commodities, people, and ideas cross borders; examination of globalization through issues of technology, social justice, environment; perspectives from anthropology, gender studies, geography, energy science, and development. GE: International and Global Issues. Same as ANTH:1046, GWSS:1046, SJUS:1046.

**GEOG:1050 Foundations of GIS** **4 s.h.**  
Introduction to concepts and methods of geographical information systems (GIS) technology through hands-on lab activities and projects; cartography, spatial analysis, and GPS.

- GEOG:1060 Geography of Asia: From Japan to Pakistan** 3 s.h.  
Varied cultures and environments of Asia; different geographic regions and processes in Asian development. GE: International and Global Issues.
- GEOG:1065 Introduction to Spatial Analysis: Patterns and Processes** 3 s.h.  
Fundamental concepts and applications of spatial analysis; how clusters of crime in a community are identified; how patterns of disease are described within a community.
- GEOG:1070 Contemporary Environmental Issues** 3 s.h.  
Global environmental challenges; ecological, economical, cultural, and geographical causes and effects; underlying science and potential solutions to global issues of sustainability. GE: International and Global Issues; Social Sciences.
- GEOG:1090 Globalization and Geographic Diversity** 3 s.h.  
World regions including their physical environment, culture, economy, politics, and relationships with other regions; students learn about conflicts within and between regions. GE: International and Global Issues; Social Sciences.
- GEOG:1095 The Quest for Location: Historical Developments in Cartographic Science and Technology** 3 s.h.  
Development of the science and technology of cartography as embedded in particular places and contexts; topics include determination of latitude and longitude, map projections, navigation, military mapping, surveying and taxation, printing technologies, remote sensing, and global positioning.
- GEOG:1115 The History and Science of Oil** 3 s.h.  
Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Sustainability. GE: Historical Perspectives. Same as EES:1115, ENVS:1115, HIST:1115.
- GEOG:2010 Interdisciplinary Environmental Seminar** 1 s.h.  
Discover research, explore careers, and build connections. Requirements: first- or second-year standing. Same as EES:2010, ENVS:2010.
- GEOG:2013 Introduction to Sustainability** 3 s.h.  
Introduction to sustainability knowledge, skills, and habits as a means to shape one's vision of a sustainable citizen; emphasis on basic skills of literacy, applied math, and finding information; traditional sustainability knowledge areas related to society, economy, and environment; intersecting themes (e.g., informed consumerism, eco-economics, and livable environments). GE: Sustainability. GE: Social Sciences. Same as BUS:2013, SUST:2013, URP:2013.
- GEOG:2110 Seven Billion and Counting: Introduction to Population Dynamics** 3 s.h.  
How dramatic changes to the size of population has changed fundamental characteristics of populations and processes, such as food and water scarcity, climate change and biodiversity, rise of megacities, health and disease, migration, social networks, economics, environment, and household structure. GE: Social Sciences. Same as GHS:2110.
- GEOG:2310 Introduction to Climatology** 3 s.h.  
Introduction to atmospheric processes that determine weather and climate; flow of energy through the atmosphere, distribution and movement of moisture and air, and atmospheric disturbances such as cyclones, hurricanes and tornadoes, and climate change. Recommendations: GEOG:1020 or similar earth systems science course. Same as EES:2310.
- GEOG:2374 Biogeography** 3 s.h.  
Introduction to processes that lead to the patterns of plant and animal distributions we see across the globe; processes of focus include plate tectonics, climate, and human-ecological interactions; species management and conservation in relationship to climate and change in human patterns of environment. Prerequisites: BIOL:1141 or BIOL:1370 or BIOL:1261 or GEOG:1020 or BIOL:1412. Same as BIOL:2374.
- GEOG:2410 Environment and Development** 3 s.h.  
Investigation of questions that surround human-environment interactions; case studies highlight approaches (e.g., political economy, gender, sustainability) to addressing and understanding human relationship to environmental change.
- GEOG:2910 The Global Economy** 3 s.h.  
Examination of contemporary economic geography; types of national economies, uneven development, role of government in shaping economy, multinational corporations; foundation for understanding national economies and economic statistics; contemporary issues including economic globalization, commodification of nature, de-industrialization. GE: International and Global Issues; Social Sciences.
- GEOG:2930 Water Resources** 3 s.h.  
Introduction to science and policy issues affecting water resources management in the U.S.; how the intersection of people, climate, technology, and geography affects the quality, availability, and demand for freshwater resources.
- GEOG:2950 Environmental Conservation** 4 s.h.  
Scientific foundations of biological conservation; strategies used to better connect conservation practice with needs of a growing human population. Prerequisites: EES:1080 or GEOG:1020 or GEOG:1070.
- GEOG:2990 Readings for Undergraduates** arr.  
Supervised readings in geography.
- GEOG:3001 Special Topics** arr.  
Contemporary fields of inquiry, such as biophysical systems, GIS, locational analysis, water resources, economic geography, demographic analysis, environment, urbanization, transportation, and regional development.
- GEOG:3003 Interdisciplinary Environmental Seminar** 1 s.h.  
Role of sciences in environmental issues and problems; progression from observation to evaluation to design of better questions and experiments. Requirements: third- or fourth-year standing. Same as EES:3010, ENVS:3010.
- GEOG:3010 Geographic Information Systems and Science** 3 s.h.  
Solid foundation and introduction to GIS and digital map making; what GIS is and how GIS can contribute to research, careers, and everyday life; fundamentals that underlie GIS, including methods for GIS data collection and georeferencing, spatial modeling, spatial data analysis, and visualization; GIS trends including mobile GIS and the Web. Same as IGPI:3010.

**GEOG:3020 Earth Surface Processes 3 s.h.**

Basic geomorphic and environmental processes that shape the earth's surface; emphasis on erosion, transport, deposition by land mass movement (creep, landslides, earth flow), fluid agents (wind, water, ice); methods used to study these processes. Recommendations: EES:1050 or EES:1080 or ENVS:1080 or GEOG:1020 or EES:1085 or ENVS:1085. Same as EES:3020, ENVS:3020.

**GEOG:3050 Geospatial Programming 3 s.h.**

Introduction to geospatial programming with Python; programming basics, data structures, and algorithms; spatial data models and structures; vector-based and raster-based geoprocessing; automating GIS tasks and models; spatial libraries (e.g., ArcPy, GeoPandas, GDAL, PySAL). Prerequisites: GEOG:1050. Same as IGPI:3050.

**GEOG:3070 Hungry Planet: Global Geographies of Food 3 s.h.**

Societal and environmental implications of past, current, and future global food supply examined from a geographical perspective; focus on questions of who eats what, where, and why; transformative history of agriculture, modern agribusiness and alternative food supplies, geopolitical implications of food production, food scarcity and rising food costs, urban versus rural agriculture, the obesity epidemic versus malnutrition, and the future of food. Same as GHS:3070.

**GEOG:3110 Geography of Health 3 s.h.**

Provision of health care in selected countries, with particular reference to the Third World; focus on problems of geographical, economic, cultural accessibility to health services; disease ecology, prospective payment systems, privatization, medical pluralism. Same as GHS:3111.

**GEOG:3210 Health, Work, and the Environment 3 s.h.**

Survey of environmental and occupational health hazards and the associated health risks of exposure; how public health protects society from these hazards; how public health policy can be influenced by science. Same as CPH:3400.

**GEOG:3300 Envisioning Future Worlds: Sustainable Development and Its Alternatives 3 s.h.**

Sociocultural, geopolitical, and environmental implications of sustainable development and its alternatives investigated from a geographic perspective; geopolitical history of sustainable development; measures of sustainability in development; major critiques of sustainable development; alternative visions of development from different geographical contexts including ecofeminism, Buen Vivir, food sovereignty, degrowth, commoning, and the People's Health Movement. Same as GHS:3300.

**GEOG:3310 Landscape Ecology 3 s.h.**

Landscapes as complex systems that arise from interactions among physical environments and species, including humans; exploration of how these interactions shape landscape ecosystems and influence landscape change through lecture, computer and field labs, and research discussion; key topics include causes and consequences of landscape pattern, techniques used to quantify and model landscape pattern, the role of humans in determining landscape structure and function, and conservation and management of species and landscapes. Prerequisites: GEOG:2374 or BIOL:2673. Requirements: ecology course numbered 1000-4999.

**GEOG:3315 Ecosystem Ecology 3 s.h.**

Terrestrial ecosystems as integrators of biological, physical, and ecological processes; flows of energy, carbon, water, and nutrients within ecosystems; spatial and temporal patterns and processes of Earth's ecosystems; sustaining ecosystems in the face of global change. Prerequisites: GEOG:2374 or BIOL:2374 or BIOL:2673 or GEOG:1020 or EES:1080.

**GEOG:3320 Wetlands: Function, Geography, and Management 3 s.h.**

Hydrological, geomorphological, and ecological processes and their interaction in wetlands; geographic differences in wetlands based on climate and hydrology; wetlands, lakes, and rivers; role of wetlands in drainage basin hydrology and flooding; values and valuation of wetlands; wetland law and wetland delineation; wetlands and water resources. Prerequisites: GEOG:2310 or GEOG:2374. Same as EES:3260.

**GEOG:3331 Human Dimensions of Climate 3 s.h.**

How climate shapes human societies; focus on how climate and climate variability affects food production, water use, energy use, and human disease systems (e.g., influenza, malaria, air pollution, diarrheal disease); climate change impacts (e.g., sea level rise, droughts, wildfires, famine); societal impact, adaptation and vulnerability, mitigation strategies; policy.

**GEOG:3340 Ecosystem Services 3 s.h.**

Ecosystem services—valuable goods and services produced by ecosystems (e.g., flood control, food production, water purification)—from an interdisciplinary perspective centering on geographic techniques used to measure, map, and model ecosystem services; methods used to incorporate ecosystem services into decision and policy making; how human activities alter these services. Prerequisites: GEOG:1050 and (GEOG:2374 or GEOG:3310 or EES:1080 or BIOL:2673 or BIOL:1370 or GEOG:1070 or GEOG:1020).

**GEOG:3350 Urban Ecology 3 s.h.**

Urban ecology as an interdisciplinary field that investigates relationships between natural and the systems in urban environments; students explore urban ecosystems through lecture, discussion of current research, and field-based research projects; and identify how cities can become more sustainable systems. Prerequisites: BIOL:2673 or GEOG:2374. Requirements: GEOG:2374 or ENVS:2673 or introductory course in ecology, and junior standing.

**GEOG:3360 Soil Genesis and Geomorphology 3 s.h.**

Introduction to soil genesis, soil geomorphology, and classification including the basics of soil profile description and soil-landscape, soil-vegetation, and soil-climate relationships; emphasis on study of soils as the interface between living and non-living Earth systems and the role of soils in sustaining ecosystems and human societies; short field excursions and a weekend field trip. Requirements: college earth science and chemistry. Same as EES:3360.

**GEOG:3400 Iowa Environmental Policy in Practice 3 s.h.**

How Iowa government addresses environmental policy development and implementation; policy process and current environmental issues; students attend meetings with Iowa State legislators and relevant agency personnel in Des Moines, Iowa, to observe how policies move into practice in agency offices. Prerequisites: GEOG:1070 or POLI:3111 or GEOG:3780. Requirements: junior or higher standing.



**GEOG:3420 Sustainable and Green Building****Concepts 3 s.h.**

Green building and sustainable development trends and theories: water policy, ecosystem services, climate change, and public health; LEED certified building process and each of the associated credit categories (i.e., sustainable sites, energy and atmosphere, water efficiency); how knowledge of green building and sustainable development can help lessen the environmental impact of built environments, improve the bottom line, and better plan for great communities.

**GEOG:3500 Introduction to Environmental Remote Sensing 3 s.h.**

Basic concepts and principles of remote sensing; sources of data; georegistration; digital processing and classification of remotely sensed images for extraction of environmental information; linkage of remote sensing techniques with GIS analysis. Same as IGPI:3500.

**GEOG:3520 GIS for Environmental Studies 3 s.h.**

Students learn new, more advanced techniques for the representation and study of human and natural systems using geographic information systems (GIS); application of this new knowledge to environmental management and problem solving. Prerequisites: GEOG:1050. Same as IGPI:3520.

**GEOG:3540 Geographic Visualization 3 s.h.**

Concepts and techniques that underlie cartographic representation, interaction, and geovisualization; map symbolization and visual variables; spatiotemporal visualization, multivariate mapping, interactive cartography, animation, geovisual analytics, 3D visualization, virtual and augmented reality. Prerequisites: GEOG:1050. Same as IGPI:3540.

**GEOG:3560 Spatial Analyses of Wind Energy 3 s.h.**

Underlying processes, measurement methods, and spatial analyses related to wind energy; students explore techniques for data collection and analysis; GIS-based approaches to renewable energy siting.

**GEOG:3570 Light Detection and Ranging (LiDAR): Principles and Applications 3 s.h.**

Basic principles and applications of Light Detection and Ranging (LiDAR); LiDAR as an essential technology for mapping and analyzing a vast range of topics, including hydrology flooding, transportation planning, and 3D modeling. Recommendations: GEOG:3500 or EES:3100.

**GEOG:3610 Ethical Collection and Use of Geospatial Information 3 s.h.**

Ethical issues that arise during the collection and use of digital geospatial information; particular emphasis on privacy as well as willful and unintentional introduction of different types of errors of omission (e.g., sampling related errors) and commission (e.g., inappropriate map projections); readings provide theoretical background and illustrative practical examples.

**GEOG:3760 Hazards and Society 3 s.h.**

Examination of the impact and societal responses to natural and technological hazards; using case studies from around the world, students explore relationships between extreme events, human behavior, disaster management, public policy, and technology to understand what makes people and places vulnerable to hazards. Same as GHS:3760.

**GEOG:3780 U.S. Energy Policy in Global Context 3 s.h.**

Historical and contemporary aspects of U.S. governmental planning and policy on a wide range of energy issues in global context. Same as GHS:3780, HIST:3240, POLI:3431.

**GEOG:3800 Environmental Economics and Policy 3 s.h.**

Reasons why markets fail in environmental realm (e.g., externalities, common pool resources, club goods, public goods); ecosystem services and techniques used for their valuation; revealed and stated preferences; cost-benefit analysis and role in policy-making process; tools to address environmental market failures, particularly command and control, taxes and subsidies, and mitigation markets; focus on air pollution, climate change, and water-related policies.

**GEOG:3920 Planning Livable Cities 3 s.h.**

Development of livable cities in the United States; economic, physical, environmental, and political forces that shape their growth; impact of planning, how it shapes the future of cities. Same as URP:3001.

**GEOG:3940 Transportation Economics 3 s.h.**

Overview of transportation markets—intercity, rural, urban; transportation modes—rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Recommendations: ECON:1100 and ECON:1200. Same as ECON:3750, URP:3350.

**GEOG:3992 Undergraduate Research arr.**

Opportunity for undergraduate students to participate in faculty-led research projects.

**GEOG:4000 The United Nations Sustainable Development Goals: A Blueprint for a Sustainable Future 3 s.h.**

Establishment of baseline competencies among students from diverse backgrounds; introduction to the United Nations sustainable development goals framework; foundational concepts for sustainable development (e.g., life-cycle analysis, systems thinking, data processing, visualization). Same as SDG:4000.

**GEOG:4010 Field Methods in Physical Geography 3 s.h.**

Introduction to basic approaches to research design and of sampling environmental variables commonly used in environmental sciences; basic methods of sampling and lab analyses of vegetation, land cover, soils, and more.

**GEOG:4030 Senior Project Seminar 3 s.h.**

Development of an independent research project, preparation of a research report, and presentation of the associated outcomes. Offered spring semesters.

**GEOG:4150 Health and Environment: GIS Applications 3 s.h.**

Introduction to how geographic information systems (GIS) and spatial statistics are used in the study of patterns of health and disease in space and time. Same as GHS:4150, IGPI:4150.

**GEOG:4200 Sustainability as a System Science 3 s.h.**

Investigation of social, environmental, and economic sustainability in systems across the planet with a focus on food, energy, and water nexus; geographical and temporal trade-offs, unintended consequences, impacts quantification, role of public and private sectors, conceptual modeling of key system drivers and their interactions, nested systems, and system relations. Same as SUST:4200.

**GEOG:4310 Climate Change 3 s.h.**

Physical science of climate change; impacts on human and natural systems; mitigation of and adaptation to climate change. Prerequisites: GEOG:1020 or GEOG:2013 or EES:1080.

**GEOG:4470 Ecological Climatology 3 s.h.**

Introduction to global energy, water, and carbon cycles; biosphere-atmosphere interactions across scales ranging from leaf to globe. Prerequisites: GEOG:2310 or GEOG:2374.

- GEOG:4500 Advanced Remote Sensing** 4 s.h.  
Theory and practice of remote sensing and digital image processing; practical applications to human-environment interactions. Requirements: GEOG:3500 or EES:3100 or CEE:3783. Same as IGPI:4500.
- GEOG:4520 GIS for Environmental Studies: Applications** 3 s.h.  
Project-driven course to advance student knowledge of geographic information systems (GIS); application of GIS to environmental change analysis, environmental assessment, hazard/risk analysis, and environmental decision making. Prerequisites: GEOG:3520. Same as IGPI:4520.
- GEOG:4580 Introduction to Geographic Databases** 3 s.h.  
Introduction to basic building blocks of spatial database design, spatial data models, structures, relationships, queries (SQL), indexing, and geoprocessing; design and construction of various types of spatial databases, including relational and big data approaches such as ArcGIS geodatabase, PostGIS/PostgreSQL, and MongoDB. Prerequisites: GEOG:1050. Same as IGPI:4581.
- GEOG:4650 Simulation in Environmental Geography** 3 s.h.  
Exploration of how computer simulations are used in environmental studies, with focus on landscape ecology; students learn the basics of performing simulations and the principles and applications of simulation through readings and labs. Requirements: advanced courses in environmental geography or environmental science and senior standing.
- GEOG:4750 Environmental Impact Analysis** 3 s.h.  
In-depth exposure to the history and evolution of the U.S. Environmental Impact Assessment (EIA) process; discussion of major court cases; ecological, economic, and political aspects of current environmental controversies; exposure to real-world scenarios that are crucial to understanding the EIA process in action; field trips to six or seven environmental control facilities in Iowa City and neighboring areas. Prerequisites: GEOG:1070. Same as URP:4750.
- GEOG:4770 Environmental Justice** 3 s.h.  
Introduction to the field of environmental justice; understanding and addressing the processes that lead poor and marginalized communities to face a disproportionate degree of environmental risks and hazards. Same as AFAM:4770, GHS:4770.
- GEOG:4990 Senior Thesis** 3 s.h.  
Original research. Requirements: senior standing.
- GEOG:4995 Honors Thesis** arr.  
Original research. Requirements: honors standing.
- GEOG:5001 Readings** arr.  
Supervised readings by graduate students in topics of their choice.
- GEOG:5010 Fundamentals of Geography** 3 s.h.  
Geography as an academic discipline; history, advances, epistemology, common themes.
- GEOG:5050 Research and Writing in Geography** 3 s.h.  
Identification of research areas; research questions and hypotheses; responsible conduct of research; methodological decisions; research proposal and paper writing.
- GEOG:5055 Geospatial Programming** 3 s.h.  
Introduction to geospatial programming with Python; programming basics, data structures, and algorithms; spatial data models and structures; vector- and raster-based geoprocessing; automating GIS tasks and models; spatial libraries (e.g., ArcPy, GeoPandas, GDAL, PySAL). Same as IGPI:5055.
- GEOG:5070 Special Topics** arr.  
Contemporary fields of inquiry, such as biophysical systems, GIS, locational analysis, water resources, economic geography, demographic analysis, environment, urbanization, transportation, and regional development.
- GEOG:5300 Envisioning Future Worlds: Sustainable Development and Its Alternatives** 3 s.h.  
Sociocultural, geopolitical, and environmental implications of sustainable development and its alternatives investigated from a geographic perspective; geopolitical history of sustainable development; measures of sustainability in development; major critiques of sustainable development; alternative visions of development from different geographical contexts including ecofeminism, Buen Vivir, food sovereignty, degrowth, commoning, and the People's Health Movement. Same as GHS:5300.
- GEOG:5315 Ecosystem Ecology** 3 s.h.  
Terrestrial ecosystems as integrators of biological, physical, and ecological processes; flows of energy, carbon, water, and nutrients within ecosystems; spatial and temporal patterns and processes of Earth's ecosystems; sustaining ecosystems in the face of global change.
- GEOG:5540 Geographic Visualization** 3 s.h.  
Concepts and techniques that underlie cartographic representation, interaction, and geovisualization; map symbolization and visual variables; user-centered design, map use and usability engineering; web mapping, spatiotemporal visualization, multivariate mapping, interactive cartography, animation, geovisual analytics, 3D visualization, virtual and augmented reality. Same as IGPI:5540.
- GEOG:5800 Environmental Economics and Policy** 3 s.h.  
Reasons why markets fail in environmental realm (e.g., externalities, common pool resources, club goods, public goods); ecosystem services and techniques used for their valuation; revealed and stated preferences; cost-benefit analysis and role in policy-making process; tools to address environmental market failures, particularly command and control, taxes and subsidies, and mitigation markets; focus on air pollution, climate change, and water-related policies. Same as PBAF:5800, URP:5800.
- GEOG:6100 Seminar in Health and Environment** 3 s.h.  
Research on health and environment.
- GEOG:6264 Planning Sustainable Transportation** 3 s.h.  
Theories and methods of exerting public control over passenger and freight transportation; social and environmental regulation; effects of changing finance, regulation, and pricing policies, including privatization, tolls, impact fees. Same as PBAF:6265, URP:6265.
- GEOG:6300 Seminar in Environment, Conservation, and Land Use** 1-3 s.h.  
Research on land use, water resources, conservation.
- GEOG:6500 Seminar in Spatial Analysis and Modeling** 1-3 s.h.  
Research themes in spatial analysis, GIScience, simulation, remote sensing. Same as IGPI:6501.

**GEOG:6635 Crossing Borders Seminar 2-3 s.h.**

Taught in English. Same as AFAM:6635, ANTH:6635, COMM:6635, ENGL:6635, FREN:6142, GRMN:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.

**GEOG:7000 Geography Colloquium 1 s.h.****GEOG:7150 Research in Health and Environment 1-3 s.h.**

Directed research in health and environment.

**GEOG:7350 Research in Environment, Conservation, and Land Use 1-3 s.h.**

Directed research in land use, water resources, conservation.

**GEOG:7550 Research in Spatial Analysis and Modeling 1-3 s.h.**

Directed research in spatial analysis, GIScience, simulation.

**GEOG:7750 Research in Environmental Policy 1-3 s.h.**

Directed research in environmental justice and policy.

**GEOG:7999 Thesis arr.**

## Sustainability Science Courses

**SUST:2013 Introduction to Sustainability 3 s.h.**

Introduction to sustainability knowledge, skills, and habits as a means to shape one's vision of a sustainable citizen; emphasis on basic skills of literacy, applied math, and finding information; traditional sustainability knowledge areas related to society, economy, and environment; intersecting themes (e.g., informed consumerism, eco-economics, and livable environments). GE: Sustainability. GE: Social Sciences. Same as BUS:2013, GEOG:2013, URP:2013.

**SUST:4200 Sustainability as a System Science 3 s.h.**

Investigation of social, environmental, and economic sustainability in systems across the planet with a focus on food, energy, and water nexus; geographical and temporal trade-offs, unintended consequences, impacts quantification, role of public and private sectors, conceptual modeling of key system drivers and their interactions, nested systems, and system relations. Same as GEOG:4200.

# Geography, B.A.

## Learning Outcomes

The goal is for geography graduates to demonstrate spatial literacy, systems thinking, critical thinking, research proficiency, and communications skills.

### Spatial Literacy

Students will understand the role of spatial information and data in addressing social and environmental questions. They will be aware of the role of geography as a linchpin discipline that bridges social and biophysical sciences.

### Systems Thinking

Students will acquire an understanding of the connections and relationships between human and environmental activities and outcomes across space and time, be able to apply spatial analytical techniques to investigate human/environment interaction, and identify the ethical implications associated with outcomes produced by such analyses. This understanding and ability will provide students with the necessary tools to assess the sustainability of current and proposed solutions in a variety of settings across a broad spectrum of social and environmental issues.

### Critical Thinking

Students will have the capability to assess various points of view and perspectives while assessing complex social and environmental problems, to evaluate the factual basis of assertions, and to understand trade-offs.

### Research Proficiency

Students will be able to formulate testable hypotheses, apply quantitative or qualitative approaches and methodological tools to pertinent questions, and acquire secondary data or construct primary data sets when applicable.

### Communication Skills

Students will be able to communicate complex geographical and technical concepts using an appropriate vocabulary to a broad spectrum of audiences. Communication skills include verbal, written, graphic, and cartographic forms of communication.

## Requirements

The Bachelor of Arts with a major in geography requires a minimum of 120 s.h., including at least 39-43 s.h. of work for the major. Credit required for the major depends on a student's choice of track. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must earn a minimum of 15 s.h. for the major in residence at the University of Iowa.

Geography majors may not earn the minor in geographic information science.

The major in geography is appropriate preparation for advanced training or careers in geographical and sustainability sciences.

Students choose one of three tracks in the major: environmental studies, geographic information science (GISci), or health and society. All students majoring in

geography complete a common set of foundation courses in addition to the requirements for their choice of track.

Consistent with the College of Liberal Arts and Sciences maximum semester hours rule, students may count a maximum of 56 s.h. earned in their major department toward graduation.

The B.A. with a major in geography requires the following work.

Code	Title	Hours
Common Requirements		18-23
Statistics Courses		3-4
Track Courses		15-19

## Common Requirements

Students may not use a course to fulfill more than one major requirement.

Code	Title	Hours
All of these:		
GEOG:1020	The Global Environment	3
GEOG:1021	The Global Environment Lab	1
GEOG:1050	Foundations of GIS	4
GEOG:1090	Globalization and Geographic Diversity	3
One of these:		
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2910	The Global Economy	3
GEOG:2950	Environmental Conservation	4
One of these (not required for GISci track students):		
GEOG:3340	Ecosystem Services	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Geographic Visualization	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4650	Simulation in Environmental Geography	3
One of these:		
GEOG:4030	Senior Project Seminar	3
GEOG:4995	Honors Thesis (must enroll for 3 s.h.)	3
One of these (at least 1 s.h. required):		
GEOG:3400	Iowa Environmental Policy in Practice	3

GEOG:3992	Undergraduate Research (including ICIGO or independent research)	arr.
CCP:1201	Academic Internship	1-3

Senior Project Seminar (GEOG:4030) is offered only in spring semesters. Students who choose GEOG:4995 Honors Thesis must make arrangements with a faculty advisor.

The Department of Geographical and Sustainability Sciences is a participant in the University's internship program, which provides opportunities for students to participate in paid and unpaid activities related to their academic programs. The Pomerantz Career Center works with students to develop appropriate internships.

## Statistics Courses

Students must earn a minimum of 3 s.h. in statistics by completing one of the following courses or a statistics course equivalent to or numbered above one of these.

Code	Title	Hours
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510/ IGPI:3510	Biostatistics	3

## Tracks

All geography majors must complete one of the three tracks described below: environmental studies, geographic information science (GISci), or health and society. Students should pay close attention to prerequisites for the upper-level courses in each track in order to develop a study plan that allows them to complete their major in a timely way.

Students in the environmental studies or health and society track who wish to gain additional experience in theory and application of geographic information systems (GIS) should take GIS-based courses offered by the Department of Geographical and Sustainability Sciences, as described for each track below.

Students may use GEOG:3001 Special Topics to fulfill a track requirement if the course content is applicable.

### Environmental Studies Track

The environmental studies track requires a minimum of 15 s.h. It is designed for students interested in the interrelationships among social and natural processes that affect the environment. The track prepares students for careers or pursuit of personal interests in resource management, landscape ecology, water resources, environmental policy or law, global environmental change, sustainable development, or other complex environmental issues. Graduates may find employment in an environmental

profession such as conservation, environmental planning and regulation; or environmental law, policy, and politics.

The environmental studies track offers training in field observation, remote sensing, geographical information systems, quantitative analysis/computing, and cartographic representation. It also provides a sound foundation for graduate or professional-level studies in the natural or social aspects of the environment.

In addition to the common requirements, students in the environmental studies track complete a common track course (3 s.h.) and at least 12 s.h. of upper-level geographical and sustainability sciences courses.

Code	Title	Hours
Common course—all environmental studies track students take this:		
GEOG:1070	Contemporary Environmental Issues	3

Students choose a total of four upper-level courses (at least 12 s.h.) from the following, in consultation with their advisor. Those who wish to gain additional experience in theory and application of GIS systems should take GEOG:3520 GIS for Environmental Studies and GEOG:4520 GIS for Environmental Studies: Applications, or they should earn 6 s.h. in other GIS-based geographical and sustainability sciences courses.

Code	Title	Hours
At least one of these:		
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2374/ BIOL:2374	Biogeography	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
At least one of these:		
GEOG:3310	Landscape Ecology	3
GEOG:3315	Ecosystem Ecology	3
GEOG:3320/ EES:3260	Wetlands: Function, Geography, and Management	3
GEOG:3340	Ecosystem Services	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4200/ SUST:4200	Sustainability as a System Science	3
GEOG:4470	Ecological Climatology	3
GEOG:4500/ IGPI:4500	Advanced Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3

GEOG:4650	Simulation in Environmental Geography	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3

### Geographic Information Science Track

The geographic information science track (GISci) requires a minimum of 18-19 s.h. It is designed for students preparing for positions in government agencies, nongovernment organizations, international development agencies, and business. It also provides preparation for graduate study in geography, planning, and other disciplines. The track focuses on the design, implementation, and use of geographic information systems. Courses address how geographic data are acquired, stored, accessed, displayed, managed, and analyzed.

Students in the geographic information science track learn to address problems involved in modeling environmental systems, identifying the best locations for service facilities, assessing environmental impacts, and forecasting the populations of small areas. They use the department's Geographical Information Systems Instructional Lab (GISIL) extensively to develop expertise in using GIS software.

Coursework in the track covers methods of spatial analysis and geographical modeling and involves database management and computer programming.

In addition to the common requirements, students in the geographic information science track complete a common track course (3-4 s.h.) and at least 15 s.h. of upper-level geographical and sustainability sciences courses.

Code	Title	Hours
Common course—all GISci track students take one of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4

Students choose a total of five upper-level courses (at least 15 s.h.) from the following, in consultation with their advisor. GISci track students are encouraged to add breadth to their degree by taking additional upper-level courses in the department. Students interested in the application of GIS to environmental issues should select additional courses from the department's environmental studies area; those interested in health or other socioeconomic issues should select additional courses from the department's health and society area.

Code	Title	Hours
At least one of these:		
GEOG:3050/ IGPI:3050	Geospatial Programming	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Geographic Visualization	3

GEOG:4650	Simulation in Environmental Geography	3
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At least one of these:		
GEOG:3340	Ecosystem Services	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

At least one of these:		
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4500/ IGPI:4500	Advanced Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3

### Health and Society Track

The health and society track requires a minimum of 15 s.h. It is designed for students interested in understanding the causes and consequences of social inequalities, the long-term effects that changing human/environmental interactions have on human health, and emerging transnational challenges to the sustainability of livelihoods. The track provides students with foundational knowledge and skills to support postgraduate employment in governmental or nongovernmental positions, graduate study in public health or in health-related fields, and service experiences such as the Peace Corps and AmeriCorps.

Students gain understanding of the factors and processes that determine geographic patterns of health. They explore the effects of the social, built, and natural environments on the physical, social, and mental health of populations. Coursework in the track examines patterns and causes of infectious and chronic diseases; hazards, vulnerability, and environmental justice; and the spatial methods used to understand such issues.

Thematic content from courses is complemented by quantitative, spatial, and statistical analysis coursework, enabling students to analyze and understand geographic patterns of health. Students have opportunities to work on applied problems, such as assessing patterns of disease, identifying the underlying population and environmental drivers of good or poor health, and evaluating the social dimensions of environmental impacts.

In addition to the common requirements, students in the health and society track complete three common track courses (9 s.h.) and at least two upper-level geographical and sustainability sciences courses (6 s.h.).

Code	Title	Hours
Common courses—all health and society track students take these:		
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:3110/ GHS:3111	Geography of Health	3

GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
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Students choose two upper-level courses (at least 6 s.h.) from the following, in consultation with their advisor. Those who wish to gain additional experience in theory and application of GIS systems should also take an additional 6 s.h. in GIS-based geographical and sustainability sciences courses.

Code	Title	Hours
At least two of these:		
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4770/ GHS:4770	Environmental Justice	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.A. (Geographic Information Science Track)/M.S. in Informatics (Geoinformatics Subprogram)

Students majoring in geography with a geographic information science track who are interested in earning a master's degree in informatics with a geoinformatics subprogram may apply to the combined B.A./M.S. program offered by the College of Liberal Arts and Sciences and the Graduate College. The program enables students to begin the study of informatics before they complete their bachelor's degree. Students are able to complete both degrees in five years rather than six.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the informatics program, see the M.S. in informatics [p. 1749] (Graduate College) in the Catalog.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. They must be admitted to the department's honors program by the first semester of their senior year or earlier.

Honors students in geography pursue study beyond the typical undergraduate level. In order to graduate with honors in the major, they work under the direction of a faculty member to conduct original research and then prepare and present an honors thesis based on their research. The thesis is reviewed by a committee of at least three faculty members. Departmental honors students earn credit for their thesis by registering for GEOG:4995 Honors Thesis. They may substitute GEOG:4030 Senior Project Seminar for GEOG:4995, as long as they continue to work on the thesis under the direction of a faculty member.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the geography major.

## Career Advancement

Courses in geography are commonly required of students preparing to teach at the elementary and secondary school levels or to work in planning and public affairs. The degree also provides a solid background for many related professions, including law, health care, environmental engineering, and business.

The application of geographic information systems (GIS) to social, economic, and environmental problems has increased considerably during the past decade. This trend is likely to continue into the future; in fact, the U.S. Department of Labor has identified the area as one of its 14 high-growth industries. GIS presents an abundance of career opportunities for geography graduates in local, state, and federal government agencies, as well as in the private sector.

Geography majors also are encouraged to participate in an internship. The department maintains close ties with the Iowa Department of Natural Resources and other local agencies that offer internships.

The department's faculty members help students apply for postgraduate programs and contact potential employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the

major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** one introductory course in the major.

**Before the fifth semester begins:** five courses in the major.

**Before the seventh semester begins:** 11 courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 14 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Geography, B.A.

- Environmental Studies Track [p. 576]
- Geographic Information Science Track [p. 577]
- Health and Society Track [p. 578]

### Environmental Studies Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		<b>0</b>
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GEOG:1020	The Global Environment <sup>b</sup>	3
GEOG:1021	The Global Environment Lab <sup>b</sup>	1
GEOG:1090	Globalization and Geographic Diversity <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
Major: geography "select one" course <sup>d, e, f</sup>		3 - 4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
GEOG:1070	Contemporary Environmental Issues <sup>b</sup>	3
Major: statistics course <sup>h</sup>		3
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3

GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>	4 - 5
Elective course <sup>g</sup>	2

**Hours 15-16**

#### Spring

GEOG:1050	Foundations of GIS	4
Major: environmental studies track course		3 - 4
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>	4 - 5	
Elective course <sup>g</sup>	2	

**Hours 16-18**

#### Third Year

##### Fall

Major: GIS "select one" course <sup>j</sup>		3
Major: environmental studies track course		3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		2

**Hours 15-17**

##### Spring

GEOG:3400	Iowa Environmental Policy in Practice	1 - 3
or GEOG:3992 Practice or CCP:1201 or Undergraduate Research or Academic Internship		
Major: environmental studies track course		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3

**Hours 14-18**

#### Fourth Year

##### Fall

Major: environmental studies track course		3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3

**Hours 15-16**

##### Spring

GEOG:4030	Senior Project Seminar	3
or GEOG:4995 or Honors Thesis		
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours 15**

**Total Hours 120-133**

<sup>a</sup> Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.



- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2910, GEOG:2950.
- e Cannot use GEOG:1070 as this course is required elsewhere in the major.
- f Students cannot choose a course that they have already used elsewhere in the major.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- h Choose from: GEOG:1065, PSQF:4143, STAT:1020, STAT:1030, STAT:2010, STAT:2020, STAT:3510. Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.
- i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- j Cannot double-count a class for this requirement and another requirement in the major.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Geographic Information Science Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GEOG:1020	The Global Environment <sup>b</sup>	3
GEOG:1021	The Global Environment Lab <sup>b</sup>	1
GEOG:1090	Globalization and Geographic Diversity <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
GEOG:1050	Foundations of GIS	4
Major: geography "select one" course <sup>d, e</sup>		3 - 4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-17</b>

## Second Year

<b>Fall</b>		
CS:1110 or CS:2110 or CS:1210	Introduction to Computer Science <sup>g</sup> or Programming for Informatics or Computer Science I: Fundamentals	3 - 4
GE CLAS Core: International and Global Issues or Social Sciences <sup>c</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: GIS track course		3 - 4
Major: statistics course <sup>g, i</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-18</b>

## Third Year

<b>Fall</b>		
Major: GIS track course		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
GEOG:3992 or CCP:1201 or GEOG:3400	Undergraduate Research or Academic Internship or Iowa Environmental Policy in Practice	1 - 3
Major: GIS track course		3 - 4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>14-18</b>

## Fourth Year

<b>Fall</b>		
Major: GIS track course		3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
GEOG:4030 or GEOG:4995	Senior Project Seminar or Honors Thesis	3
Major: GIS track course		3 - 4
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>

<b>Hours</b>	<b>15-16</b>
<b>Total Hours</b>	<b>120-135</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students cannot choose a course that they have already used elsewhere in the major.
- e Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2910, GEOG:2950.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.
- h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- i Choose from: GEOG:1065, PSQF:4143, STAT:1020, STAT:1030, STAT:2010, STAT:2020, STAT:3510.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

### Health and Society Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		<b>0</b>
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GEOG:1020	The Global Environment <sup>b</sup>	3
GEOG:1021	The Global Environment Lab	1
GEOG:1090	Globalization and Geographic Diversity <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
Major: geography "select one" course <sup>d, e</sup>		3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3

GE CLAS Core: Historical Perspectives <sup>c</sup>	3
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>15-17</b>

<b>Second Year</b>		
<b>Fall</b>		
GEOG:1050	Foundations of GIS	4
Major: statistics course <sup>g</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>16-17</b>

<b>Spring</b>		
GEOG:2110	Seven Billion and Counting: Introduction to Population Dynamics <sup>b</sup>	3
Major: GIS "select one" course <sup>i</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		1 - 3
<b>Hours</b>		<b>14-17</b>

<b>Third Year</b>		
<b>Fall</b>		
GEOG:3110	Geography of Health	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>

<b>Spring</b>		
GEOG:3992 or CCP:1201 or GEOG:3400	Undergraduate Research or Academic Internship or Iowa Environmental Policy in Practice	1 - 3
Major: Health and Society "select two" course <sup>j</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>14-17</b>

<b>Fourth Year</b>		
<b>Fall</b>		
GEOG:4150	Health and Environment: GIS Applications	3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

<b>Spring</b>		
GEOG:4030 or GEOG:4995	Senior Project Seminar or Honors Thesis	3
Major: Health and Society "select two" course <sup>j</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>120-131</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2910, GEOG:2950.
- e Students cannot choose a course that they have already used elsewhere in the major.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Choose from: GEOG:1065, PSQF:4143, STAT:1020, STAT:1030, STAT:2010, STAT:2020, STAT:3510. Consider choosing a course that also fulfills the GE CLAS Core Quantitative or Formal Reasoning requirement.
- h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- i Cannot double-count a class for this requirement and another requirement in the major.
- j Choose from the following: GEOG:3070, GEOG:3210, GEOG:3300, GEOG:3760, GEOG:3920, GEOG:4770.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Geography, B.S.

## Learning Outcomes

The goal is for geography graduates to demonstrate spatial literacy, systems thinking, critical thinking, research proficiency, and communications skills.

### Spatial Literacy

Students will understand the role of spatial information and data in addressing social and environmental questions. They will be aware of the role of geography as a linchpin discipline that bridges social and biophysical sciences.

### Systems Thinking

Students will acquire an understanding of the connections and relationships between human and environmental activities and outcomes across space and time, be able to apply spatial analytical techniques to investigate human/environment interaction, and identify the ethical implications associated with outcomes produced by such analyses. This understanding and ability will provide students with the necessary tools to assess the sustainability of current and proposed solutions in a variety of settings across a broad spectrum of social and environmental issues.

### Critical Thinking

Students will have the capability to assess various points of view and perspectives while assessing complex social and environmental problems, to evaluate the factual basis of assertions, and to understand trade-offs.

### Research Proficiency

Students will be able to formulate testable hypotheses, apply quantitative or qualitative approaches and methodological tools to pertinent questions, and acquire secondary data or construct primary data sets when applicable.

### Communication Skills

Students will be able to communicate complex geographical and technical concepts using an appropriate vocabulary to a broad spectrum of audiences. Communication skills include verbal, written, graphic, and cartographic forms of communication.

## Requirements

The Bachelor of Science with a major in geography requires a minimum of 120 s.h., including at least 46-49 s.h. of work for the major. Credit required for the major depends on a student's choice of track. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must earn a minimum of 15 s.h. for the major in residence at the University of Iowa.

Geography majors may not earn the minor in geographic information science.

The major in geography is appropriate preparation for advanced training or careers in geographical and sustainability sciences. Students with strong interest in quantitative analysis and model building should pursue the Bachelor of Science and are encouraged to master an appropriate computer programming language.

Students choose one of three tracks in the major: environmental studies, geographic information science (GISci), or health and society. All students majoring in geography complete a common set of foundation courses in addition to the requirements for their choice of track. Bachelor of Science students take additional mathematics coursework.

Consistent with the College of Liberal Arts and Sciences maximum semester hours rule, students may count a maximum of 56 s.h. earned in their major department toward graduation.

The B.S. with a major in geography requires the following work.

Code	Title	Hours
Common Requirements		18-23
Statistics, Mathematics, or Computer Science Courses		10
Track Courses		15-19

## Common Requirements

Students may not use a course to fulfill more than one major requirement.

Code	Title	Hours
All of these:		
GEOG:1020	The Global Environment	3
GEOG:1021	The Global Environment Lab	1
GEOG:1050	Foundations of GIS	4
GEOG:1090	Globalization and Geographic Diversity	3
One of these:		
GEOG:1060	Geography of Asia: From Japan to Pakistan	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2910	The Global Economy	3
GEOG:2950	Environmental Conservation	4
One of these (not required for GISci track students):		
GEOG:3340	Ecosystem Services	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Geographic Visualization	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4650	Simulation in Environmental Geography	3
One of these:		

GEOG:4030	Senior Project Seminar (offered only in spring semesters)	3
GEOG:4995	Honors Thesis (must enroll for 3 s.h. and make arrangements with a faculty advisor)	3
One of these (at least 1 s.h. required):		
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3992	Undergraduate Research (including ICIGO or independent research)	arr.
CCP:1201	Academic Internship	1-3

Senior Project Seminar (GEOG:4030) is offered only in spring semesters. Students who choose GEOG:4995 Honors Thesis must make arrangements with a faculty advisor.

The Department of Geographical and Sustainability Sciences is a participant in the University's internship program, which provides opportunities for students to participate in paid and unpaid activities related to their academic programs. The Pomerantz Career Center works with students to develop appropriate internships.

## Statistics, Mathematics, or Computer Science Courses

Students must earn a minimum of 10 s.h. in statistics, mathematics, or computer science coursework by completing the following. Equivalent courses and courses with a higher course number also may be selected in consultation with, and approval by, an advisor.

Students who complete the GIS track may not double count their required computer science courses for the statistics, mathematics, or computer science courses requirement.

Code	Title	Hours
Both of these:		
STAT:2010	Statistical Methods and Computing	3
STAT:3200/ IGPI:3200/ISE:3760	Applied Linear Regression	3
One of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4
CS:2230	Computer Science II: Data Structures	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1460	Calculus for the Biological Sciences	4

## Tracks

All geography majors must complete one of the three tracks described below: environmental studies, geographic information science (GISci), or health and society. Students should pay close attention to prerequisites for the upper-level courses in each track in order to develop a study plan that allows them to complete their major in a timely way.

Students in the environmental studies or health and society track who wish to gain additional experience in theory and application of geographic information systems (GIS)

should take GIS-based courses offered by the Department of Geographical and Sustainability Sciences, as described for each track below.

Students may use GEOG:3001 Special Topics to fulfill a track requirement if the course content is applicable.

## Environmental Studies Track

The environmental studies track requires a minimum of 15 s.h. It is designed for students interested in the interrelationships among social and natural processes that affect the environment. The track prepares students for careers or pursuit of personal interests in resource management, landscape ecology, water resources, environmental policy or law, global environmental change, sustainable development, or other complex environmental issues. Graduates may find employment in an environmental profession such as conservation, environmental planning and regulation, or environmental law, policy, and politics.

The environmental studies track offers training in field observation, remote sensing, geographical information systems, quantitative analysis/computing, and cartographic representation. It also provides a sound foundation for graduate or professional-level studies in the natural or social aspects of the environment.

In addition to the common requirements, students in the environmental studies track complete a common track course (3 s.h.) and at least 12 s.h. of upper-level geographical and sustainability sciences courses.

Code	Title	Hours
Common course—all environmental studies track students take this:		
GEOG:1070	Contemporary Environmental Issues	3

Students choose a total of four upper-level courses (at least 12 s.h.) from the following, in consultation with their advisor. Those who wish to gain additional experience in theory and application of GIS systems should take GEOG:3520 GIS for Environmental Studies: Applications and GEOG:4520 GIS for Environmental Studies: Applications, or they should earn 6 s.h. in other GIS-based geographical and sustainability sciences courses.

Code	Title	Hours
At least one of these:		
GEOG:2310/ EES:2310	Introduction to Climatology	3
GEOG:2374/ BIOL:2374	Biogeography	3
GEOG:2410	Environment and Development	3
GEOG:2930	Water Resources	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
At least one of these:		
GEOG:3310	Landscape Ecology	3
GEOG:3315	Ecosystem Ecology	3
GEOG:3320/ EES:3260	Wetlands: Function, Geography, and Management	3
GEOG:3340	Ecosystem Services	3

GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4200/ SUST:4200	Sustainability as a System Science	3
GEOG:4470	Ecological Climatology	3
GEOG:4500/ IGPI:4500	Advanced Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4650	Simulation in Environmental Geography	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3

## Geographic Information Science Track

The geographic information science track (GISci) requires a minimum of 18-19 s.h. It is designed for students preparing for positions in government agencies, nongovernment organizations, international development agencies, and business. It also provides preparation for graduate study in geography, planning, and other disciplines. The track focuses on the design, implementation, and use of geographic information systems. Courses address how geographic data are acquired, stored, accessed, displayed, managed, and analyzed.

Students in the geographic information science track learn to address problems involved in modeling environmental systems, identifying the best locations for service facilities, assessing environmental impacts, and forecasting the populations of small areas. They use the department's Geographical Information Systems Instructional Lab (GISIL) extensively to develop expertise in using GIS software.

Coursework in the track covers methods of spatial analysis and geographical modeling and involves database management and computer programming.

In addition to the common requirements, students in the geographic information science track complete a common track course (3-4 s.h.) and at least 15 s.h. of upper-level geographical and sustainability sciences courses.

Code	Title	Hours
Common course—all GISci track students take one of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4

Students choose a total of five upper-level courses (at least 15 s.h.) from the following, in consultation with their advisor. GISci track students are encouraged to add breadth to their degree by taking additional upper-level courses in the department. Students interested in the application of GIS

to environmental issues should select additional courses from the department's environmental studies area; those interested in health or other socioeconomic issues should select additional courses from the department's health and society area.

Code	Title	Hours
At least one of these:		
GEOG:3050/ IGPI:3050	Geospatial Programming	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Geographic Visualization	3
GEOG:4650	Simulation in Environmental Geography	3
At least one of these:		
GEOG:3340	Ecosystem Services	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4010	Field Methods in Physical Geography	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
At least one of these:		
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4500/ IGPI:4500	Advanced Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3

## Health and Society Track

The health and society track requires a minimum of 15 s.h. It is designed for students interested in understanding the causes and consequences of social inequalities, the long-term effects that changing human/environmental interactions have on human health, and emerging transnational challenges to the sustainability of livelihoods. The track provides students with foundational knowledge and skills to support postgraduate employment in governmental or nongovernmental positions, graduate study in public health or in health-related fields, and service experiences such as the Peace Corps and AmeriCorps.

Students gain understanding of the factors and processes that determine geographic patterns of health. They explore the effects of the social, built, and natural environments on the physical, social, and mental health of populations. Coursework in the track examines patterns and causes of infectious and chronic diseases; hazards, vulnerability, and environmental justice; and the spatial methods used to understand such issues.

Thematic content from courses is complemented by quantitative, spatial, and statistical analysis coursework, enabling students to analyze and understand geographic patterns of health. Students have opportunities to work on applied problems, such as assessing patterns of disease,

identifying the underlying population and environmental drivers of good or poor health, and evaluating the social dimensions of environmental impacts.

In addition to satisfying the common requirements, students in the health and society track complete three common track courses (9 s.h.) and at least two upper-level geographical and sustainability sciences courses (6 s.h.).

Code	Title	Hours
Common courses—all health and society track students take these:		
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:3110/ GHS:3111	Geography of Health	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

Students choose two upper-level courses (at least 6 s.h.) from the following, in consultation with their advisor. Those who wish to gain additional experience in theory and application of GIS systems should also take an additional 6 s.h. in GIS-based geographical and sustainability sciences courses.

Code	Title	Hours
At least two of these:		
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:3920/ URP:3001	Planning Livable Cities	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.S./M.S. in Informatics (Geoinformatics Subprogram)

Students majoring in geography who are interested in earning a master's degree in informatics with a geoinformatics subprogram may apply to the combined B.S./M.S. program offered by the College of Liberal Arts and Sciences and the Graduate College. The program enables students to begin the study of informatics before they complete their bachelor's

degree. Students are able to complete both degrees in five years rather than six.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the informatics program, see the M.S. in informatics [p. 1749] (Graduate College) in the Catalog.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. They must be admitted to the department's honors program by the first semester of their senior year or earlier.

Honors students in geography pursue study beyond the typical undergraduate level. In order to graduate with honors in the major, they work under the direction of a faculty member to conduct original research and then prepare and present an honors thesis based on their research. The thesis is reviewed by a committee of at least three faculty members. Departmental honors students earn credit for their thesis by registering for GEOG:4995 Honors Thesis. They may substitute GEOG:4030 Senior Project Seminar for GEOG:4995, as long as they continue to work on the thesis under the direction of a faculty member.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the geography major.

## Career Advancement

Courses in geography are commonly required of students preparing to teach at the elementary and secondary school levels or to work in planning and public affairs. The degree also provides a solid background for many related professions, including law, health care, environmental engineering, and business.

The application of geographic information systems (GIS) to social, economic, and environmental problems has increased considerably during the past decade. This trend is likely to continue into the future; in fact, the U.S. Department of Labor has identified the area as one of its 14 high-growth industries. GIS presents an abundance of career opportunities for geography graduates in local, state, and federal government agencies, as well as in the private sector.

Geography majors are encouraged to participate in an internship. The department maintains close ties with the Iowa Department of Natural Resources and other local agencies that offer internships.

The department's faculty members help students apply for postgraduate programs and contact potential employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** two introductory courses in the major.

**Before the fifth semester begins:** six courses in the major.

**Before the seventh semester begins:** 12 courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 15 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Geography, B.S.

- Environmental Studies Track [p. 584]
- Geographic Information Science Track [p. 585]
- Health and Society Track [p. 586]

### Environmental Studies Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GEOG:1020	The Global Environment <sup>b</sup>	3
GEOG:1021	The Global Environment Lab <sup>b</sup>	1
GEOG:1090	Globalization and Geographic Diversity <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
GEOG:1070	Contemporary Environmental Issues <sup>b</sup>	3
Major: geography "select one" course <sup>d, e</sup>		3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15-17</b>

### Second Year

<b>Fall</b>		
GEOG:1050	Foundations of GIS	4
STAT:2010	Statistical Methods and Computing <sup>b</sup>	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>16-17</b>

### Spring

STAT:3200	Applied Linear Regression	3
Major: environmental studies track course		3
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-16</b>

### Third Year

<b>Fall</b>		
Major: GIS "select one" course <sup>h</sup>		3
Major: computer science/math course <sup>i, j</sup>		3 - 4
Major: environmental studies track course		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-17</b>

### Spring

CCP:1201	Academic Internship	1 - 3
or GEOG:3400	or Iowa Environmental Policy in Practice	
or GEOG:3992	or Undergraduate Research	
Major: environmental studies track course		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>14-17</b>

### Fourth Year

<b>Fall</b>		
Major: environmental studies track course		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

### Spring

GEOG:4030	Senior Project Seminar	3
or GEOG:4995	or Honors Thesis	
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>k</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120-130</b>



- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2910, GEOG:2950.
- e Students cannot choose a course that they have already used elsewhere in the major.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- h Students cannot double-count the same course for this requirement and a requirement in the track.
- i Choose from the following options: CS:1210, CS:2110, CS:2230, MATH:1380, MATH:1460. This course should be chosen based on math placement exam and/or prior coursework, and cannot count for more than one major requirement.
- j Enrollment in math courses requires completion of a placement exam.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Geographic Information Science Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GEOG:1020	The Global Environment <sup>b</sup>	3
GEOG:1021	The Global Environment Lab <sup>b</sup>	1
GEOG:1090	Globalization and Geographic Diversity <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
GEOG:1050	Foundations of GIS	4
Major: geography "select one" course <sup>d, e</sup>		3 - 4

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Second Year</b>		
<b>Fall</b>		
STAT:2010	Statistical Methods and Computing <sup>b</sup>	3
Major: GIS track course		3
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
STAT:3200	Applied Linear Regression	3
Major: GIS track course		3
GE CLAS Core: International and Global Issues or Social Sciences <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Third Year</b>		
<b>Fall</b>		
CS:2110 or CS:1110 or CS:1210	Programming for Informatics <sup>b</sup> or Introduction to Computer Science or Computer Science I: Fundamentals	3 - 4
Major: GIS track course		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
GEOG:3400 or CCP:1201 or GEOG:3992	Iowa Environmental Policy in Practice or Academic Internship or Undergraduate Research	1 - 3
Major: GIS track course		3
Major: computer science/math course <sup>h, i</sup>		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>14-18</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Major: GIS track course		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

GEOG:4995 Honors Thesis or GEOG:4030 or Senior Project Seminar	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>120-131</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students cannot choose a course that they have already used elsewhere in the major.
- e Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2910, GEOG:2950.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- h Choose from the following options: CS:1210, CS:2110, CS:2230, MATH:1380, MATH:1460. This course should be chosen based on math placement exam and/or prior coursework, and cannot count for more than one major requirement.
- i Enrollment in math courses requires completion of a placement exam.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Health and Society Track**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GEOG:1020	The Global Environment <sup>b</sup>	3
GEOG:1021	The Global Environment Lab <sup>b</sup>	1
GEOG:1090	Globalization and Geographic Diversity <sup>b</sup>	3

RHET:1030 Rhetoric or ENGL:1200 or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives <sup>c</sup>	3
CSI:1600 Success at Iowa	2
<b>Hours</b>	<b>15-16</b>

**Spring**

GEOG:2110 Seven Billion and Counting: Introduction to Population Dynamics <sup>b</sup>	3
Major: geography "select one" course <sup>d, e</sup>	3 - 4
RHET:1030 Rhetoric or ENGL:1200 or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>	3
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>15-17</b>

**Second Year**

**Fall**

STAT:2010 Statistical Methods and Computing <sup>b</sup>	3
GE CLAS Core: Diversity and Inclusion <sup>c</sup>	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>	4 - 5
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	2
<b>Hours</b>	<b>15-16</b>

**Spring**

GEOG:1050 Foundations of GIS	4
STAT:3200 Applied Linear Regression	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>	4 - 5
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	1
<b>Hours</b>	<b>15-16</b>

**Third Year**

**Fall**

GEOG:3110 Geography of Health	3
Major: computer science/math course <sup>h, i</sup>	4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>	4 - 5
Elective course <sup>f</sup>	2
<b>Hours</b>	<b>16-17</b>

**Spring**

GEOG:3992 Undergraduate Research or GEOG:3400 or Iowa Environmental Policy in Practice or CCP:1201 or Academic Internship	1 - 3
Major: Health and Society "select two" course <sup>j</sup>	3
Major: GIS "select one" course <sup>k</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>	4 - 5
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>14-17</b>

**Fourth Year**

**Fall**

GEOG:4150 Health and Environment: GIS Applications	3
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Major: Health and Society "select two" course <sup>j</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
GEOG:4995 Honors Thesis or GEOG:4030 or Senior Project Seminar	3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>l</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>120-129</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Choose from the following options: GEOG:1060, GEOG:1070, GEOG:2110, GEOG:2910, GEOG:2950.

e Students cannot choose a course that they have already used elsewhere in the major.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h Choose from the following options: CS:1210, CS:2110, CS:2230, MATH:1380, MATH:1460. This course should be chosen based on math placement exam and/or prior coursework, and cannot count for more than one major requirement.

i Enrollment in math courses requires completion of a placement exam.

j Choose from the following: GEOG:3070, GEOG:3210, GEOG:3300, GEOG:3760, GEOG:3920, GEOG:4770.

k Cannot use GEOG:4150, as it is required elsewhere in the track.

l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Sustainability Science, B.S.

The National Academy of Science defines sustainability sciences as "an emerging field...dealing with the interactions between natural and social systems, and with how those interactions affect the challenge of sustainability: meeting the needs of present and future generations while substantially reducing poverty and conserving the planet's life support systems." The sustainability science major at the University of Iowa is built on an integrative curriculum, with coursework in the social, natural, and analytical disciplines, thereby providing students with the knowledge and skills needed to help build a more sustainable future in Iowa, the United States, and around the world. The program offers students relevant real-world experiences such as study abroad and community outreach, as well as an academically rigorous curriculum.

## Learning Outcomes

Sustainability science graduates will be able to:

- understand the complex processes that connect humans to natural systems;
- analyze the potential impact of decisions given competing information, perceptions, and goals; and
- communicate the importance of sustainability science and management to leaders and the public.

## Requirements

The Bachelor of Science with a major in sustainability science requires a minimum of 120 s.h., including at least 68-71 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must earn a minimum of 40 s.h. for the major in residence at the University of Iowa.

Sustainability science majors may earn a second major or minor in geography, environmental policy and planning, and environmental sciences, as well as other majors, minors, or certificates at the University of Iowa (except for the Certificate in Sustainability). Students may count a maximum of 6 s.h. completed for another major toward the sustainability science major, and may count a maximum of 3 s.h. toward another minor.

The B.S. with a major in sustainability science requires the following work.

Code	Title	Hours
	Core Courses	28-30
	Analytical Tools Courses	14
	Communication Course	2-3
	Equity/Ethics/Equality Course	3
	Electives	18
	Research/Internship Experience	3
<b>Total Hours</b>		<b>68-71</b>

## Core Courses

Core courses introduce students to key elements of sustainability science.

## Sustainability Science

Code	Title	Hours
Both of these:		
GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3
GEOG:3340	Ecosystem Services	3
One of these:		
GEOG:4200/ SUST:4200	Sustainability as a System Science	3
CBE:4410/CEE:4107	Sustainable Systems	3

## Natural Systems

Code	Title	Hours
One of these:		
CHEM:1070	General Chemistry I	3
CHEM:1110	Principles of Chemistry I	4
One of these:		
EES:1085/ ENVS:1085	Fundamentals of Environmental Science	4
GEOG:1020	The Global Environment	3
One of these:		
GEOG:4470	Ecological Climatology	3
BIOL:2673/ ENVS:2673	Ecology	3

## Human Systems

Code	Title	Hours
Both of these:		
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:3800	Environmental Economics and Policy	3
One of these:		
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
POLI:2417	Comparative Environmental Policy	3

## Sustainability Sciences Seminar

Code	Title	Hours
This course:		
	A sustainability science seminar course (consult advisor)	1

## Analytical Tools Courses

These courses address solid analytical skills needed to address sustainability problems.

Code	Title	Hours
All of these:		
GEOG:1050	Foundations of GIS	4
STAT:2010	Statistical Methods and Computing	3
STAT:3200/ IGPI:3200/ISE:3760	Applied Linear Regression	3
One of these:		

CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1460	Calculus for the Biological Sciences	4

## Communication Course

Code	Title	Hours
At least one of these:		
CNW:2730	The Art and Craft of Science Writing	3
CNW:2740	The Art and Craft of Writing about the Environment	3
CNW:3664	Writing About Science	3
JMC:1800	Twenty-first-Century Science: Environmental Communication in the Digital Age	3
JMC:3185	Topics in Understanding Media	3
POLI:3107	Writing in Political Science: Writing for "Science" and for "Politics"	3
WRIT:2600	Science Communication I: Fundamentals of Science Communication	2
WRIT:2601	Science Communication II: Science Outreach and Engagement	2

## Equity/Ethics/Equality Course

Code	Title	Hours
At least one of these:		
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
PHIL:2402	Introduction to Ethics	3
SOC:1022/ SSW:1022	Social Justice and Social Welfare in the United States	3
SOC:1219/ HIST:1219	Big Ideas: Equality, Opportunity, and Public Policy in America	3

## Electives

Elective coursework provides the flexibility so that students can gain depth in an area of interest or continue to build a broad platform on which to build subsequent academic or professional careers.

Students cannot use an elective course to satisfy more than one requirement.

Students must select a minimum of 18 s.h. from the following, with at least 9 s.h. numbered above 3000. Students who seek to develop depth in an area may take up to 12 s.h. in a single focal area.

## Natural Systems

Code	Title	Hours
GEOG:2374/ BIOL:2374	Biogeography	3

GEOG:3310	Landscape Ecology	3
GEOG:3315	Ecosystem Ecology	3
GEOG:3350	Urban Ecology	3
GEOG:4010	Field Methods in Physical Geography	3
BIOL:2673/ ENVS:2673	Ecology	3
EES:4700/ ENVS:4700	Evolution of Ecosystems	3
ENVS:3095	Field Ecology	4
Iowa Lakeside Lab courses (prefix IALL); approved by advisor		

## Human Systems

Code	Title	Hours
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ECON:3650	Policy Analysis	3
ENTR:3700	Sustainable Product Innovation and Management	3
POLI:2417	Comparative Environmental Policy	3
POLI:3126	Environmental Policy	3
URP:3001/ GEOG:3920	Planning Livable Cities	3

## Integrated Natural and Human Systems

Code	Title	Hours
GEOG:2930	Water Resources	3
GEOG:2950	Environmental Conservation	4
GEOG:3331	Human Dimensions of Climate	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4310	Climate Change	3
ANTH:2261	Human Impacts on the Environment	3

## Analytical Methods and Decision Support

Code	Title	Hours
GEOG:3050/ IGPI:3050	Geospatial Programming	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3

GEOG:3540/ IGPI:3540	Geographic Visualization	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
GEOG:4650	Simulation in Environmental Geography	3
BAIS:3005	Information Systems	2
BAIS:3200	Database Management	3
BAIS:3800	Optimization and Simulation Modeling	3
BAIS:4480	Knowledge Discovery	3
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4
CS:2230	Computer Science II: Data Structures	4
CS:3210	Programming Languages and Tools	3
CS:4720/ MATH:4820	Optimization Techniques	3

## Research/Internship Experience

Students must complete a minimum of 3 s.h. for the research/internship experience requirement. They can fulfill this requirement through active participation on research with faculty, an internship at a public or private agency, or an honors thesis. Students can apply an additional 3 s.h. of research experience to their Electives requirement.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major. Students also must complete 6 s.h. of research/internship credit, and successfully complete an honors thesis and presentation.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the sustainability science major.

## Career Advancement

In Iowa, challenges associated with water quality, habitat diversity, air quality, a changing climate, and struggling rural communities have been recognized for many years. At the same time, there are significant opportunities to have a positive impact on social, economic, and environmental goals through renewable energy, reconnection of the farm with the community, and the development of more sustainable urban

infrastructure, among other ways. A knowledgeable workforce is needed to address such challenges as well as to capitalize on these related opportunities.

Sustainability science provides a solid foundation for careers in fields related to sustainability while giving students the needed preparation to continue their studies in professional or graduate programs. According to the Bureau of Labor Statistics, employment opportunities for individuals with training in the environmental area is projected to grow by 11 percent between the years 2014 and 2024, faster than the national average. Sustainability science provides entry into these and related careers, such as planning and public affairs (projected growth of six percent, as fast as average); conservation (projected growth of seven percent, as fast as average); and geospatial technologies (projected growth of 29 percent, much faster than the national average).

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** two core courses in the major.

**Before the fifth semester begins:** six courses in the major.

**Before the seventh semester begins:** 12 courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 15 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Sustainability Science, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1070 or CHEM:1110	General Chemistry I <sup>b, c</sup> or Principles of Chemistry I	3 - 4
GEOG:2013	Introduction to Sustainability	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-16</b>

**Spring**

GEOG:1050	Foundations of GIS	4
GEOG:2110	Seven Billion and Counting: Introduction to Population Dynamics <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core:	Values and Culture <sup>d</sup>	3
	Elective course <sup>e</sup>	2
<b>Hours</b>		<b>15-16</b>

**Second Year****Fall**

EES:1085 or GEOG:1020	Fundamentals of Environmental Science <sup>b</sup> or The Global Environment	3 - 4
STAT:2010	Statistical Methods and Computing <sup>b</sup>	3
GE CLAS Core:	Diversity and Inclusion <sup>d</sup>	3
GE CLAS Core:	World Languages First Level Proficiency or elective course <sup>f</sup>	4 - 5
	Elective course <sup>e</sup>	2
<b>Hours</b>		<b>15-17</b>

**Spring**

STAT:3200	Applied Linear Regression	3
Major:	communication course <sup>g</sup>	2 - 3
Major:	sustainability major elective <sup>h</sup>	3
GE CLAS Core:	International and Global Issues <sup>d</sup>	3
GE CLAS Core:	World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
<b>Hours</b>		<b>15-17</b>

**Third Year****Fall**

GEOG:3340	Ecosystem Services	3
Major:	equity/ethics/equality course <sup>i</sup>	3
Major:	additional computer science or calculus course <sup>j, k</sup>	4
GE CLAS Core:	Literary, Visual, and Performing Arts <sup>g</sup>	3
GE CLAS Core:	World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
<b>Hours</b>		<b>17-18</b>

**Spring**

CBE:4410 or GEOG:4200	Sustainable Systems or Sustainability as a System Science	3
GEOG:3800	Environmental Economics and Policy	3
Major:	sustainability major elective <sup>h</sup>	3
Major:	sustainability science seminar	1
GE CLAS Core:	World Languages Fourth Level Proficiency or elective course <sup>f</sup>	4 - 5
<b>Hours</b>		<b>14-15</b>

**Fourth Year****Fall**

GEOG:2310	Introduction to Climatology <sup>l</sup>	3
GEOG:4770 or POLI:2417	Environmental Justice or Comparative Environmental Policy	3
Major:	sustainability major elective <sup>h</sup>	3

Major:	sustainability major elective numbered above 3000 <sup>h</sup>	3
	Elective course <sup>e</sup>	3
	Arrange research or internship placement <sup>m</sup>	
<b>Hours</b>		<b>15</b>

**Spring**

BIOL:2673 or GEOG:4470	Ecology or Ecological Climatology	3
Major:	sustainability major elective numbered above 3000 <sup>h</sup>	3
Major:	sustainability major elective numbered above 3000 <sup>h</sup>	3
	Major: Research or internship <sup>m</sup>	3
	Elective course <sup>e</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>n</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120-129</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Enrollment in chemistry courses requires completion of a placement exam.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Choose from: CNW:2730, CNW:2740, CNW:3664, JMC:1800, JMC:3185, POLI:3107, WRIT:2600, WRIT:2601.

h Elective coursework provides the flexibility so that students can gain depth in an area of interest or continue to build a broad platform on which to build subsequent academic or professional careers. Students cannot use an elective course to satisfy more than one requirement. Students must select a minimum of 18 s.h. from the list found in the catalog, with at least 9 s.h. numbered above 3000. Students who seek to develop depth in an area may take up to 12 s.h. in a single focal area.

i Choose from: GEOG:4770, PHIL:2402, SOC:1022, SOC:1219.

j Choose from: CS:1210, CS:2110, MATH:1380, MATH:1460

k Enrollment in math courses requires completion of a placement exam.

l This course is a prerequisite for GEOG:4470.

m Research or internship: must be pre-approved by the department.

n Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

timing, contact your academic advisor or Graduation Services.



# Geographic Information Science, Minor

Geographic information science is the study of geography using digital technology. The field uses geographic information systems (computer-based technologies designed to facilitate the capture, organization, analysis, and display of geographic data), remote sensing (primarily interpretation of satellite imagery), and spatial modeling (viewing, analyzing, and mapping spatial data) to study geographic patterns and processes and to examine research on the nature, development, and use of these tools.

## Requirements

The undergraduate minor in geographic information science requires a minimum of 15 s.h. in geographical and sustainability sciences courses, including 12 s.h. in University of Iowa courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Geography majors may not earn the minor in geographic information science.

The minor requires one core course, three mid-level specialization courses, and an advanced course that builds on one of the three mid-level courses. Students may consult with the department's academic advisor for help in selecting the advanced course.

The minor in geographic information science requires the following coursework.

## Core Course

Code	Title	Hours
One of these:		
GEOG:1050	Foundations of GIS	4
GEOG:3010/ IGPI:3010	Geographic Information Systems and Science	3

## Mid-Level Specialization Courses

Code	Title	Hours
All of these:		
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Geographic Visualization	3

## Advanced Course

Code	Title	Hours
One of these:		
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

GEOG:4500/ IGPI:4500	Advanced Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
GEOG:4650	Simulation in Environmental Geography	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Geographic Information Science, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Students pursuing the Geography major cannot also pursue the Geographic Information Science (GIS) minor.

12 semester hours of the Geographic Information Science minor must be 3000-level or above and taken at the University of Iowa.

Hours		0
<b>First Year</b>		
<b>Spring</b>		
GEOG:3010 or GEOG:1050 and Science or Foundations of GIS	Geographic Information Systems	3 - 4
Hours		<b>3-4</b>
<b>Second Year</b>		
<b>Fall</b>		
GEOG:3520	GIS for Environmental Studies	3
Hours		<b>3</b>
<b>Spring</b>		
GEOG:3540	Geographic Visualization	3
Hours		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
GEOG:3500	Introduction to Environmental Remote Sensing	3
Hours		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Minor: GIS advanced course <sup>a</sup>		3
Hours		<b>3</b>
<b>Total Hours</b>		<b>15-16</b>

<sup>a</sup> Refer to the General Catalog for a list of recommended courses.

# Geography, Minor

## Requirements

The undergraduate minor in geography requires a minimum of 15 s.h. in geographical and sustainability sciences courses (prefix GEOG), including 12 s.h. in University of Iowa courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students are encouraged to concentrate their coursework in tracks—environmental studies, geographic information science, or health and society (see the B.A. in geography [p. 572] or the B.S. in geography [p. 580]). For assistance in selecting courses, students may consult with the department's academic advisor.

# Geographic Information Science, Certificate

Geographic information systems (GIS) and the digital spatial data that they contain inform major decisions on how natural resources are managed, how smart cities are built, how communities respond to natural disasters, and how the spread of disease is detected. These same systems and data guide such everyday tasks as deciding one's driving route, finding family and friends using a phone, or figuring out when the bus arrives. Geographic information science (GIScience) has emerged as a field of study focused on fundamental questions about how to acquire, store, manage, analyze and visualize geographic information using computers.

The Certificate in Geographic Information Science is designed to provide the knowledge and skills needed to work with geographic information and prepare individuals to work in this growing profession. The certificate coursework helps build a knowledgeable geospatial workforce that understands how to use GIScience properly and applies this understanding to improve transportation systems, improve water quality, or make companies more productive.

## Requirements

The undergraduate Certificate in Geographic Information Science requires a minimum of 18 s.h. of credit, including at least 12 s.h. earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. Courses taken pass/nonpass do not count toward the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Students who major in geography (geographic information science track) or who earn a minor in geographic information science may not earn the Certificate in Geographic Information Science.

Students who are interested in a specialization in geographic information systems, in remote sensing, or those who seek a more general background may want to select certain options when they plan their certificate coursework. For more information, contact the Department of Geographical and Sustainability Sciences.

Students must complete all of a course's prerequisites before they register for the course.

The Certificate in Geographic Information Science requires the following coursework.

## Core Courses

Code	Title	Hours
One of these:		
GEOG:1030	Our Digital Earth	3
GEOG:1050	Foundations of GIS	4
Both of these:		
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3

GEOG:3540/ IGPI:3540	Geographic Visualization	3
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## Geographic Analysis Electives

Code	Title	Hours
Two of these:		
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3

## Capstone Course

Code	Title	Hours
One of these:		
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4500/ IGPI:4500	Advanced Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
An independent project or internship (consult advisor)		3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Geographic Information Science, Certificate

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students pursuing the Geographic Information Science (GIS) certificate cannot also be Geography majors with the GIS track and cannot also earn the GIS minor.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Spring</b>		
GEOG:1050 or GEOG:1030	Foundations of GIS or Our Digital Earth	3 - 4
<b>Hours</b>		<b>3-4</b>
<b>Second Year</b>		
<b>Fall</b>		
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3
<b>Hours</b>		<b>3</b>

**Spring**

GEOG:3540	Geographic Visualization	3
<b>Hours</b>		<b>3</b>

**Third Year****Fall**

Certificate: geographic analysis elective		3
<b>Hours</b>		<b>3</b>

**Spring**

Certificate: geographic analysis elective		3
<b>Hours</b>		<b>3</b>

**Fourth Year****Fall**

Certificate: capstone course <sup>a</sup>		3
<b>Hours</b>		<b>3</b>

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<b>Total Hours</b>		<b>18-19</b>
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<sup>a</sup> Choose from GEOG:4150, GEOG:4500, GEOG:4520 or an approved independent project or internship.

# Geography, M.A.

The Master of Arts program in geography focuses on investigating the environmental consequences of human decisions, the social implications of environmental change, and the geographic information science that enables these studies. Central to the department's studies are the theories, methods, and models of environmental, social, and geographic information science. Within this broad domain, the department has strengths in environmental justice, environmental modeling, GIScience and GIS, land use and its environmental consequences, sustainability, urban ecology, climatology, and health geography.

Master of Arts students follow one of two tracks. The professional track is designed as a terminal nonthesis degree that prepares students to enter the workforce directly after receiving an M.A. degree. The thesis track includes an independent research project and prepares students to enter a Ph.D. program or a career that requires creative research in selected areas of geography.

The department provides opportunities for graduate students to gain practical experience through service as departmental teaching or research assistants. In addition, graduate students often compete successfully for intramural and extramural funding for graduate education.

Graduate students often present their research at professional conferences and publish their work in academic journals. These presentations and papers can be the product of independent research or research projects led by a faculty member.

## Learning Outcomes

### Nonthesis (Professional) Program

Students who successfully complete the professional M.A. (nonthesis) program in the Department of Geographical and Sustainability Sciences will demonstrate:

- broad knowledge of the basic concepts, tools, and areas of study of field of geography; and
- a basic understanding of and ability to apply tools and techniques in a particular area of geography.

### Thesis Program

Students who successfully complete the M.A. (thesis) program in the Department of Geographical and Sustainability Sciences will demonstrate:

- both broad knowledge of the field of geography and deep knowledge in their area of research concentration;
- an ability to communicate their research concisely and effectively to both general and specialist audiences in written and verbal formats;
- an ability to formulate research questions; select, design, and apply appropriate research methods (e.g., testable hypotheses, data collection, management, analytical techniques); and utilize critical thinking skills to build knowledge, theory, and/or practice in their area of research concentration;
- competence in teaching geography, environmental, or sustainability related courses; and
- understanding of and an ability to operate under professional standards of ethical conduct.

## Requirements

The Master of Arts with a major in geography requires a minimum of 30 s.h. of graduate credit with thesis and 32 s.h. of graduate credit without thesis. Students must maintain a program g.p.a. of at least 2.75. The M.A. is designed to be completed in four semesters.

Thesis students must earn 15 s.h. of credit in Department of Geographical and Sustainability Sciences courses numbered 5000 or above; they may count 6 s.h. of thesis credit and 2 s.h. earned in GEOG:7000 Geography Colloquium toward the degree. Students who earn more than 30 s.h. may use the additional work to increase their breadth of knowledge in geography and to tailor their study programs to their individual interests.

Nonthesis students build skills across a range of topics in geographical and sustainability sciences during their first year and develop skills in particular application areas during their second year. They must earn 15 s.h. of credit in Department of Geographical and Sustainability Sciences courses numbered 5000 or above.

Students demonstrate competence by completing appropriate coursework; completing and defending an M.A. thesis (for thesis students) or completing a portfolio of finished work and having it reviewed (nonthesis students).

More detailed information about M.A. requirements is provided in the department's Manual for Graduate Degree Requirements; contact the Department of Geographical and Sustainability Sciences.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

A bachelor's degree with a major in geography is not required, but applicants must have an undergraduate background relevant to the field. Strength in social science, environmental science, or geographic information science and interest in exploring the spatial perspectives that characterize modern geography are important in admission decisions. Depending on their prior training, graduate students may be required to take courses that are prerequisites for coursework in their chosen area of graduate study; credit earned in prerequisites does not count toward the graduate degree.

Application materials should include transcripts with grade-point average, scores on the Graduate Record Examination (GRE) General Test, three letters of recommendation, and an essay in which applicants state their reasons for wanting to study geography at the University of Iowa.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

New graduate students whose first language is not English are required to take a speaking proficiency test when they arrive at the University; eventually they take the English Language Performance Test (ELPT). Students must be fully certified by the ELPT before they begin their fourth semester in order to be considered for funding in succeeding semesters. Students who do not pass the tests are required to take Teaching

Assistant Preparation in English (TAPE) courses until they have achieved proficiency in spoken English.

## Financial Support

A number of graduate teaching and research assistantships are available. In addition, outstanding applicants and underrepresented minorities are eligible for several fellowships. Awards are based on merit. In giving awards, the department pays particular attention to grade-point average, especially for the junior and senior years; scores on the Graduate Record Examination (GRE) General Test; letters of recommendation; and fit of a student's objectives with department specializations.

Applications for graduate appointments must be received by January 1. Applications for fellowships are due by January 15.

## Career Advancement

Graduates hold positions on college and university faculties, in private research organizations, and in business and government.

Courses in geography are commonly required of students preparing to teach at the elementary and secondary school levels or to work in planning and public affairs. The degree also provides a solid background for many related professions, including law, health care, environmental engineering, and business.

Geography majors also are encouraged to participate in an internship. The department maintains close ties with the Iowa Department of Natural Resources and other local agencies that offer internships.

The application of GIS to social, economic, and environmental problems has increased considerably during the past decade. This trend is likely to continue into the future; in fact, the U.S. Department of Labor has identified the area as one of its 14 high-growth industries. GIS presents an abundance of career opportunities for geography graduates in local, state, and federal government agencies, as well as in the private sector.

The department's faculty members help students apply for postgraduate programs and contact potential employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Geography, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
32 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

### First Year

<b>Fall</b>		
Required course <sup>b</sup>		3
Required course <sup>b</sup>		3
Required course <sup>b</sup>		3
GEOG:7000	Geography Colloquium <sup>c</sup>	1
<b>Hours</b>		<b>10</b>

<b>Spring</b>		
Required course <sup>b</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
GEOG:7000	Geography Colloquium <sup>c</sup>	1
<b>Hours</b>		<b>9</b>

<b>Second Year</b>		
<b>Fall</b>		
Required course <sup>b</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
GEOG:7000	Geography Colloquium <sup>c</sup>	1
<b>Hours</b>		<b>9</b>

<b>Spring</b>		
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
GEOG:7000	Geography Colloquium <sup>c</sup>	1
Final Exam <sup>e</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>34</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Must earn 15 s.h. of credit in Geographical and Sustainability Sciences courses numbered 5000 or above. Work with faculty advisor to determine appropriate graduate level coursework and sequence.
- c Required every semester; may count 2 s.h. earned in GEOG:7000 toward the degree.
- d Work with faculty advisor to determine appropriate elective coursework and sequence.
- e Completed and approved portfolio of finished work.

# Geography, Ph.D.

The Doctor of Philosophy program in geography focuses on investigating the environmental consequences of human decisions, the social implications of environmental change, and the geographic information science that enables these studies. Central to the department's studies are the theories, methods, and models of environmental, social, and geographic information science. Within this broad domain, the department has strengths in environmental justice, environmental modeling, GIScience and GIS, land use and its environmental consequences, urban ecology, sustainability, climatology, and health geography.

The department provides opportunities for graduate students to gain practical experience through service as departmental teaching or research assistants. Graduate students often present their research at professional conferences and publish their work in academic journals. These presentations and papers can be the product of independent research or research projects led by a faculty member.

## Learning Outcomes

Students who successfully complete the doctoral program in the Department of Geographical and Sustainability Sciences will demonstrate:

- both broad knowledge of the field of geography and deep knowledge in their area of research concentration;
- an ability to communicate their research concisely and effectively to both general and specialist audiences in written and verbal formats;
- an ability to formulate research questions; select, design, and apply appropriate research methods (e.g., testable hypotheses, data collection, management, analytical techniques); and utilize critical thinking skills to build knowledge, theory, and/or practice in their area of research concentration;
- competence in teaching geography, environmental, or sustainability related courses; and
- understanding of and an ability to operate under professional standards of ethical conduct.

## Requirements

The Doctor of Philosophy with a major in geography requires 72 s.h. of graduate credit and is designed to be completed in four or five years. Students must maintain a program g.p.a. of at least 3.00.

The degree prepares students for college and university teaching and for advanced research. It provides study programs that lead to broad knowledge of a field of geography and its literature and to special expertise in a subfield.

Students may enter the Ph.D. program upon completing an undergraduate degree or with advanced standing corresponding to previous graduate education.

All Ph.D. students take the following courses. They take GEOG:7000 Geography Colloquium (1 s.h.) each semester they are in residence.

Code	Title	Hours
GEOG:5010	Fundamentals of Geography	3
GEOG:5050	Research and Writing in Geography	3

GEOG:7000	Geography Colloquium (taken each semester)	1
Two courses in geography numbered above GEOG:5001		6
Two research seminars chosen from GEOG:6500 through GEOG:6900; each course for 3 s.h.		6

Students complete a set of research milestones, including a research paper, an area of concentration bibliography, and a written qualifying examination in the discipline. With the approval of the dissertation advisor, each student submits a dissertation proposal to the dissertation committee for critical comments, oral questioning, and approval. Once the dissertation is completed, an oral defense of the dissertation is held.

More detailed information about Ph.D. requirements is provided in the department's Manual for Graduate Degree Requirements; contact the Department of Geographical and Sustainability Sciences.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

A bachelor's degree with a major in geography is not required, but applicants must have an undergraduate background relevant to the field. Strength in social science, environmental science, or geographic information science and interest in exploring the spatial perspectives that characterize modern geography are important in admission decisions. Depending on their prior training, graduate students may be required to take courses that are prerequisites for coursework in their chosen area of graduate study; credit earned in prerequisites does not count toward the graduate degree.

Application materials should include an undergraduate transcript with grade-point average, scores on the Graduate Record Examination (GRE) General Test, three letters of recommendation, and an essay in which applicants state their reasons for wanting to study geography at the University of Iowa.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

New graduate students whose first language is not English are required to take a speaking proficiency test when they arrive at the University; eventually they take the English Language Performance Test (ELPT). Students must be fully certified by the ELPT before they begin their fourth semester in order to be considered for funding in succeeding semesters. Students who do not pass the tests are required to take Teaching Assistant Preparation in English (TAPE) courses until they have achieved proficiency in spoken English.

## Financial Support

A number of graduate teaching and research assistantships are available. In addition, outstanding applicants and underrepresented minorities are eligible for several fellowships. Awards are based on merit. In giving awards, the department pays particular attention to grade-point average, especially for the junior and senior years; scores on

the Graduate Record Examination (GRE) General Test; letters of recommendation; and fit of a student's objectives with department specializations.

Applications for graduate appointments must be received by January 1. Applications for fellowships are due by January 15.

## Career Advancement

The Doctor of Philosophy program prepares students to carry on creative and productive research in selected areas of geography. University of Iowa graduates hold positions on college and university faculties, in private research organizations, and in business and government.

Geography majors are encouraged to participate in an internship. The department maintains close ties with the Iowa Department of Natural Resources and other local agencies that offer internships.

The application of GIS to social, economic, and environmental problems has increased considerably during the past decade. This trend is likely to continue into the future; in fact, the U.S. Department of Labor has identified the area as one of its 14 high-growth industries. GIS presents an abundance of career opportunities for geography graduates in local, state, and federal government agencies, as well as in the private sector.

The department's faculty members help students apply for postgraduate programs and contact potential employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Geography, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GEOG:5010	Fundamentals of Geography	3
Geography course <sup>b</sup>		3
Elective course <sup>c</sup>		3
GEOG:7000	Geography Colloquium <sup>d</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
GEOG:5050	Research and Writing in Geography	3
Geography course <sup>b</sup>		3
Elective course <sup>c</sup>		3
GEOG:7000	Geography Colloquium <sup>d</sup>	1
<b>Hours</b>		<b>10</b>

### Second Year

#### Fall

Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
GEOG:7000	Geography Colloquium <sup>d</sup>	1
<b>Hours</b>		<b>10</b>

#### Spring

Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
GEOG:7000	Geography Colloquium <sup>d</sup>	1
<b>Hours</b>		<b>10</b>

### Third Year

#### Fall

Qualifying Exam <sup>e</sup>		
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Geography research seminar <sup>f</sup>		3
GEOG:7000	Geography Colloquium <sup>d</sup>	1
<b>Hours</b>		<b>10</b>

#### Spring

Oral Comprehensive Exam and Dissertation Prospectus <sup>g</sup>		
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Geography research seminar <sup>f</sup>		3
GEOG:7000	Geography Colloquium <sup>d</sup>	1
<b>Hours</b>		<b>10</b>

### Fourth Year

#### Fall

Elective course <sup>c</sup>		1
GEOG:7999	Thesis	3
GEOG:7000	Geography Colloquium <sup>d</sup>	1
<b>Hours</b>		<b>5</b>

#### Spring

GEOG:7999	Thesis	6
GEOG:7000	Geography Colloquium <sup>d</sup>	1
Final Exam <sup>h</sup>		
<b>Hours</b>		<b>7</b>
<b>Total Hours</b>		<b>72</b>

a Students must complete specific requirements in the

University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Must be numbered above GEOG:5001.

c Work with faculty advisor to determine appropriate elective coursework and sequence.

d Required every semester.

e Written exam typically taken by the end of the fifth semester; refer to the Graduate Handbook for specifics.

f Choose from courses numbered 6500 through 6900.

g Typically completed by the end of the sixth semester.

h Dissertation defense.



# German

## Director, Division of World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Interim Chair, Department of German

- Jill N. Beckman

## Interim Director, Department of German

- Glenn Ehrstine

## General Education Language Coordinator

- Bruce H. Nottingham-Spencer (first year), Elke Heckner (second year)

**Undergraduate major:** German (B.A.)

**Undergraduate minor:** German

**Graduate degree:** M.A. in German

**Faculty:** <https://german.uiowa.edu/people>

**Website:** <https://german.uiowa.edu/>

The Department of German offers a comprehensive undergraduate program of study in German—in German language and in the culture and literature of German-speaking Europe. Students learn to use German with intercultural competency in fields as diverse as international business, teaching, engineering, medicine, music, museum studies, and linguistic or literary study. Courses focus on the cultures of Germany, Austria, and German-speaking Switzerland, including migration to and from there, to provide an understanding of the historical and contemporary importance of these countries in a globalized world.

The program prepares students to use German that displays intercultural competency in fields as diverse as international business, teaching, engineering, medicine, music, museum studies, and linguistic or literary study. The Department of German supports outreach, extracurricular activities, and contributions to the visibility of German-related issues in the state of Iowa. The department fosters an environment of diversity, equity, and inclusion.

Undergraduate students in all majors may satisfy the World Languages requirement of the GE CLAS Core with courses in German; see "Language for GE CLAS Core" below. They may satisfy other GE CLAS Core requirements with courses on German literature and culture that are taught in English; look for courses with the prefix GRMN in the area lists under "Culture, Society, and the Arts" in the GE CLAS Core [p. 20] section of the Catalog. GE CLAS Core courses on German literature and culture also are listed with departmental courses taught in English under Courses [p. 602] in this section of the Catalog.

The Department of German is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 395].

## Language for GE CLAS Core

The department offers several sequences of German language courses that students in all majors may use to satisfy the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Students who have had experience with German should take the online placement test, which helps determine the level at which a student should begin German language study at the University of

Iowa. Students with no background in German should begin their study with GRMN:1001 Elementary German I.

The following sequences satisfy the World Languages requirement of the GE CLAS Core. Students using German to satisfy the World Languages requirement should speak with departmental advisors to determine which sequence is best for them.

Code	Title	Hours
GRMN:1001	Elementary German I	4
GRMN:1002	Elementary German II	4
GRMN:2001	Intermediate German I	4
GRMN:2002	Intermediate German II	4

or

Code	Title	Hours
GRMN:1001	Elementary German I	4
GRMN:1002	Elementary German II	4
GRMN:2020	Intensive Intermediate German	6

or

Code	Title	Hours
GRMN:1010	First-Year German Review	5
GRMN:2001	Intermediate German I	4
GRMN:2002	Intermediate German II	4

or

Code	Title	Hours
GRMN:1010	First-Year German Review	5
GRMN:2020	Intensive Intermediate German	6

## Programs

### Undergraduate Programs of Study

#### Major

- Major in German (Bachelor of Arts) [p. 605]

#### Minor

- Minor in German [p. 609]

### Graduate Program of Study

#### Major

- Master of Arts in German [p. 611]

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC), five All-In-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignALL lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

An extensive collection of works and periodicals at University of Iowa Libraries facilitates research in all major areas of German literature and Germanic linguistics and at all levels of study.

## Courses

Graduate students not pursuing a degree in German may take GRMN:2020 Intensive Intermediate German. That course does not count for graduate credit.

## German Courses

- GRMN:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first or second semester standing.
- GRMN:1001 Elementary German I** 4 s.h.  
Understanding and speaking "everyday German"; reading and writing skills; acquaintance with the German-speaking world through discussion, readings, videos. GE: World Languages First Level Proficiency.
- GRMN:1002 Elementary German II** 4 s.h.  
Continuation of GRMN:1001. Prerequisites: GRMN:1001. GE: World Languages Second Level Proficiency.
- GRMN:1010 First-Year German Review** 5 s.h.  
Accelerated review in preparation for third-semester German. Requirements: previous study of German, typically one to two years of high-school German. GE: World Languages Second Level Proficiency.
- GRMN:1040 German for Travelers** 2 s.h.  
Basic German skills for tourists; for students with no previous knowledge of German.
- GRMN:1200 Disabilities and Inclusion in Writing and Film Around the World** 3 s.h.  
Exploration of human experiences of dis/ability and exclusion/inclusion. Taught in English. GE: Diversity and Inclusion. Same as DST:1200, GHS:1200, WLLC:1200.
- GRMN:1500 German Cultural Activities** 1 s.h.  
Attendance and participation at events related to culture and history of German-speaking countries; reflection papers in English; includes scholarly talks, film screenings, art exhibits, literary readings, and music or theater performances; most events in English.
- GRMN:2001 Intermediate German I** 4 s.h.  
Proficiency in spoken and written German; German-speaking cultures of central Europe, their historical background; emphasis on refinement of reading skills. Prerequisites: GRMN:1002 or GRMN:1010. GE: World Languages Third Level Proficiency.
- GRMN:2002 Intermediate German II** 4 s.h.  
Continuation of GRMN:2001. Prerequisites: GRMN:2001. GE: World Languages Fourth Level Proficiency.
- GRMN:2020 Intensive Intermediate German** 4-6 s.h.  
Intermediate German I and II combined in one intensive course. Prerequisites: GRMN:1002 or GRMN:1010. GE: World Languages Fourth Level Proficiency.
- GRMN:2248 The Invention of Writing: From Cuneiform to Computers** 3 s.h.  
Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, HIST:2148, IS:2248, LING:2248, TRNS:2248, WLLC:2248.
- GRMN:2275 Scandinavian Crime Fiction** 3 s.h.  
Contemporary Scandinavian crime novel in its literary, historical, geographic, cultural, and social context. Taught in English. GE: Literary, Visual, and Performing Arts.
- GRMN:2550 Mardi Gras and More: Cultures of Carnival** 3-4 s.h.  
Literature and customs associated with carnival from the Renaissance through present day; readings on theories of carnivalesque; survey of various carnival cultures ranging from Nuremberg carnival plays around 1450 to current traditions in Rio de Janeiro, Trinidad, New Orleans, and elsewhere. Taught in English. GE: Values and Culture. Same as WLLC:2550.
- GRMN:2600 Witch Hunts in Fact and Fiction: A Global History of Exclusion** 3-4 s.h.  
Survey of the phenomenon of witchcraft and its persecution past and present; students read a historical study that sheds new light on the history of European witch hunts while demonstrating that witch hunts are not simply part of European past; how belief that certain people are able to cause harm by supernatural powers endures throughout the world today; discussion and analysis of exemplary works of fiction about witchcraft persecutions, mostly from German background. Taught in English. GE: Diversity and Inclusion.
- GRMN:2618 Film and Literature of the Holocaust** 3-4 s.h.  
European and American films (e.g., documentaries, feature films); literature of the Holocaust in English translation (e.g., survivor memoirs, testimony, poetry, philosophical essays, graphic novels). Taught in English. GE: Values and Culture. Same as WLLC:2618.
- GRMN:2620 Anne Frank and Her Story** 3-4 s.h.  
Analysis of the *Diary of Anne Frank*, its media adaptations, and related materials (e.g., fictionalizations, additional first-hand accounts); examination of Holocaust in the Netherlands, Belgium, and other countries outside Germany; anti-Semitism, discrimination, tolerance, resistance, identity formation, human aspiration and belief. Taught in English. GE: Diversity and Inclusion. Same as WLLC:2620.
- GRMN:2630 German Cinema: Greatest Hits** 3-4 s.h.  
Overview of German cinema; expressionist film of the Weimar Republic; Nazi cinema; post-war cinema; East German film; New German Cinema; post-unification and contemporary cinema. Taught in English. GE: Literary, Visual, and Performing Arts.

- GRMN:2650 German Nationalism from Enlightenment to Present** 3-4 s.h.  
Introduction to the history of German nationalism and national identities; examination of various theories of nationalism in historical and contemporary contexts. Taught in English. GE: Values and Culture.
- GRMN:2655 Muslim Minorities in the West** 3-4 s.h.  
Introduction to lives of Muslim immigrants in the USA, France, Germany, and England; examination of various theories on multiculturalism. Taught in English. GE: Values and Culture. Same as IS:2600.
- GRMN:2666 Pact with the Devil** 3-4 s.h.  
Since early modern times, the pact with the devil has served as a metaphor for humankind's desire to surpass the limits of knowledge and power; students explore a variety of works from German, British, and Russian literature and culture from early modern time to the present, and critique different twists that fascination with the forbidden takes in regard to women. Taught in English. GE: Literary, Visual, and Performing Arts. Same as WLLC:2666.
- GRMN:2675 The Politics of Memory: Holocaust, Genocide, and 9/11** 3-4 s.h.  
How contested legacies of genocide, global violent conflict, and 9/11 continue to pose an urgent and generationally mediated challenge for critical politics of memory; various approaches to effective or failed coming-to-terms with injurious and difficult past (e.g., Holocaust, Armenian genocide); analysis of museums, sites of memory, and artwork. Taught in English. GE: Diversity and Inclusion.
- GRMN:2720 Germany in the World** 3-4 s.h.  
The Federal Republic of Germany's increasing prominence in post-Cold War international affairs against backdrop of 20th-century history; Germany's role in the European Union and the changing relationship between Europe and the United States. Taught in English. GE: International and Global Issues. Same as HIST:2420.
- GRMN:2750 The Work of Franz Kafka: Adventures in Language and Imagination** 3-4 s.h.  
Introduction to the literary works of Franz Kafka; readings in English, with constant attention to German originals and translation difficulties. Taught in English.
- GRMN:2770 Norse Mythology: Gods, Heroes, and Monsters of Northern Europe** 3-4 s.h.  
Introduction to Norse mythology and related West Germanic mythologies; readings from primary sources in translation (Prose Edda, Poetic Edda, Icelandic sagas); social, historical, and geographic context in northern Europe; reception of Norse mythology in 19th and 20th centuries; incorporation of figures and themes from Norse mythology in works ranging from opera to fantasy fiction and comic books. Taught in English.
- GRMN:2785 Cyborgs, Monsters, and the Uncanny** 3-4 s.h.  
Literature, film, and theory of the monstrous and uncanny from short stories (e.g., Kafka) to science fiction (e.g., *A Cyborg Manifesto*) and horror films (e.g., *Dracula*). Taught in English. GE: Literary, Visual, and Performing Arts.
- GRMN:3010 Stories in German** 3 s.h.  
Stories and other relatively short prose by representative authors; discussion and response; varied topics. Taught in German. Prerequisites: GRMN:2002.
- GRMN:3103 Composition and Conversation I** 3 s.h.  
Improvement of overall language ability with particular emphasis in areas of speaking and writing; may include vocabulary-building activities and review of selected grammar topics. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3104 Composition and Conversation II** 3 s.h.  
Improvement of general language abilities with emphasis in areas of speaking, writing, and vocabulary; content drawn from newspapers, magazines, internet, television, recent films, and social media; students also have the opportunity to explore individual interests. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3105 Contraception Across Time and Cultures** 3 s.h.  
Methods and history of contraception; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Taught in English. Same as CLSA:3105, GHS:3105, GWSS:3105, WLLC:3105.
- GRMN:3195 German Linguistics Lab I** 3 s.h.  
Hands-on research experience collecting and analyzing linguistic data. Requirements: at least one linguistics course.
- GRMN:3200 Literary Translation from German** 3 s.h.  
Workshop and seminar on translating from German to English; emphasis on literary translations and studying existing translations; special issues of German as a source language for translation into English. Taught in English and German. Requirements: prior completion of two German courses at the 3000 level or above. Same as TRNS:3200.
- GRMN:3214 Business German** 3 s.h.  
World of German business, role of German-speaking countries in world trade; emphasis on professional communication and workplace culture. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3236 German Film** 3 s.h.  
Overview 1925-1987; examples of avant-garde films of the Weimar Republic, propagandist filmmaking from the Third Reich, filmmaking traditions of the German Democratic Republic (GDR) and the Federal Republic of Germany (FRG). Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3405 German Cultural History** 3 s.h.  
Major historical persons, events, and places; art and architecture, music, and intellectual life; Middle Ages to 19th century; emphasis on mythical historical persons and places. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3501 German Writers Engaged** 3 s.h.  
Literary works from various genres. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3550 The Politics of Remembrance in German Multicultural Literature and Film** 3 s.h.  
Exploration of contemporary literary texts and films by multicultural German authors and filmmakers who deal critically with German collective memory and the politics of remembrance. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3845 The Structure of German** 3 s.h.  
Structure analysis of German words and sentences; emphasis on vocabulary expansion and writing with increased grammatical accuracy and complexity. Taught in German. Requirements: GRMN:2002 or GRMN:2020.

- GRMN:3850 Twentieth- and Twenty-first-Century German Children's Literature** 3 s.h.  
Exploration of the concept of childhood within broader contexts of history and culture unique to Germany—what lessons are inherent in German children's literature and how has childhood developed accordingly, and what does it mean for a child to be a "reader;" evolution of child-rearing and gender roles over the decades; how Germany holds a solid corner of classic children's literature; examination of canonical texts and more recent child-centered contributions to Germany's literary scene; students connect with local elementary, middle, and/or high schools on a German project. Taught in German. Prerequisites: GRMN:3103 or GRMN:3104.
- GRMN:3855 The Sounds of German** 3 s.h.  
Analysis of sounds and sound system of German; practice in listening and speaking. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:3860 German Language and Society** 3 s.h.  
Introduction to sociolinguistics in context of German-speaking countries; major topics include German dialects, regional and social variation in contemporary German, minority and immigrant languages in German-speaking countries, language and national identity, multilingualism, educational policies related to language teaching and learning, linguistic purism, language use in digital contexts, and language change. Taught in German. Requirements: GRMN:2002, GRMN:2020, or a higher-level course in German. Same as LING:3860.
- GRMN:3865 History of the German Language** 3 s.h.  
History of the German language; its Indo-European roots, characteristics of the major periods, and basic principles of historical linguistics. Taught in German. Prerequisites: GRMN:3103 or GRMN:3501 or GRMN:3104.
- GRMN:4195 German Linguistics Lab II** 3 s.h.  
Hands-on research experience collecting and analyzing linguistic data. Requirements: at least one linguistics course.
- GRMN:4315 German Society Today** 3 s.h.  
Government and political structure, economy, mass media, education, social and cultural life of Germany, Austria, and Switzerland from the end of World War II to present. Taught in German. Prerequisites: GRMN:3501 or GRMN:3103 or GRMN:3104.
- GRMN:4512 Topics in Global and Transnational Culture** 3-4 s.h.  
In-depth look at a theme in cultural expression arising from interactions between countries and regions; focus on contemporary or historical issues; use of materials ranging from literature and the visual arts to music, mass media, and more; general processes through which cultures are formed in mutual and uneven relationships; research project. Taught in English. Recommendations: completion of a GE CLAS Core International and Global Issues course. Same as ARAB:4512, WLLC:4512.
- GRMN:4540 Literature in Film** 3 s.h.  
Representative texts of German literature with film adaptations as specific readings. Taught in German. Requirements: GRMN:3501 or one upper-level literature/culture course taught in German.
- GRMN:4730 Beautiful Souls and Scandalous Writing** 3 s.h.  
Varied works of and about the 18th century; fairy tales, plays, short novels, poems, and other texts by authors such as Lichtenberg, Goethe, Naubert, Schiller, Schlegel, and Sueskind; gender roles ascribed to women and men. Taught in German. Requirements: GRMN:2002 or GRMN:2020.
- GRMN:4800 Seminar in Comparative Literature** 3 s.h.  
Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Taught in English. Same as CL:4800, GWSS:4800, TRNS:4800, WLLC:4801.
- GRMN:4850 Senior Seminar** arr.  
Capstone course for majors in their last year; online graduation portfolio. Prerequisites: GRMN:3103 and GRMN:3104. Requirements: German major and undergraduate standing.
- GRMN:4900 Independent Study** arr.  
Independent work completed under the supervision of Department of German faculty members. Requirements: German major or minor.
- GRMN:4910 Peer Tutoring in German** arr.  
Opportunities to participate in classroom and tutoring activities and engage with students in language learning; for advanced students.
- GRMN:4920 Research in German Studies** arr.  
Supplemental research and writing for introductory German studies courses taught in English (GRMN:2500 through GRMN:2999).
- GRMN:4990 Honors Research** 3 s.h.  
Students work with a Department of German faculty member to identify a topic for an honors thesis; research and preliminary writing. Requirements: three years of college-level German and g.p.a. of at least 3.50 in German.
- GRMN:4991 Honors Thesis** 3 s.h.  
Completion of honors thesis in consultation with a faculty mentor. Requirements: honors standing and GRMN:4990.
- GRMN:5000 German Reading for Graduate Students** 3 s.h.  
Grammar review, vocabulary building, extensive reading of sophisticated texts. Offered spring semesters. Prerequisites: GRMN:1002 or GRMN:1010 or GRMN:1020. Requirements: non-German graduate standing.
- GRMN:5001 Teaching and Learning Languages** 3 s.h.  
Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Taught in English. Same as FREN:5000, SLA:5000, SPAN:5000, WLLC:5000.
- GRMN:6635 Crossing Borders Seminar** 2-3 s.h.  
Taught in English. Same as AFAM:6635, ANTH:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, HIST:6135, IWP:6635, POLI:6635, SPAN:6904.
- GRMN:6920 Multimedia and Second Language Acquisition** 3 s.h.  
Combination of theory and practice regarding use of multimedia and technology to enhance foreign language teaching and second language acquisition research. Taught in English. Same as FREN:6920, SLA:6920, SPAN:6920.
- GRMN:7000 Advanced Studies** arr.  
Independent work completed under the supervision of Department of German faculty members. Requirements: German graduate standing.

# German, B.A.

## Learning Outcomes

The B.A. in German is directed toward graduates' ability to converse effectively in German; to write coherent short texts; to interpret literary, cultural, and linguistic phenomena; and to exhibit an understanding of alternative cultural perspectives.

- Interpersonal speaking: capacity to engage effectively in conversations in German on a range of topics, recount events and personal experiences, and produce explanations and descriptions (intermediate high on the ACTFL scale).
- Writing: capacity to produce a cohesive piece of writing in German, such as an essay, a paper, or a narrative.
- Interpretation and analysis: capacity to critically interpret and analyze literary texts and other cultural artifacts written in German using appropriate sources to support their arguments.
- Cultural understanding: capacity to demonstrate understanding of alternative cultural perspectives acquired through coursework, study abroad, and other cross-cultural experiences.

## Requirements

The Bachelor of Arts with a major in German requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Students who plan to earn licensure to teach in elementary and/or secondary schools should see "Teacher Licensure" below.

The German Language and Culture Advanced Placement (AP) exam with a score of 4 or higher is considered to be the equivalent to one of the 3000-level electives.

A maximum of 15 s.h. of approved transfer credit may be counted toward the major, including study abroad coursework. Students may count up to 21 s.h. earned from the Academic Year in Freiburg program toward the major in German.

Students who begin a German major with no previous German language experience must complete the following courses or their equivalents. The course GRMN:2002 Intermediate German II (or the equivalent) is a prerequisite for all 3000- and 4000-level courses.

Code	Title	Hours
GRMN:1001	Elementary German I	4
GRMN:1002	Elementary German II	4
GRMN:2001	Intermediate German I	4
GRMN:2002	Intermediate German II	4

This requirement also may be satisfied by various combinations of GRMN:1010 First-Year German Review and GRMN:2020 Intensive Intermediate German.

The 30 s.h. required for the major must include at least five German courses numbered 3000 or above taken at the University of Iowa. Students should note that GRMN:3501 German Writers Engaged (or the equivalent) is prerequisite for some other German literature courses.

The B.A. with a major in German requires the following coursework.

Code	Title	Hours
Core Courses		9
Linguistics Course		3
Literature/Film Courses		6
Culture Course		3
Electives		9
<b>Total Hours</b>		<b>30</b>

## Core Courses

Courses GRMN:3103 and GRMN:3104 may be taken in any order.

Code	Title	Hours
Three of these:		
GRMN:3103	Composition and Conversation I	3
GRMN:3104	Composition and Conversation II	3
GRMN:3214	Business German	3
GRMN:3845	The Structure of German	3

## Linguistics Course

Code	Title	Hours
One of these:		
GRMN:3855	The Sounds of German	3
GRMN:3860	German Language and Society	3

## Literature/Film Courses

Code	Title	Hours
This course:		
GRMN:3501	German Writers Engaged	3
One of these:		
GRMN:3010	Stories in German	3
GRMN:3236	German Film	3
GRMN:3550	The Politics of Remembrance in German Multicultural Literature and Film	3
GRMN:3850	Twentieth- and Twenty-first-Century German Children's Literature	3
GRMN:4540	Literature in Film	3
GRMN:4730	Beautiful Souls and Scandalous Writing	3

## Culture Course

Code	Title	Hours
One of these:		
GRMN:3405	German Cultural History	3
GRMN:4315	German Society Today	3

## Electives

Code	Title	Hours
Three electives (prefix GRMN; with language of instruction in German) numbered 3000-4999		9

Independent Study (GRMN:4900) may be applied toward the major when taken for 3 s.h. Only one independent study course may be applied toward the major.

Students may count a maximum of two Department of German courses taught in English numbered 2500-2999 toward the major by registering for 4 s.h. of credit for each course instead of 3 s.h.; the additional 1 s.h. of credit reflects an added research component. See "Four Semester Hour Courses Taught in English" below.

Courses taught in English that are taken for 3 s.h. do not count toward the major in German. In addition, courses numbered at the 1000 level do not count toward the major.

## Four Semester Hour Courses Taught in English

A maximum of two courses (4 s.h. each) may count toward the major.

Code	Title	Hours
Students may use two of the following courses toward the major (some may apply toward GE CLAS Core requirements):		
GRMN:2550	Mardi Gras and More: Cultures of Carnival	4
GRMN:2600	Witch Hunts in Fact and Fiction: A Global History of Exclusion	4
GRMN:2618	Film and Literature of the Holocaust	4
GRMN:2620	Anne Frank and Her Story	4
GRMN:2630	German Cinema: Greatest Hits	4
GRMN:2650	German Nationalism from Enlightenment to Present	4
GRMN:2666	Pact with the Devil	4
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	4
GRMN:2720	Germany in the World	4
GRMN:2750	The Work of Franz Kafka: Adventures in Language and Imagination	4
GRMN:2770	Norse Mythology: Gods, Heroes, and Monsters of Northern Europe	4
GRMN:2785	Cyborgs, Monsters, and the Uncanny	4

## Three Semester Hour Courses Taught in English

These courses do not count toward the major.

Code	Title	Hours
GRMN:1200	Disabilities and Inclusion in Writing and Film Around the World	3
GRMN:2248	The Invention of Writing: From Cuneiform to Computers	3
GRMN:2275	Scandinavian Crime Fiction	3
GRMN:4800	Seminar in Comparative Literature	3

German majors are urged to supplement their degree programs with relevant courses in areas such as German history, philosophy, and business.

## Study Abroad

The University of Iowa offers a number of opportunities for study in Germany, Switzerland, and Austria. Students frequently choose to participate in the summer USAC Lüneburg program, the Dortmund University Exchange, or the Academic Year in Freiburg program at the Albert Ludwig University of Freiburg. Students should consult the Office of Study Abroad and the German undergraduate advisor to select a program that fits their interests.

For German majors, the year-long Freiburg program provides the most comprehensive linguistic and professional preparation for a future career involving German. The Academic Year in Freiburg program is offered by a consortium made up of the University of Iowa, Michigan State University, the University of Michigan, and the University of Wisconsin-Madison.

Students arrive during the first week of September and participate in a four-week intensive language program. Then they take a blend of special program classes and regular German university courses. Organized field trips are designed to give students a broader perspective on German culture. Vacation periods permit extensive travel throughout Europe, and students are encouraged to use weekends for shorter trips in the region.

To apply, students must have reached at least sophomore standing by the beginning of the program, have completed at least the first four semesters of college German or the equivalent with a g.p.a. of at least 3.00 in German, and be in good academic standing at a U.S. college or university.

Students earn resident credit in all courses successfully completed in the program. They may count up to 21 s.h. earned at Freiburg toward the major.

For more information about study abroad opportunities, contact the Department of German or International Programs Study Abroad.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.A./M.A. in German

The combined B.A./M.A. program in German enables undergraduate students majoring in German to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.A. and M.A. degree requirements. They also have the opportunity for early entrance into advanced courses in German.

## Honors

### Honors in the Major

Students majoring in German have the opportunity to graduate with honors in the major. Students who choose to graduate with honors in German must satisfy these requirements:

- maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in all course work for the major;
- complete GRMN:4990 Honors Research or the equivalent, such as one course for the major (3 s.h.) as an honors contract course; for equivalent courses taken abroad, students should consult with the honors advisor or director of undergraduate studies in German;
- complete GRMN:4991 Honors Thesis; and
- submit an acceptable honors thesis, and present and discuss their research findings in a defense meeting with their faculty mentor and two additional UI faculty members.

The courses, GRMN:4990 and GRMN:4991, will count toward the 30 s.h. for the major. Students are encouraged to participate in the Iowa Center for Research by Undergraduates (ICRU) and apply for research scholarships.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the German major.

## Career Advancement

Students majoring in German may combine their studies with courses in education to prepare for positions in high school teaching and administration. Many combine other skills and studies with their major in German to prepare for careers in business, travel, communications, foreign service, and other fields where the knowledge of languages is essential.

German graduates go on to earn graduate and professional degrees in German, English as a second language, history, library science, medicine, law, sustainable agriculture, industries with strong connections to German-speaking countries, and organizations such as the Goethe Institutes in the United States.

Completion of a German major ensures that students enter their professional lives as informed global citizens with a strong skill set in cross-cultural literacy. German is spoken by an estimated 126 million people, giving it the largest number of native speakers in the European Union. Germany has the third largest economy across the globe and was until recently the largest export nation in the world.

Coursework builds strong reading, communication, and teamwork skills which are sought by many employers.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** language competency equal to first-year German.

**Before the fifth semester begins:** language competency equal to second-year German.

**Before the seventh semester begins:** four courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester:** two or three additional courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### German, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GRMN:1001	Elementary German I <sup>b, c</sup>	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
Elective course <sup>e</sup>		2
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
GRMN:1002	Elementary German II <sup>b, c</sup>	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
GRMN:2001	Intermediate German I <sup>b, c</sup>	4
GE CLAS Core: Literary, Visual, and Performing Arts		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>15</b>

**Spring**

GRMN:2002	Intermediate German II <sup>b, c</sup>	4
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>15</b>

**Third Year****Fall**

GRMN:3501	German Writers Engaged	3
Major: core German course <sup>f</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

GRMN:4315 or GRMN:3405	German Society Today or German Cultural History	3
GRMN:3855 or GRMN:3860	The Sounds of German or German Language and Society	3
Major: core German course <sup>f</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

**Fourth Year****Fall**

Major: core German course <sup>f</sup>		3
Major: German elective course <sup>g</sup>		3
Major: approved German literature/film course numbered 3XXX or 4XXX <sup>h</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

Major: German elective course <sup>g</sup>		3
Major: German elective course <sup>g</sup>		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall) <sup>i</sup>

<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>119-121</b>

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Students must complete three courses from the following: GRMN:3103, GRMN:3104, GRMN:3214, GRMN:3845. GRMN:3103 and GRMN:3104 can be taken in any order.

g Students must complete at least 9 s.h. total from courses taught in German (prefix GRMN) numbered 3000-4999; this may include GRMN:4900 when taken for 3 s.h. Students may count toward the major a maximum of two Department of German courses taught in English numbered 2500-2999 by registering for the 4 s.h. option; the additional 1 s.h. of credit reflects an added research component. GRMN courses taught in English that are taken for 3 s.h. do not count toward the major in German. Electives may include approved honors coursework, including GRMN:4990 and GRMN:4991.

h See General Catalog or consult advisor for approved courses.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b GRMN:1001, GRMN:1002, GRMN:2001, and GRMN:2002 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.



# German, Minor

## Requirements

The undergraduate minor in German requires a minimum of 15 s.h. in college-level German courses, including at least 12 s.h. in courses taken at the University of Iowa. All Department of German courses (prefix GRMN) numbered 3000 or above with the language of instruction in German count toward the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The minor may include a maximum of 3 s.h. in Department of German courses numbered 2002-2100 (e.g., GRMN:2002 Intermediate German II). Credit for the German Language and Culture Advanced Placement (AP) exam with a score of 4 or higher or Furthering Language Incentive Program (FLIP) credit equivalent to GRMN:2002 may be counted toward this 3 s.h. maximum.

Students may count one Department of German course taught in English numbered 2500-2999 toward the minor by registering for 4 s.h. of credit for the course instead of 3 s.h.; the additional 1 s.h. of credit reflects an added research component. Courses taught in English taken for 3 s.h. do not count toward the minor. See "German Courses Taught in English" below. View 3000-level course selections (prefix GRMN) under Courses [p. 602] in this section of the Catalog.

With the approval of the director of undergraduate studies, students may count up to 6 s.h. earned in study abroad toward the minor. Students also may apply one course from the University of Iowa Honors Program to the requirements toward the minor when that course concerns German culture or language; consult the director of undergraduate studies for approval.

## German Courses Taught in English

Students may use one of the following courses toward the minor (some also may apply toward GE CLAS Core requirements).

Code	Title	Hours
GRMN:2550	Mardi Gras and More: Cultures of Carnival	4
GRMN:2600	Witch Hunts in Fact and Fiction: A Global History of Exclusion	4
GRMN:2618	Film and Literature of the Holocaust	4
GRMN:2620	Anne Frank and Her Story	4
GRMN:2630	German Cinema: Greatest Hits	4
GRMN:2650	German Nationalism from Enlightenment to Present	4
GRMN:2666	Pact with the Devil	4
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	4
GRMN:2720	Germany in the World	4
GRMN:2750	The Work of Franz Kafka: Adventures in Language and Imagination	4

GRMN:2770	Norse Mythology: Gods, Heroes, and Monsters of Northern Europe	4
GRMN:2785	Cyborgs, Monsters, and the Uncanny	4

## Study Abroad

The University of Iowa offers a number of opportunities for study in Germany, Switzerland, and Austria. Students frequently choose to participate in the summer USAC Lüneburg program, the Dortmund University Exchange, or the Academic Year in Freiburg program at the Albert Ludwig University of Freiburg. Students should consult the Office of Study Abroad and the German undergraduate advisor to select a program that fits their interests.

Students pursuing a minor in German often enroll in one of the summer sessions offered by the USAC Lüneburg program, but minors are eligible for all study abroad programs offered by the University. Up to 6 s.h. of study abroad credit can be applied to the requirements for the minor.

For more information about study abroad opportunities, contact the Department of German or International Programs Study Abroad.

## Teacher Licensure

Students who plan to use their work toward a minor in German as academic background for earning teacher licensure should contact the Office of Student Services in the College of Education about requirements.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### German, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in German requires a minimum of 15 s.h., including at least 12 s.h. in courses taken at the University of Iowa.		
All Department of German courses numbered 3000 or above count toward the minor; however, courses taught in English that are taken for 3 s.h. do not count toward the minor in German (e.g. GRMN:2248 The Invention of Writing and GRMN:4800 Seminar in Comparative Literature).		
Courses numbered at the 1000 level do not count toward the German minor.		
With the approval of the departmental director of undergraduate studies, students may apply one course from the University of Iowa Honors program to the requirements of the minor when that course concerns German culture or language.		
Study Abroad: with the approval of the director of undergraduate studies, students may count up to 6 s.h. earned in study abroad toward the minor.		

Students must maintain a GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.

Coursework in the minor may not be taken pass/nonpass.

Students may count one Department of German course taught in English and numbered 2500-2999 toward the minor by registering for 4 s.h. of credit for the course instead of 3 s.h.; the additional 1 s.h. of credit reflects an added research component.<sup>a</sup>

<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GRMN:1001	Elementary German I <sup>b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
GRMN:1002	Elementary German II <sup>b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
GRMN:2001	Intermediate German I <sup>b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
GRMN:2002	Intermediate German II <sup>b, c</sup>	4
<b>Hours</b>		<b>4</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: German elective (prefix GRMN) numbered 2500 or above <sup>a</sup>		3 - 4
<b>Hours</b>		<b>3-4</b>
<b>Spring</b>		
Minor: German elective (prefix GRMN) numbered 3000 or above <sup>a</sup>		3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Minor: German elective (prefix GRMN) numbered 3000 or above <sup>a</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: German elective (prefix GRMN) numbered 3000 or above <sup>a</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>28-29</b>

Intermediate German II). Credit for the German Language and Culture Advanced Placement (AP) exam with a score of 4 or higher or Furthering Language Incentive Program (FLIP) credit equivalent to GRMN:2002 may be counted toward this 3 s.h. maximum.

<sup>a</sup> The minor requires 15 s.h., including at least 12 s.h. in courses taken at the University of Iowa. All GRMN courses numbered 3000 or above count toward the minor; however, courses taught in English that are taken for 3 s.h. do not count toward the minor. Students may count one GRMN course taught in English and numbered 2500-2999 toward the minor by enrolling in the 4 s.h. credit option. The additional 1 s.h. of credit reflects an added research component.

<sup>b</sup> Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

<sup>c</sup> The minor may include a maximum of 3 s.h. in Department of German courses numbered 2002-2100 (e.g., GRMN:2002

# German, M.A.

## Requirements

The Master of Arts program in German requires a minimum of 33 s.h. of graduate credit. It is offered with or without thesis. Students must maintain a cumulative g.p.a. of at least 3.00.

M.A. students choose one of two concentrations: German literature or Germanic linguistics. The German literature concentration requires seven literature courses (21 s.h.) and four linguistics courses (12 s.h.). The Germanic linguistics concentration requires seven linguistics courses (21 s.h.) and four literature courses (12 s.h.).

M.A. students are expected to complete at least 24 s.h. in the Department of German. All M.A. coursework taken outside the department requires the graduate advisor's approval.

Before taking the M.A. exam, students must demonstrate reading knowledge of a foreign language other than German, at a level equivalent to two years of college study or four years of high school study. Students may demonstrate competence by submitting proof that they have taken the required coursework with a g.p.a. of at least 3.00 or by passing an exam at the fourth-semester college level, as determined by the appropriate language department.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Teaching assistantships, research assistantships, and partial tuition scholarships are available for qualified graduate students. The department awards the Wilson and the Funke prizes to students of distinction.

## Career Advancement

Graduates in this area of study frequently enter the teaching profession. They also find positions in government, foreign service, and commercial enterprises.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Global Health Studies

## Director, Division of Interdisciplinary Programs

- Cornelia C. Lang (Physics and Astronomy)

## Director, Global Health Studies

- Kristine L. Munoz

**Undergraduate major:** global health studies (B.A., B.S.)

**Undergraduate minor:** global health studies

**Undergraduate certificate:** global health studies

**Graduate certificate:** global health studies

**Faculty:** <https://globalhealthstudies.uiowa.edu/people>

**Website:** <https://globalhealthstudies.uiowa.edu/>

The Global Health Studies Program (GHS) offers an interdisciplinary approach to the study of the complex factors influencing health and disease locally and around the world.

The academic curriculum builds upon the humanities, social sciences, and health sciences to help students understand underlying forces—such as history, culture, gender and sexuality, economics, politics, race and ethnicity, the environment, law, and technology—which lead to health disparities worldwide. The Global Health Studies Program offers a B.A. and B.S. degree, an undergraduate minor, and an undergraduate and graduate certificate.

The Global Health Studies Program recognizes the importance of opportunities for students to be involved in ethical activities outside of the classroom which reinforce and apply knowledge and skills obtained within the classroom. These experiences help students define and achieve their post-graduation goals. The faculty and staff help connect students to local, regional, and international academic and cocurricular opportunities.

The Global Health Studies Program is one of the academic units in the Division of Interdisciplinary Programs [p. 392]. The College of Liberal Arts and Sciences awards the undergraduate degrees, the certificate, and the minor; the Graduate College confers the graduate certificate.

## Local Health is Global Health

There are many ways for GHS students to support local and global organizations which are working for health equity. GHS students intern and volunteer with organizations, such as Proteus, Grow: Johnson County, the UI Mobile Clinic, the UI Student Wellness, Center for Worker Justice of Eastern Iowa, IC Compassion, and Johnson County Public Health. Additionally, as part of the GHS capstone and certificate curricula, students have collaborated with community organizations such as Haiti Community Health Initiative, the World Food Prize Foundation, and the Special Olympics.

## Global Health Studies Summer Internship

The Global Health Studies Program collaborates with the University of Iowa South Asian Studies Program to provide preparation and financial support for students completing virtual and on-site internships with the renowned international nongovernmental organization (NGO), the Swami Vivekananda Youth Movement (SVYM) in Mysuru, India. Students work on a variety of health equity projects and develop global perspectives crucial for life and careers in the 21st century.

## Faculty Research and Outreach

GHS-affiliated faculty members conduct research at a variety of sites worldwide, including India, Haiti, the Caribbean, Germany, Colombia, Tanzania, rural Iowa, and Southeast Asia. Interested students work with faculty and staff to integrate international study and research opportunities into their graduation plans. As experts in their field, GHS faculty are often asked to be part of public programming activities. Recent examples include an International Programs webinar on "Pandemic, State, and Society" in Asia, an Iowa City Foreign Relations Council presentation on refugees, immigrants, and higher education in Iowa, and a campus collaboration on a speaker series addressing environmental justice at the University of Iowa.

### Programs

## Undergraduate Programs of Study

### Majors

- Major in Global Health Studies (Bachelor of Arts) [p. 618]
- Major in Global Health Studies (Bachelor of Science) [p. 623]

### Minor

- Minor in Global Health Studies [p. 628]

### Certificate

- Certificate in Global Health Studies [p. 629]

## Graduate Program of Study Certificate

- Certificate in Global Health Studies [p. 631]

### Courses

- Associated Courses [p. 612]
- Global Health Studies Courses [p. 613]

## Associated Courses

In addition to courses offered by the Global Health Studies Program (see "Global Health Studies Courses" below), students may use the following courses to complete requirements for the certificate or minor.

Code	Title	Hours
<b>Aging and Longevity Studies</b>		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
<b>English</b>		
ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3
<b>History</b>		
HIST:1016	The History That Made Our World (when topic is health in the Global South)	3
<b>Nursing</b>		

NURS:3655	Community and Public Health Nursing Practicum (B.S.N. students only)	2
<b>Occupational and Environmental Health</b>		
OEH:4240	Global Environmental Health	3
<b>Public Health</b>		
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
CPH:2400	The U.S. Health System in a Global Context	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:4200	Agriculture, Food Systems, and Sustainability	3

## Global Health Studies Courses

### **GHS:1029 First-Year Seminar** 1 s.h.

Introduction to intellectual life of the University; opportunity to work closely with a faculty member or senior administrator; active participation to ease transition to college-level learning.

### **GHS:1181 Ancient Medicine** 3 s.h.

Thematic examination of theories and practices of Greco-Roman physicians, which in turn became the medical tradition of medieval Islamic world and European medicine until mid-19th century; historical medical terms, theories, and practices. GE: Historical Perspectives. Same as CLSA:1181.

### **GHS:1200 Disabilities and Inclusion in Writing and Film Around the World** 3 s.h.

Exploration of human experiences of dis/ability and exclusion/inclusion. Taught in English. GE: Diversity and Inclusion. Same as DST:1200, GRMN:1200, WLLC:1200.

### **GHS:1290 Native American Foods and Foodways** 3 s.h.

Native Americans as original farmers of 46 percent of the world's table vegetables; examination of food as a cultural artifact (e.g., chocolate, tobacco); food as a primary way in which human beings express their identities; environmental, material, and linguistic differences that shape unique food cultures among Native peoples across the Western Hemisphere; close analysis of Indigenous foods, rituals, and gender roles associated with them; how colonization transformed Native American, European, and African American cultures. GE: Diversity and Inclusion. Same as AMST:1290, HIST:1290, NAIS:1290.

### **GHS:2000 Introduction to Global Health Studies** 3 s.h.

Global health as a study of the dynamic relationship between human health and social, biological, and environmental factors that drive the spread of disease; core areas of global health research that may include health inequalities, maternal and child health, infectious diseases, nutrition, environmental health, and health interventions. GE: International and Global Issues. Same as ANTH:2103.

### **GHS:2080 The Cultural Politics of HIV-AIDS** 3 s.h.

Complex historical shifts in cultural perceptions about HIV-AIDS in the U.S. and transnationally; controversies around HIV-AIDS and their links with questions of gender and sexuality; how HIV-AIDS subsequently became the basis of a transnational industry comprising nongovernmental organizations, donors, and activists across the global north and south, starting from 1980s in the U.S. when HIV-AIDS first emerged into public sphere as a gay disease; link between HIV-AIDS and ideologies of development or progress, neocolonialism, and emergence of lesbian, gay, bisexual, transgender, intersex, and questioning (LGBTIQ) movements in many parts of world. Recommendations: background in gender studies, and completion of rhetoric or at least one social sciences course. Same as GWSS:2080.

### **GHS:2090 Medical Spanish in Contemporary Society** 4 s.h.

Vocabulary related to medical field; grammatical concepts; health-related cultural competence; discussion of health issues concerning Hispanic communities in the U.S. and abroad. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as SPAN:2090.

### **GHS:2110 Seven Billion and Counting: Introduction to Population Dynamics** 3 s.h.

How dramatic changes to the size of population has changed fundamental characteristics of populations and processes, such as food and water scarcity, climate change and biodiversity, rise of megacities, health and disease, migration, social networks, economics, environment, and household structure. GE: Social Sciences. Same as GEOG:2110.

### **GHS:2160 Culture, Health, and Wellness: Southeast Asia in Focus** 3 s.h.

Exploration of complex cross-cultural interactions between health, wellness, and culture; insights drawn from the culturally diverse region of Southeast Asia including Indonesia, Vietnam, Singapore, Malaysia, Thailand, Cambodia, Burma, and Philippines, among others. Same as ANTH:2160.

### **GHS:2164 Culture and Healing: An Introduction to Medical Anthropology** 3 s.h.

Health professions are increasingly focused on how to best provide health care to culturally diverse populations; introduction to key cultural and social influences on sickness and healing; worldwide examples. Same as ANTH:2164.

### **GHS:2181 The Anthropology of Aging** 3 s.h.

Comparative anthropological perspective on aging; ethnographies from diverse contexts used to examine intersections of kinship, religion, health, and medicine in later life. Same as ANTH:2181, ASP:2181.

### **GHS:2182 Africa: Health and Society** 3 s.h.

Cultural, political, and economic diversity of African societies from precolonial period to present day; relationship between lived experiences of African people and understanding of their societies from afar; why Africa, more than any other region, is associated with warfare, hunger, and disease; idea of "Africa" in the world today; shared misunderstanding of life on continent contrasted with everyday lives of people who are not so different from ourselves. Same as ANTH:2182.

### **GHS:2260 Hard Cases in Healthcare at the Beginning of Life** 3 s.h.

Exploration of ethical impact that advances in biotechnology—including genetic, reproductive, and neonatal technology—are having in the medical arena and on humanity; consideration of the powerful influence that religion and spirituality have on most people's thinking about life and death. Same as RELS:2260.

- GHS:2265 Hard Cases in Healthcare at the End of Life** 3 s.h.  
Preparation for future healthcare providers to make difficult ethical decisions regarding the end of life; interactive course. Same as ASP:2265, RELS:2265.
- GHS:2320 Origins of Human Infectious Disease** 3 s.h.  
Origin and evolution of important infectious diseases in human history; biological evolution of infectious agents and biocultural responses to emerging infectious diseases; primary focus on viruses and bacteria; selected world problems from an anthropological perspective; current dilemmas and those faced by diverse human groups in recent times and distant past. Same as ANTH:2320.
- GHS:2415 Bioethics** 3 s.h.  
Recent developments in biotechnology and medicine; designer babies and cloning, genetic screening for disease, distributive justice in health care, animal experimentation, physician-assisted suicide, and euthanasia. Same as PHIL:2415.
- GHS:2650 Global Reproduction** 3 s.h.  
History of birth control and work of activists and organizations that emerged to promote it; troubling connections that spawned between reproductive rights and population control movements. Same as GWSS:2650.
- GHS:2674 Food, Body, and Belief: A Global Perspective** 3 s.h.  
Exploration of local, national, and global forces that shape food consumption, body image, and spiritual practices. Taught in English. Same as GWSS:2674, RELS:2674.
- GHS:2770 Black and White Community Politics** 3 s.h.  
Students study the movement for environmental justice within the broader context of U.S. land use and development to understand environmental racism's prevalence and how it can be addressed; topics include pollution, health, food access, transportation and agricultural practice to land loss, public space, and infrastructure; exploration of perspectives on the environment and environmentalism. Same as AFAM:2770, SOC:2770.
- GHS:3010 Identifying and Developing a Global Health Project** 3 s.h.  
Review of major components of global health related research process; preparation for a local or international project which addresses a global health issue in a systematic way. Same as IGPI:3011.
- GHS:3011 Global Research: Strategies and Skills** 1 s.h.  
Skill development in international research; academic projects; work with research librarian; activity-based introduction to article, statistical, and governmental databases; research and popular materials; information discovery process (tools and search strategies); enhancement of critical thinking skills. Same as IS:3011, ULIB:3011.
- GHS:3012 Community-Based Global Health Research** 3 s.h.  
Introduction to community-based participatory research methods; ethical engagement with a local/global organization addressing the social determinants of health.
- GHS:3015 Transnational Sexualities** 3 s.h.  
How ideas about normative and nonnormative sexuality, gender/sexual identities, and related social movements travel across geographical, political, and cultural boundaries; potentials and limits of using conceptual frameworks (i.e., sexuality, gender, LGBT, queer) across the west and global south; how sexuality always intersects with race, class, nationhood, and transnational systems of power; power structures that shape gender/sexuality through a transnational approach; connection of inequalities within the United States with those across the world. Same as GWSS:3010.
- GHS:3021 Mental Health in the Ancient World** 3 s.h.  
Exploration of approaches to mental health in ancient Mediterranean world including Mesopotamia, the Levant, Greece, and Rome; examination of nosology, etiology, therapy, and ethics of mental health from ancient medical, philosophical, religious, and literary perspectives; mental health in cultural contexts. Same as CLSA:3020.
- GHS:3030 Global Health Today** 1 s.h.  
Attendance at diverse on-campus, local, and regional global health events. Same as CPH:3240.
- GHS:3034 Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities** 1 s.h.  
Exploration of complex ethical issues involved in engaging in experiential learning (e.g., study abroad, volunteering, internships, research) in global communities; topics may include patient rights versus the promise of "hands-on" experience for untrained undergraduates; pitfalls of voluntourism and substituting "free" foreign labor for paid local employees; commercial aspects of study abroad— incentives and recruiting on campus by external contractors; how to select a reputable internship provider; online resources which help students become global ambassadors for patient safety; basic tools for thinking critically about outcomes.
- GHS:3035 Engaging in Global Health** 1 s.h.  
How to become a participant in promoting health throughout the world; student peers and global health professionals share their experiences in global health; how professionals and volunteers work in a broad variety of settings; working with government-based programs, international organizations (e.g., UNICEF, World Vision), health care agencies, faith-based organizations, industry, and academic institutions; various ways to become engaged and be involved in global health.
- GHS:3036 Ethics, Politics, and Global Health** 3 s.h.  
Ethics of health care policies, delivery systems, and interventions examined globally and locally.
- GHS:3037 Technology to Improve Global Health** 3 s.h.  
Examination of existing, new, and future technologies used to revolutionize global health promotion through a variety of unique and often low-cost tools (e.g., mobile phones, drones, artificial intelligence).
- GHS:3045 Spanish Health Narratives** 3 s.h.  
Narratives are the central communicative act through which humans make sense of wellness and illness, life and death, always within contexts of language and culture; students focus on reading and analyzing narratives about health and health care, and opportunities to create their own narratives; particular emphasis on health care disparities and issues they present for Spanish-language communities in the United States and abroad as context for individual narratives. Taught in Spanish. Requirements: one course numbered SPAN:2000 or above. Same as SPAN:3045.

- GHS:3050 Global Aging** 3 s.h.  
Demographic factors that contribute to the worldwide phenomena of population aging in context of WHO Active Aging and the United Nation's Principles for Older Persons frameworks. Same as ASP:3135, SSW:3135.
- GHS:3060 Studies in Complementary and Alternative Medicine** 3 s.h.  
Rotating topics related to complementary and alternative medicine.
- GHS:3070 Hungry Planet: Global Geographies of Food** 3 s.h.  
Societal and environmental implications of past, current, and future global food supply examined from a geographical perspective; focus on questions of who eats what, where, and why; transformative history of agriculture, modern agribusiness and alternative food supplies, geopolitical implications of food production, food scarcity and rising food costs, urban versus rural agriculture, the obesity epidemic versus malnutrition, and the future of food. Same as GEOG:3070.
- GHS:3105 Contraception Across Time and Cultures** 3 s.h.  
Methods and history of contraception; issues of unwanted pregnancy and birth control in fiction, film, and media around the world. Taught in English. Same as CLSA:3105, GRMN:3105, GWSS:3105, WLLC:3105.
- GHS:3110 Colonialism and Indigenous Health Equity** 3 s.h.  
Health problems and services for Indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: ANTH:1101 or ANTH:2165 or GHS:2000 or HIST:1049. Same as ANTH:3110, NAIS:3110.
- GHS:3111 Geography of Health** 3 s.h.  
Provision of health care in selected countries, with particular reference to the Third World; focus on problems of geographical, economic, cultural accessibility to health services; disease ecology, prospective payment systems, privatization, medical pluralism. Same as GEOG:3110.
- GHS:3113 Religion and Healing** 3 s.h.  
Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as ANTH:3113, ASIA:3561, RELS:3580.
- GHS:3120 Global Maternal and Child Health** 3 s.h.  
Interdisciplinary approach to health of women and children locally and around the world.
- GHS:3150 Media and Health** 3 s.h.  
Potential and limits of mass media's ability to educate the public about health; research and theory on the influence of information and entertainment media; theories, models, assumptions of mass communication in relation to public health issues. Same as CBH:3150, JMC:3150.
- GHS:3151 The Anthropology of the Beginnings and Ends of Life** 3 s.h.  
Examination of diverse understandings of birth and death, drawing on anthropological analysis of personhood, kinship, ritual, and medicine; how social inequality and new technologies shape human experience at life's margins. Prerequisites: ANTH:1101 or ANTH:2100. Same as ANTH:3151, ASP:3151.
- GHS:3152 Anthropology of Caregiving and Health** 3 s.h.  
Diverse understandings and practices of care around the world; focus on relationships between caregiving practices and health across the life course. Same as ANTH:3152, ASP:3152.
- GHS:3162 History of Global Health** 3 s.h.  
Foremost problems of health and disease in colonial and postcolonial societies; topical approach. Same as HIST:3162.
- GHS:3170 Visualizing Global Health Through Popular Fiction and Film** 3 s.h.  
Prominent global health issues visualized through the lens of popular film and fiction; use of books and film to explore how the public understands various global health topics (e.g., human trafficking, emerging infectious diseases, post-apocalyptic societies, population control).
- GHS:3180 Climate Change and Health** 3 s.h.  
Addressing global health issues affected by climate change through an interdisciplinary lens, drawing from medicine, human psychology, law, history, business, religion, and environmental science; exploring health and disease risk patterns as they vary around the world; examining the major social, economic, political, and related factors contributing to our changing climate and health and security threats; introducing the basic public health and human rights concepts and policies necessary for reducing morbidity and mortality rates among at-risk populations; preparing students to work internationally or domestically to address threats of a changing climate.
- GHS:3191 Sustainable Development: India and the Global Context** 3 s.h.  
Introduction to development in India; critical examination of current discourses on domestic sociological, economic, and ecological environmental effects of the current model of development.
- GHS:3192 Environment and Health in Modern India** 3 s.h.  
Introduction to India's environmental and health traditions; major contemporary scenarios.
- GHS:3199 Anthropology and Global Health Policy** 3 s.h.  
Global health has grown as an area of practice and study, with well-being and livelihoods of increasing numbers of people now deeply influenced by these ideas, practices, and policies; students engage with ways that global health programs have influenced experiences of health and illness by those who participate in these programs, critically analyzing how global health interacts with local dynamics of inequality, race, gender, and power. Same as ANTH:3199, IS:3198.
- GHS:3230 Health Experience of Immigrants, Migrants, and Refugees** 3 s.h.  
Interdisciplinary exploration of the unique health concerns, challenges, and health care experiences of the diverse populations on the move around the world and new to this country; issues to be explored include four overlapping sections—broad overview (definitions, populations, and significant health challenges); health risks and needs of specific sub-populations; patterns of public and private resources and responses; and the local picture (Iowa and Midwest), programs, cases, and concerns.
- GHS:3300 Envisioning Future Worlds: Sustainable Development and Its Alternatives** 3 s.h.  
Sociocultural, geopolitical, and environmental implications of sustainable development and its alternatives investigated from a geographic perspective; geopolitical history of sustainable development; measures of sustainability in development; major critiques of sustainable development; alternative visions of development from different geographical contexts including ecofeminism, Buen Vivir, food sovereignty, degrowth, commoning, and the People's Health Movement. Same as GEOG:3300.

- GHS:3325 Global Epidemics** 3 s.h.  
Case studies of several prominent global epidemic episodes; examination of the biology of the disease, how such epidemics came into being, how they were combated, and the relationship between the science, sociocultural, and political consequences of the disease.
- GHS:3327 The Politics of Progress: NGOs, Development, and Sexuality** 3 s.h.  
How nonprofit sector increasingly plays a significant role in countering socioeconomic inequalities in the United States and global south; role of nonprofit organizations in relation to governmental policies of development, transnational funders, and ideas of sexual progress; critics of development institutions' arguments that western ideas of progress impose and adversely affect groups they claim to empower, yet also may foster struggles for social justice that go beyond development policy; examination of transnational nonprofit sector in relation to gender/sexuality and how it impacts women and gender/sexual minorities around the world. Recommendations: background in gender studies or social sciences. Same as GWSS:3326.
- GHS:3420 Health and Healing in Early Modern Europe** 3 s.h.  
Health, healing, and medicine (1200-1700); transmission of medical knowledge from medieval Islam and ancient Greece; healers including physicians, midwives, surgeons, apothecaries, and ordinary people; epidemic disease; diet and the body; sex and reproduction; health in the colonial Atlantic world; healing and religion including prayer, magic, and witchcraft. Same as HIST:3420.
- GHS:3500 Global Public Health** 3 s.h.  
Exploration of historical, current, and forecasted trends in global public health, the factors influencing health demographics in human populations, sources of health inequalities, and appropriate policy and intervention approaches for addressing global public health challenges. Same as CPH:3500.
- GHS:3508 Disease and Health in Latin American History** 3 s.h.  
Survey of major topics in Latin American history in relation to development of medicine and public health. Same as HIST:3508, LAS:3508.
- GHS:3555 Understanding Health and Disease in Africa** 3 s.h.  
Cultural, historical, and political framework for the delivery of health care services in African nations. Recommendations: junior or higher standing. Same as HIST:3755, IS:3555.
- GHS:3560 Global Garbage and Global Health** 3 s.h.  
Exploration of the fate of waste products as they are burnt, decomposed, landfilled, treated, recycled, reused, dumped on minority communities, or shipped abroad; definition of social and cultural aspects of garbage; students develop an understanding of the link between garbage, human health, and environmental health.
- GHS:3570 Poverty Policy** 3 s.h.  
How poverty is regulated and addressed in the United States, and by federal, state, and local governments; particular focus on programs including Temporary Assistance for Needy Families (TANF), Section 8 housing, Medicaid, and Medicare; how these systems have changed over time; current models and innovations that have emerged in practice. Same as PBAF:3570, POLI:3570.
- GHS:3600 Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment** 2 s.h.  
Students work with a UI faculty mentor to articulate an international development project and apply to an international development organization for an internship; students are matched to an organization/project and begin preparation for their internship by communicating with onsite mentor/supervisor.
- GHS:3620 Global Health and Human Rights** 2-3 s.h.  
Requirements: sophomore or higher standing.
- GHS:3700 Development in a Global Context II: Reflections on Real World Interventions** 1 s.h.  
Students produce a research paper analyzing their personal internship in an international development program.
- GHS:3720 Contemporary Issues in Global Health** 3 s.h.  
Local and global dimensions of health and disease.
- GHS:3732 Global Health Nursing** 3 s.h.  
Complexity of health and nursing in a global context; overview of biological, social, epigenetic, and environmental contributors to health and diseases in populations around the world and nursing's role in improving health; includes case studies of various global organizational and educational structures and systems relative to population health, selected infectious diseases, nutritional deficiencies, and health effects of environmental change. Same as NURS:3732.
- GHS:3760 Hazards and Society** 3 s.h.  
Examination of the impact and societal responses to natural and technological hazards; using case studies from around the world, students explore relationships between extreme events, human behavior, disaster management, public policy, and technology to understand what makes people and places vulnerable to hazards. Same as GEOG:3760.
- GHS:3780 U.S. Energy Policy in Global Context** 3 s.h.  
Historical and contemporary aspects of U.S. governmental planning and policy on a wide range of energy issues in global context. Same as GEOG:3780, HIST:3240, POLI:3431.
- GHS:3850 Promoting Health Globally** 3 s.h.  
Major global health threats in the United States and abroad; impact of culture, history, economics on health disparities; approaches, programs, policies to remedy them. Same as HHP:3850.
- GHS:4000 Global Health Studies Service Learning: Local Health is Global Health** 4 s.h.  
Service-learning projects with local community organizations; domestic opportunities which offer global health insights.
- GHS:4001 Social Entrepreneurship and Global Health** 3 s.h.  
Fundamentals of social enterprise and innovative approaches to improving lives and communities combined with a Global Health Studies focus on social determinants of health; student teams apply their knowledge and skills to projects which support the global health mission of a community partner. Recommendations: one approved global health studies course.
- GHS:4002 Working in Global Health** 3 s.h.  
Development of skills needed for careers in global health. Recommendations: junior or higher standing.
- GHS:4003 Case Studies in Global Health Inequities** 3 s.h.  
Series of multidisciplinary case studies focusing on health issues and solutions locally and globally.



- GHS:4100 Topics in Global Health** 1-3 s.h.  
Special topics related to global health studies.
- GHS:4140 Feminist Activism and Global Health** 3 s.h.  
How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: ANTH:1101 or GWSS:1001 or CPH:1400 or GHS:2000. Same as ANTH:4140, CBH:4140, GWSS:4140.
- GHS:4150 Health and Environment: GIS Applications** 3 s.h.  
Introduction to how geographic information systems (GIS) and spatial statistics are used in the study of patterns of health and disease in space and time. Same as GEOG:4150, IGPI:4150.
- GHS:4205 Culture, Language, and Health** 3 s.h.  
Exploration of health, wellness, and illness from a perspective of language and culture; languages we use to describe our mental and physical health that are situated within culture-specific ideas of human bodies, minds, disease, and wellness; understanding where beliefs about health and wellness come from and exploring other systems of belief on their own terms prepares students to be better informed health care practitioners, more aware patients within health care systems, and more sensitive caregivers in health related settings; emphasis on observation, asking questions, and analyzing health care worlds. Taught in Spanish. Requirements: two courses in Spanish numbered 3000 or above. Same as SPAN:4205.
- GHS:4260 Global Water and Health** 3 s.h.  
Overview of global water and health; microbial and toxicant identification, water-related adverse health effects, risk assessment, approaches to reduce water-related disease, distal water-related influences (e.g., global warming), and historic cases. Same as OEH:4260.
- GHS:4530 Global Road Safety** 3 s.h.  
Road safety problem, data sources, research methods used in field, and how intervention and prevention programs are developed and evaluated; lecture, hands-on approaches. Same as CPH:4220, OEH:4530.
- GHS:4770 Environmental Justice** 3 s.h.  
Introduction to the field of environmental justice; understanding and addressing the processes that lead poor and marginalized communities to face a disproportionate degree of environmental risks and hazards. Same as AFAM:4770, GEOG:4770.
- GHS:4990 Independent Project in Global Health** arr.  
Independent work completed under the supervision of global health studies faculty.
- GHS:4991 Honors Thesis in Global Health Studies** 3 s.h.  
Completion of honors thesis in consultation with a faculty mentor. Prerequisites: GHS:3010.
- GHS:4992 Global Health Studies Honors Cohort** 0 s.h.  
Students complete all requirements for honors in the global health studies major; supervision by global health studies honors advisor. Corequisites: GHS:4991.
- GHS:4999 International Experience** 0 s.h.  
Engagement in international experiences. Same as IS:4999.
- GHS:5000 Graduate Seminar in Global Health** 2 s.h.  
In-depth discussion and analysis of rotating topics pertinent to global health studies.
- GHS:5300 Envisioning Future Worlds: Sustainable Development and Its Alternatives** 3 s.h.  
Sociocultural, geopolitical, and environmental implications of sustainable development and its alternatives investigated from a geographic perspective; geopolitical history of sustainable development; measures of sustainability in development; major critiques of sustainable development; alternative visions of development from different geographical contexts including ecofeminism, Buen Vivir, food sovereignty, degrowth, commoning, and the People's Health Movement. Same as GEOG:5300.
- GHS:5455 Health Insurance and Managed Care** 3 s.h.  
History and theory of insurance, comparative health systems, health systems and networks, HMOs, public health insurance, care for uninsured; emphasis on public policy. Prerequisites: HMP:5005. Corequisites: PHAR:6330 or HMP:5410. Same as HMP:5450.
- GHS:6550 Epidemiology of Infectious Diseases** 3 s.h.  
Underlying epidemiological concepts of infection disease, including causation and surveillance; prevention and control; case studies. Offered fall semesters. Prerequisites: EPID:4400. Same as EPID:6550.
- GHS:7160 Global History of Race, Science, and Medicine** 3 s.h.  
Examination of the history of social construction of race in scientific and medical thought; use of science and medicine to conceptualize race, as well as how race was used by scientists and physicians in their practice; primary focus is on the Atlantic World—Europe, Africa, and the Americas—and touches briefly on the construction of race in other parts of the world. Same as HIST:7160.

# Global Health Studies, B.A.

The Bachelor of Arts in global health studies prepares students for careers in local and international global health organizations, and for graduate and professional work in fields such as public health, law, planning and public affairs, social work, international development, sustainable agriculture, public policy, and more.

## Learning Outcomes

The Global Health Studies Program equips its students to:

- understand the core areas of global health such as infectious and noncommunicable diseases, maternal and child health, food sovereignty, environmental health, and health inequities;
- analyze biomedical, social, cultural, and environmental determinants of health and disease;
- draw connections between significant health problems which affect both domestic and international communities;
- identify major global health organizations, actors, and ideologies; and
- recognize the ethical and practical challenges involved in interventions designed to improve health and health equity across cultural and geographical boundaries.

## Requirements

The Bachelor of Arts with a major in global health studies requires a minimum of 120 s.h., including at least 37 s.h. of coursework for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A minimum of 18 s.h. of major coursework must be earned at the University of Iowa. A maximum of 6 s.h. in GHS:4990 Independent Project in Global Health may be used toward the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20] requirements.

A total of 9 s.h. may be counted from other majors, minors, or certificates toward the global health studies major, excluding courses taken to satisfy GE CLAS Core requirements.

Students who earn the major in global health studies may not earn the certificate or the minor in global health studies.

Students who earn the major in global health studies may earn the major in interdepartmental studies as long as they select an emphasis other than the global health emphasis in the health science track.

The B.A. with a major in global health studies requires the following coursework.

Code	Title	Hours
	Foundation Courses	10
	Global Health Perspectives and Practices Courses	18
	World Language and Culture Requirement	6
	Capstone Experience	3
<b>Total Hours</b>		<b>37</b>

## Foundation Courses

Code	Title	Hours
All of these:		
GHS:2000	Introduction to Global Health Studies	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:4003	Case Studies in Global Health Inequities	3
And one of these:		
GHS:3030	Global Health Today	1
GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1
GHS:3035	Engaging in Global Health	1

## Global Health Perspectives and Practices Courses

To provide an appreciation of the interdisciplinary nature of global health studies, students choose from a wide range of courses on topics which reflect the breadth of the field.

Courses taken to complete another area of the major cannot be used toward the global health perspectives and practices requirement.

Code	Title	Hours
A minimum of 18 s.h. from these, with at least 12 s.h. numbered 3000 or above, and a minimum of 6 s.h. selected from the courses at the end of the list:		
GHS:1029	First-Year Seminar	1
GHS:1181	Ancient Medicine	3
GHS:1290	Native American Foods and Foodways	3
GHS:2080	The Cultural Politics of HIV-AIDS	3
GHS:2090	Medical Spanish in Contemporary Society	4
GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GHS:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
GHS:2164	Culture and Healing: An Introduction to Medical Anthropology	3
GHS:2181	The Anthropology of Aging	3
GHS:2182	Africa: Health and Society	3
GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3
GHS:2265	Hard Cases in Healthcare at the End of Life	3
GHS:2320	Origins of Human Infectious Disease	3
GHS:2415	Bioethics	3
GHS:2650	Global Reproduction	3
GHS:2674	Food, Body, and Belief: A Global Perspective	3

GHS:2770	Black and White Community Politics	3	GHS:3600	Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment	2
GHS:3010	Identifying and Developing a Global Health Project (if not taken to satisfy the Capstone Experience requirement)	3	GHS:3620	Global Health and Human Rights	2-3
GHS:3011	Global Research: Strategies and Skills	1	GHS:3700	Development in a Global Context II: Reflections on Real World Interventions	1
GHS:3012	Community-Based Global Health Research (if not taken to satisfy the Capstone Experience requirement)	3	GHS:3720	Contemporary Issues in Global Health (topic must be different than the Foundation Course topic)	3
GHS:3021	Mental Health in the Ancient World	3	GHS:3732	Global Health Nursing	3
GHS:3030	Global Health Today	1	GHS:3760	Hazards and Society	3
GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1	GHS:3780	U.S. Energy Policy in Global Context	3
GHS:3035	Engaging in Global Health	1	GHS:3850	Promoting Health Globally	3
GHS:3037	Technology to Improve Global Health	3	GHS:4000	Global Health Studies Service Learning: Local Health is Global Health (if not taken to satisfy the Capstone Experience requirement)	4
GHS:3045	Spanish Health Narratives	3	GHS:4001	Social Entrepreneurship and Global Health (if not taken to satisfy the Capstone Experience requirement)	3
GHS:3050	Global Aging	3	GHS:4002	Working in Global Health (if not taken to satisfy the Capstone Experience requirement)	3
GHS:3060	Studies in Complementary and Alternative Medicine	3	GHS:4100	Topics in Global Health	1-3
GHS:3070	Hungry Planet: Global Geographies of Food	3	GHS:4140	Feminist Activism and Global Health	3
GHS:3110	Colonialism and Indigenous Health Equity	3	GHS:4150	Health and Environment: GIS Applications	3
GHS:3111	Geography of Health	3	GHS:4205	Culture, Language, and Health	3
GHS:3113	Religion and Healing	3	GHS:4260	Global Water and Health	3
GHS:3150	Media and Health	3	GHS:4530	Global Road Safety	3
GHS:3151	The Anthropology of the Beginnings and Ends of Life	3	GHS:4770	Environmental Justice	3
GHS:3152	Anthropology of Caregiving and Health	3	GHS:4990	Independent Project in Global Health	arr.
GHS:3162	History of Global Health	3	GHS:5000	Graduate Seminar in Global Health	2
GHS:3180	Climate Change and Health	3	GHS:5455	Health Insurance and Managed Care	3
GHS:3191	Sustainable Development: India and the Global Context	3	GHS:6550	Epidemiology of Infectious Diseases	3
GHS:3192	Environment and Health in Modern India	3	ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
GHS:3199	Anthropology and Global Health Policy	3	CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3	CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3			
GHS:3420	Health and Healing in Early Modern Europe	3			
GHS:3500	Global Public Health	3			
GHS:3508	Disease and Health in Latin American History	3			
GHS:3555	Understanding Health and Disease in Africa	3			
GHS:3570	Poverty Policy	3			

CPH:2400	The U.S. Health System in a Global Context	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:4200	Agriculture, Food Systems, and Sustainability	3
ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3
HIST:1016	The History That Made Our World (when topic is related to global health; consult advisor)	3
NURS:3655	Community and Public Health Nursing Practicum (B.S.N. students only)	2
OEH:4240	Global Environmental Health	3
A minimum of 6 s.h. from these:		
GHS:1200	Disabilities and Inclusion in Writing and Film Around the World	3
GHS:3015	Transnational Sexualities	3
GHS:3036	Ethics, Politics, and Global Health	3
GHS:3105	Contraception Across Time and Cultures	3
GHS:3120	Global Maternal and Child Health	3
GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3
GHS:3230	Health Experience of Immigrants, Migrants, and Refugees	3
GHS:3325	Global Epidemics	3
GHS:3560	Global Garbage and Global Health	3

## World Language and Culture Requirement

Students must choose option A or B below. Semester hours necessary to complete this requirement will vary.

### Option A

Students may complete a minimum of two world language courses beyond that required by the GE CLAS Core [p. 20]. This additional language requirement may be met either by completing at least two courses of fifth-semester-level study or higher in the same language used to fulfill the GE CLAS Core World Languages requirement or by completing two courses, or the equivalent, of a second world language at any level.

### Option B

Students may complete 6 s.h. related to one of the following area studies: African studies; Caribbean studies; East Asian studies; Islamic and Middle Eastern studies; Latin American studies; Russian, East European, and Eurasian studies; or South Asian studies. See the International Studies Course Database website for approved courses each semester.

## Capstone Experience

The capstone experience requirement provides an opportunity for students to apply the knowledge and skills they learned in the classroom.

Code	Title	Hours
A minimum of 3 s.h. from these:		
GHS:3010	Identifying and Developing a Global Health Project (if not taken to satisfy the Global Health Perspectives and Practices Courses requirement)	3
GHS:3012	Community-Based Global Health Research (if not taken to satisfy the Global Health Perspectives and Practices Courses requirement)	3
GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4
GHS:4001	Social Entrepreneurship and Global Health	3
GHS:4002	Working in Global Health	3

## Honors

### Honors in the Major

Students majoring in global health studies have the opportunity to graduate with honors in the major. Students who choose to graduate with honors in the major must satisfy these requirements:

- maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major;
- complete a minimum of 6 s.h. of honors or contract honors courses in their global health studies major coursework;
- complete GHS:3010 Identifying and Developing a Global Health Project followed by GHS:4991 Honors Thesis in Global Health Studies as their capstone experience;
- enroll in GHS:4992 Global Health Studies Honors Cohort (0 s.h.) with the global health studies honors advisor during the semester in which GHS:4991 will be completed;
- submit an acceptable honors thesis; and
- give an oral or poster presentation of research findings at a venue approved by the Global Health Studies Program.

Students are encouraged to participate in the Iowa Center for Research by Undergraduates (ICRU) and to apply for research scholarships.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the global health studies major.

## Career Advancement

The Global Health Studies Program engages students and faculty in real-world health problems and challenges students to embark on global health careers which place a priority on improving health and achieving equity in health for people worldwide.

Graduates find opportunities in a range of global health job sectors such as:

- in-country field consultants;
- disaster relief organizations;
- immigrant/refugee health organizations;
- research and academic institutions;
- international agencies;
- other nongovernmental agencies (NGOs);
- lending agencies that do work in developing countries;
- multilateral agencies (such as the World Health Organization); and
- governmental agencies (United States Agency for International Development, Center for Disease Control, in-country ministries of health, etc.).

Global health studies graduates also have pursued graduate and professional degrees in medicine, dentistry, pharmacy, nursing, public health, law, nonprofit management, urban and regional planning, sustainable agriculture, international development, and public administration.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** at least six courses in the major.

**Before the seventh semester begins:** at least 12 courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two additional courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Global Health Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The Global Health Studies Program connects students to ethical experiential learning opportunities. <sup>a</sup>		
GHS:3035	Engaging in Global Health <sup>b</sup>	1

Honors: thesis <sup>c</sup>		
GE CLAS Core: Sustainability <sup>d</sup>		
<b>Hours</b>		<b>1</b>
<b>First Year</b>		
<b>Fall</b>		
GHS:2000	Introduction to Global Health Studies	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
GHS:3030 or GHS:3034 or GHS:3035	Global Health Today or Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities or Engaging in Global Health	1
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Social Sciences <sup>e</sup>		3
GE CLAS Core: Values and Culture <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>g</sup>		2 - 3
<b>Hours</b>		<b>16-19</b>
<b>Second Year</b>		
<b>Fall</b>		
GHS:3720	Contemporary Issues in Global Health	3
Major: global health perspectives and practices course		3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: global health perspectives and practices course numbered 3000 or above		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: global health perspectives and practices course numbered 3000 or above		3
Major: world language and culture requirement		3 - 5
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4

Elective course <sup>g</sup>	2 - 3
<b>Hours</b>	<b>15-18</b>
<b>Spring</b>	
GHS:4003 Case Studies in Global Health Inequities	3
Major: global health perspectives and practices course numbered 3000 or above	3
Major: world language and culture requirement	3 - 5
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
<b>Hours</b>	<b>15-17</b>
<b>Fourth Year</b>	
<b>Fall</b>	
Major: global health perspectives and practices course	3
Major: global health perspectives and practices course numbered 3000 or above	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
Major: global health capstone course	3 - 4
GE CLAS Core: International and Global Issues <sup>e</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	2 - 3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)	
<b>Hours</b>	<b>14-16</b>
<b>Total Hours</b>	<b>123-137</b>

languages courses requires a placement exam, unless enrolling in a first-semester-level course.

<sup>g</sup> Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

<sup>h</sup> Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

- a The Global Health Studies Program connects students to experiential learning opportunities such as study abroad, internships, research, service learning, and capstone courses through which students develop real world skills related to major global health issues. Students meet regularly with their academic advisor for help in identifying ethical activities which can be integrated into their individualized graduation plan.
- b Global Health Studies students are encouraged to enroll in this course to explore how professionals and volunteers work in a broad variety of global health settings. This course counts toward Global Health Perspectives and Practices.
- c Students completing Honors in the Global Health Studies major work with a faculty mentor to produce an honors thesis, and then present their research at a venue approved by the Global Health Studies Program.
- d Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world

# Global Health Studies, B.S.

The Bachelor of Science in global health studies is designed for students who desire to enter professional programs in the health sciences.

## Learning Outcomes

The Global Health Studies Program equips its students to:

- understand the core areas of global health such as infectious and noncommunicable diseases, maternal and child health, food sovereignty, environmental health, and health inequities;
- analyze biomedical, social, cultural, and environmental determinants of health and disease;
- draw connections between significant health problems which affect both domestic and international communities;
- identify major global health organizations, actors, and ideologies; and
- recognize the ethical and practical challenges involved in interventions designed to improve health and health equity across cultural and geographical boundaries.

## Requirements

The Bachelor of Science with a major in global health studies requires a minimum of 120 s.h., including at least 47 s.h. of coursework for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A minimum of 18 s.h. of major coursework must be earned at the University of Iowa. A maximum of 6 s.h. in GHS:4990 Independent Project in Global Health may be used toward the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20] requirements.

A total of 9 s.h. may be counted from other majors, minors, or certificates toward the global health studies major, excluding courses taken to satisfy GE CLAS Core requirements.

Students who earn the major in global health studies may not earn the certificate or the minor in global health studies.

Students who earn the major in global health studies may earn the major in interdepartmental studies as long as they select an emphasis other than the global health emphasis in the health science track.

The B.S. with a major in global health studies requires the following coursework.

Code	Title	Hours
	Foundation Courses	10
	Global Health Perspectives and Practices Courses	18
	World Language and Culture Requirement	6
	Capstone Experience	3
	Natural Sciences Courses	7-8
	Mathematics and Statistics Course	3-4
<b>Total Hours</b>		<b>47-49</b>

## Foundation Courses

Code	Title	Hours
All of these:		
GHS:2000	Introduction to Global Health Studies	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:4003	Case Studies in Global Health Inequities	3
And one of these:		
GHS:3030	Global Health Today	1
GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1
GHS:3035	Engaging in Global Health	1

## Global Health Perspectives and Practices Courses

To provide an appreciation of the interdisciplinary nature of global health studies, students choose from a wide range of courses on topics which reflect the breadth of the field.

Courses taken to complete another area of the major cannot be used toward the global health perspectives and practices requirement.

Code	Title	Hours
A minimum of 18 s.h. from these, with at least 12 s.h. numbered 3000 or above, and a minimum of 6 s.h. selected from the courses at the end of the list:		
GHS:1029	First-Year Seminar	1
GHS:1181	Ancient Medicine	3
GHS:1200	Disabilities and Inclusion in Writing and Film Around the World	3
GHS:1290	Native American Foods and Foodways	3
GHS:2080	The Cultural Politics of HIV-AIDS	3
GHS:2090	Medical Spanish in Contemporary Society	4
GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GHS:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
GHS:2181	The Anthropology of Aging	3
GHS:2182	Africa: Health and Society	3
GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3
GHS:2265	Hard Cases in Healthcare at the End of Life	3
GHS:2650	Global Reproduction	3
GHS:2674	Food, Body, and Belief: A Global Perspective	3
GHS:2770	Black and White Community Politics	3

GHS:3010	Identifying and Developing a Global Health Project (if not taken to satisfy the Capstone Experience requirement)	3	GHS:3500	Global Public Health	3
GHS:3011	Global Research: Strategies and Skills	1	GHS:3508	Disease and Health in Latin American History	3
GHS:3012	Community-Based Global Health Research (if not taken to satisfy the Capstone Experience requirement)	3	GHS:3555	Understanding Health and Disease in Africa	3
GHS:3015	Transnational Sexualities	3	GHS:3560	Global Garbage and Global Health	3
GHS:3021	Mental Health in the Ancient World	3	GHS:3570	Poverty Policy	3
GHS:3030	Global Health Today	1	GHS:3600	Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment	2
GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1	GHS:3620	Global Health and Human Rights	2-3
GHS:3035	Engaging in Global Health	1	GHS:3700	Development in a Global Context II: Reflections on Real World Interventions	1
GHS:3036	Ethics, Politics, and Global Health	3	GHS:3720	Contemporary Issues in Global Health (topic must be different than the foundation course topic)	3
GHS:3045	Spanish Health Narratives	3	GHS:3732	Global Health Nursing	3
GHS:3050	Global Aging	3	GHS:3760	Hazards and Society	3
GHS:3070	Hungry Planet: Global Geographies of Food	3	GHS:3780	U.S. Energy Policy in Global Context	3
GHS:3105	Contraception Across Time and Cultures	3	GHS:3850	Promoting Health Globally	3
GHS:3110	Colonialism and Indigenous Health Equity	3	GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4
GHS:3111	Geography of Health	3	GHS:4001	Social Entrepreneurship and Global Health	3
GHS:3113	Religion and Healing	3	GHS:4002	Working in Global Health	3
GHS:3120	Global Maternal and Child Health	3	GHS:4100	Topics in Global Health	1-3
GHS:3150	Media and Health	3	GHS:4140	Feminist Activism and Global Health	3
GHS:3151	The Anthropology of the Beginnings and Ends of Life	3	GHS:4205	Culture, Language, and Health	3
GHS:3152	Anthropology of Caregiving and Health	3	GHS:4530	Global Road Safety	3
GHS:3162	History of Global Health	3	GHS:4770	Environmental Justice	3
GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3	GHS:4990	Independent Project in Global Health	arr.
GHS:3180	Climate Change and Health	3	GHS:5000	Graduate Seminar in Global Health	2
GHS:3191	Sustainable Development: India and the Global Context	3	GHS:5455	Health Insurance and Managed Care	3
GHS:3192	Environment and Health in Modern India	3	GHS:6550	Epidemiology of Infectious Diseases	3
GHS:3199	Anthropology and Global Health Policy	3	ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
GHS:3230	Health Experience of Immigrants, Migrants, and Refugees	3	CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3	CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3	CPH:2400	The U.S. Health System in a Global Context	3
GHS:3420	Health and Healing in Early Modern Europe	3			



CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:4200	Agriculture, Food Systems, and Sustainability	3
ENGL:2560	Topics in Culture and Identity (when topic is stories about HIV/AIDS)	3
HIST:1016	The History That Made Our World (when topic is related to global health; consult advisor)	3
NURS:3655	Community and Public Health Nursing Practicum (B.S.N. students only)	2
OEH:4240	Global Environmental Health	3
A minimum of 6 s.h. from these:		
GHS:2164	Culture and Healing: An Introduction to Medical Anthropology	3
GHS:2320	Origins of Human Infectious Disease	3
GHS:2415	Bioethics	3
GHS:3037	Technology to Improve Global Health	3
GHS:3060	Studies in Complementary and Alternative Medicine	3
GHS:3325	Global Epidemics	3
GHS:4150	Health and Environment: GIS Applications	3
GHS:4260	Global Water and Health	3

## World Language and Culture Requirement

Students must choose option A or B below. Semester hours necessary to complete this requirement will vary.

### Option A

Students may complete a minimum of two world language courses beyond that required by the GE CLAS Core [p. 20]. This additional language requirement may be met either by completing at least two courses of fifth-semester-level study or higher in the same language used to fulfill the GE CLAS Core World Languages requirement or by completing two courses, or the equivalent, of a second world language at any level.

### Option B

Students may complete 6 s.h. related to one of the following area studies: African studies; Caribbean studies; East Asian studies; Islamic and Middle Eastern studies; Latin American studies; Russian, East European, and Eurasian studies; or South Asian studies. See the International Studies Course Database website for approved courses each semester.

## Capstone Experience

The capstone experience requirement provides an opportunity for students to apply the knowledge and skills they learned in the classroom.

Code	Title	Hours
3 s.h. from these:		
GHS:3010	Identifying and Developing a Global Health Project	3

GHS:3012	Community-Based Global Health Research	3
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## Natural Sciences Courses

The natural sciences course requirement can be used to fulfill the GE CLAS Core [p. 20] requirement. Students should consult with their advisor concerning specific courses that satisfy these requirements.

Code	Title	Hours
A minimum of one of the sequences, with at least one lab, from these:		
<b>Chemistry</b>		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
<b>Chemistry and Biology</b>		
CHEM:1070 & BIOL:1141	General Chemistry I - Human Biology: Health Professions	7
CHEM:1110 & BIOL:1141	Principles of Chemistry I - Human Biology: Health Professions	8
CHEM:1110 & BIOL:1411	Principles of Chemistry I - Foundations of Biology	8
CHEM:1110 & BIOL:1412	Principles of Chemistry I - Diversity of Form and Function	8
<b>Chemistry and Physics</b>		
CHEM:1070 & PHYS:1400	General Chemistry I - Basic Physics	7
CHEM:1110 & PHYS:1511	Principles of Chemistry I - College Physics I	8
<b>Physics</b>		
PHYS:1511- PHYS:1512	College Physics I-II	8

## Mathematics and Statistics Course

Students must complete at least one calculus or statistics course. In some cases, students also may need to complete a precalculus or statistics course, depending on their math placement.

The mathematics and statistics course requirement can be used to fulfill the GE CLAS Core [p. 20] requirement. Students should consult with their advisor concerning specific courses that satisfy these requirements.

Code	Title	Hours
One of these:		
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
Any higher-level statistics course (consult advisor)		3-4

## Honors

### Honors in the Major

Students majoring in global health studies have the opportunity to graduate with honors in the major. Students who choose to graduate with honors in the major must satisfy these requirements:

- maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all work for the major;
- complete a minimum of 6 s.h. of honors or contract honors courses in their global health studies major coursework;
- complete GHS:3010 Identifying and Developing a Global Health Project followed by GHS:4991 Honors Thesis in Global Health Studies as their capstone experience;
- enroll in GHS:4992 Global Health Studies Honors Cohort (0 s.h.) with the global health studies honors advisor during the semester in which GHS:4991 will be completed;
- submit an acceptable honors thesis; and
- give an oral or poster presentation of research findings at a venue approved by the Global Health Studies Program.

Students are encouraged to participate in the Iowa Center for Research by Undergraduates (ICRU) and to apply for research scholarships.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the global health studies major.

## Career Advancement

The Global Health Studies Program engages students and faculty in real-world health problems and challenges students to embark on global health careers which place a priority on improving health and achieving equity in health for people worldwide.

Graduates find opportunities in a range of global health job sectors such as:

- in-country field consultants;
- disaster relief organizations;
- immigrant/refugee health organizations;
- research and academic institutions;
- international agencies;
- other nongovernmental agencies (NGOs);
- lending agencies that do work in developing countries;
- multilateral agencies (such as the World Health Organization); and
- governmental agencies (United States Agency for International Development, Center for Disease Control, in-country ministries of health, etc.).

Global health studies graduates also have pursued graduate and professional programs in medicine, dentistry, pharmacy, nursing, public health, law, nonprofit management, urban and regional planning, sustainable agriculture, international development, and public administration.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** at least six courses in the major.

**Before the seventh semester begins:** at least 12 courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two additional courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Global Health Studies, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The Global Health Studies Program connects students to ethical experiential learning opportunities. <sup>a</sup>		
GHS:3035	Engaging in Global Health <sup>b</sup>	1
Honors: thesis <sup>c</sup>		
GE CLAS Core: Sustainability <sup>d</sup>		
		<b>Hours</b>
		<b>1</b>
<b>First Year</b>		
<b>Fall</b>		
GHS:2000	Introduction to Global Health Studies	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		
3		
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		
4 - 5		
CSI:1600	Success at Iowa	2
		<b>Hours</b>
		<b>15-17</b>
<b>Spring</b>		
GHS:3030 or GHS:3035 or GHS:3034	Global Health Today or Engaging in Global Health or Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
Major: natural sciences course without lab <sup>g, h, i</sup>		
3		
GE CLAS Core: Social Sciences <sup>e</sup>		
3		

GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>j</sup>	2 - 3

**Hours 16-19**

### Second Year

#### Fall

GHS:3720 Contemporary Issues in Global Health	3
Major: global health perspectives and practices course <sup>k</sup>	3
Major: natural sciences course with lab <sup>g, i</sup>	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>j</sup>	2 - 3

**Hours 16-18**

#### Spring

Major: global health perspectives and practices course numbered 3000 or above <sup>k</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>	3
Major: mathematics and statistics course <sup>i, l, m</sup>	3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>j</sup>	3

**Hours 16-18**

### Third Year

#### Fall

GHS:3012 Community-Based Global Health Research or GHS:3010 Identifying and Developing a Global Health Project	3
Major: global health perspectives and practices course numbered 3000 or above <sup>k</sup>	3
Major: world language and culture requirement	3 - 5
GE CLAS Core: Values and Culture <sup>e</sup>	3
Elective course <sup>j</sup>	3

**Hours 15-17**

#### Spring

GHS:4003 Case Studies in Global Health Inequities	3
Major: global health perspectives and practices course numbered 3000 or above <sup>k</sup>	3
Major: world language and culture requirement	3 - 5
Elective course <sup>j</sup>	3
Elective course <sup>j</sup>	3

**Hours 15-17**

### Fourth Year

#### Fall

Major: global health perspectives and practices course <sup>k</sup>	3
GE CLAS Core: Historical Perspectives <sup>e</sup>	3
Elective course <sup>j</sup>	3
Elective course <sup>j</sup>	3
Elective course <sup>j</sup>	3

**Hours 15**

#### Spring

Major: global health perspectives and practices course numbered 3000 or above <sup>k</sup>	3
GE CLAS Core: International and Global Issues <sup>e</sup>	3

Elective course <sup>j</sup>	3
Elective course <sup>j</sup>	3
Elective course <sup>j</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)  
<sup>n</sup>

**Hours 15**

**Total Hours 124-137**

- a The Global Health Studies Program connects students to experiential learning opportunities such as study abroad, internships, research, service learning, and capstone courses through which students develop real world skills related to major global health issues. Students meet regularly with their academic advisor for help in identifying ethical activities which can be integrated into their individualized graduation plan.
- b Global Health Studies students are encouraged to enroll in GHS:3035 Engaging in Global Health to explore how professionals and volunteers work in a broad variety of global health settings. This course counts toward Global Health Perspectives and Practices.
- c Students completing Honors in the Global Health Studies major work with a faculty mentor to produce an honors thesis, and then present their research at a venue approved by the Global Health Studies Program.
- d Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Choose from CHEM:1110 & CHEM:1120, CHEM:1070 & BIOL:1141, CHEM:1110 & BIOL:1141, CHEM:1110 & BIOL:1411, CHEM:1110 & BIOL:1412, CHEM:1070 & PHYS:1400, CHEM:1110 & PHYS:1511, PHYS:1511 & PHYS:1512.
- h Enrollment in chemistry courses requires completion of a placement exam.
- i Fulfills a major requirement and may fulfill a GE requirement.
- j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- k Students should choose from the Global Health Studies approved B.S. course list.
- l Choose from MATH:1380, MATH:1440, MATH:1460, MATH:1550, MATH:1850, STAT:1020.
- m Enrollment in math courses requires completion of a placement exam.
- n Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Global Health Studies, Minor

## Requirements

The undergraduate minor in global health studies requires a minimum of 15 s.h., including 12 s.h. in courses completed at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The minor is interdisciplinary, designed for students who wish to study the complex factors influencing health and disease locally and around the world.

A maximum of 6 s.h. of coursework used to satisfy requirements for another major, minor, or certificate may be applied toward the minor. This includes second areas, concentrations, and cognates, with the exception of the B.A. in journalism and mass communication, for which no overlap is assessed. Students may earn either the minor or the certificate in global health studies, but not both. Undergraduates who earn the minor in global health studies may not earn the major in global health studies.

The minor in global health studies requires the following coursework.

## Required Courses

Code	Title	Hours
One of these:		
GHS:2000	Introduction to Global Health Studies	3
GHS:3850	Promoting Health Globally	3
One of these:		
GHS:3720	Contemporary Issues in Global Health	3
GHS:4003	Case Studies in Global Health Inequities	3
6 s.h. from these:		
GHS:1200	Disabilities and Inclusion in Writing and Film Around the World	3
GHS:3030	Global Health Today	1
GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1
GHS:3035	Engaging in Global Health	1
GHS:3036	Ethics, Politics, and Global Health	3
GHS:3037	Technology to Improve Global Health	3
GHS:3060	Studies in Complementary and Alternative Medicine	3
GHS:3105	Contraception Across Time and Cultures	3
GHS:3120	Global Maternal and Child Health	3

GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3
GHS:3230	Health Experience of Immigrants, Migrants, and Refugees	3
GHS:3325	Global Epidemics	3
GHS:3560	Global Garbage and Global Health	3
GHS:4001	Social Entrepreneurship and Global Health	3
GHS:4002	Working in Global Health	3
One of these:		
	Global Health Perspectives and Practices course(s) if not taken as a requirement above; see B.A. or B.S. in global health studies for approved list	3
	Approved global health-themed study abroad coursework (consult GHS advisor)	3

# Global Health Studies, Certificate

## Requirements

The undergraduate Certificate in Global Health Studies requires 18 s.h. of study. Students must maintain a minimum g.p.a. of 2.00 or higher in the 18 s.h. of coursework required for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (UG) students may earn the certificate when the undergraduate classification is primary. Students in the College of Pharmacy are an exception; those who have earned the Pharm.D. degree also may earn an undergraduate global health studies certificate.

Work for the certificate includes required courses, electives, a global health project that culminates in a public presentation and written report, and study of a world language. Students must earn at least 12 s.h. of credit for the certificate in courses numbered 3000 or above taken at the University of Iowa. A maximum of 4 s.h. in GHS:4990 Independent Project in Global Health may be used toward the certificate. Students may choose courses offered by the Global Health Studies Program (prefix GHS) or associated courses offered by other departments and programs (see "Associated Courses" under Courses [p. 612] in this section of the Catalog).

The certificate program is interdisciplinary, and requires students to complete a global health project (either in an international setting or in a domestic setting which focuses on global connections) during which they address an important global health issue in a systematic way. Students then present their results and report on the completed project. The program helps prepare students for advanced work or careers in global health.

Undergraduates may earn the certificate or the minor in global health studies, but not both. Undergraduates who earn the certificate in global health studies may not earn the major in global health studies.

The Certificate in Global Health Studies requires the following work.

## Required Courses

Code	Title	Hours
All of these:		
GHS:2000	Introduction to Global Health Studies	3
GHS:3010	Identifying and Developing a Global Health Project	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:3850	Promoting Health Globally	3
GHS:4990	Independent Project in Global Health (maximum of 4 s.h. may be used toward the certificate)	1
One of these:		
GHS:3011	Global Research: Strategies and Skills	1

GHS:3030	Global Health Today	1
GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1
GHS:3035	Engaging in Global Health	1

## Electives

Students complete 4 s.h. of approved electives chosen from the course lists under Courses [p. 612] in the Global Health Studies section of the Catalog. They may petition to use other courses as electives if they can demonstrate that the courses include substantial material related to global health. Contact the Global Health Studies Program for details.

## Global Health Project

Students must complete a global health project during which they systematically address an important global health issue. The project can be completed either in an international setting or in a domestic setting which focuses on global connections. Eight weeks is considered the optimal amount of time to meet this requirement. The project may be completed as part of a study abroad program, a service learning course, an internship, a volunteer experience, or an independent research project.

Projects require approval by the Global Health Studies Program faculty director and must be supervised by an approved UI faculty mentor. Students may apply for a Stanley Award; other financial support may be available for some projects. Visit Global Health Project on the program's website for more information.

## Language Study

Students must complete the GE CLAS Core [p. 20] World Languages requirement or demonstrate fourth-semester-level language proficiency.

The Global Health Studies Program may advise students to take additional language study in preparation for a research or internship program. Students interested in learning an infrequently taught language to facilitate their participation in a global health project can contact the Center for Language and Culture Learning in the Division of World Languages, Literatures and Cultures.

## Public Presentation and Report

Certificate requirements culminate in a public presentation and report. Students present the results of their global health project in GHS:3010 Identifying and Developing a Global Health Project or in an equivalent public forum. Students also must submit a 10-12 page report that summarizes their global health project. Students enroll in GHS:4990 Independent Project in Global Health for 1 s.h. during the semester in which they are completing their report and presentation.

## Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Global Health Studies, Certificate

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
Certificate: global health studies elective <sup>a</sup>		1 - 3
<b>Hours</b>		<b>1-3</b>
<b>Spring</b>		
GHS:2000	Introduction to Global Health Studies	3
<b>Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
GHS:3850	Promoting Health Globally	3
Certificate: global health studies required course <sup>b</sup>		1
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
GHS:3720	Contemporary Issues in Global Health	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
GHS:3010	Identifying and Developing a Global Health Project <sup>c</sup>	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Certificate: global health studies elective <sup>a</sup>		1 - 3
Apply for a Stanley Award for International Research (optional not required to earn the certificate)		
<b>Hours</b>		<b>1-3</b>
<b>Summer</b>		
Complete an approved global health project <sup>d, e</sup>		
<b>Hours</b>		<b>0</b>
<b>Fourth Year</b>		
<b>Fall</b>		
GHS:4990	Independent Project in Global Health <sup>f</sup>	1
Complete a report and presentation on the approved global health project <sup>d</sup>		
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
Certificate: global health studies elective (if needed to reach a minimum of 4 s.h. of GHS electives) <sup>a</sup>		1 - 3
<b>Hours</b>		<b>1-3</b>
<b>Total Hours</b>		<b>17-23</b>

<sup>f</sup> Maximum of 4 s.h. from GHS:4990 may be counted toward the certificate.

<sup>a</sup> Students complete 4 s.h. of approved electives. See the General Catalog for a list of approved courses.

<sup>b</sup> Students must take one course from GHS:3011, GHS:3030, GHS:3034, GHS:3035.

<sup>c</sup> GHS:3010 can be taken earlier in the plan to prepare for the Global Health Project; meet with the GHS academic advisor to create an individualized plan of study.

<sup>d</sup> See the Global Health Studies Program website for details.

<sup>e</sup> The Global Health Project may be completed during any session after GHS:3010 and before the student's final session; it can be local or international; meet with the GHS academic advisor to create an individualized plan of study.

# Global Health Studies, Graduate Certificate

## Requirements

The graduate Certificate in Global Health Studies requires 18 s.h. of study. Students must earn at least 12 s.h. of credit for the certificate in courses numbered 3000 or above taken at the University of Iowa. Students must maintain a minimum g.p.a. of 2.50 or higher in the 18 s.h. coursework required for the certificate.

The certificate is open to University of Iowa graduate and professional students, except for those in the College of Pharmacy who have earned the Pharm.D. degree; they are awarded the undergraduate certificate. Other students are awarded the graduate certificate by the Graduate College. Students who wish to declare the global health studies certificate must contact the global health studies academic advisor. Global health studies staff will see to it that the certificate is added to a student's program of study.

Work for the certificate includes required courses, electives, a global health project that culminates in a public presentation and written report, and study of a world language. A maximum of 4 s.h. in GHS:4990 Independent Project in Global Health may be used toward the certificate. Students may choose courses offered by the Global Health Studies Program (prefix GHS) or associated courses offered by other departments and programs (see "Associated Courses" under Courses [p. 612] in this section of the Catalog).

Graduate and professional students who would like to count credit from a degree program toward the global health studies certificate should consult their graduate/professional academic programs.

The certificate program is interdisciplinary, and requires students to complete a global health project (either in an international setting or in a domestic setting which focuses on global connections) during which they address an important global health issue in a systematic way. Students then present their results and report on the completed project. The program helps prepare students for careers in global health.

The Certificate in Global Health Studies requires the following work.

## Required Courses

Code	Title	Hours
All of these:		
GHS:3010	Identifying and Developing a Global Health Project	3
GHS:3720	Contemporary Issues in Global Health	3
GHS:3850	Promoting Health Globally	3
GHS:4990	Independent Project in Global Health (maximum of 4 s.h. may count toward the certificate)	1
One of these:		
GHS:4002	Working in Global Health	3
GHS:4003	Case Studies in Global Health Inequities	3
One of these:		

GHS:3011	Global Research: Strategies and Skills	1
GHS:3030	Global Health Today	1
GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1
GHS:3035	Engaging in Global Health	1

## Electives

Students complete 4 s.h. of approved electives chosen from the course lists under Courses [p. 612] in the Global Health Studies section of the Catalog. They may petition to use other courses as electives if they can demonstrate that the courses include substantial material related to global health. Contact the Global Health Studies Program for details.

## Global Health Project

Students must complete a global health project during which they systematically address an important global health issue. The project can be completed either in an international setting or in a domestic setting which focuses on global connections. Eight weeks is considered the optimal amount of time to meet this requirement. The project may be completed as part of a study abroad program, a service learning course, an internship, a volunteer experience, or an independent research project.

Projects require approval by the Global Health Studies Program faculty director and must be supervised by an approved UI faculty mentor. Students may apply for a Stanley Award; other financial support may be available for some projects. Visit Global Health Project on the program's website for more information.

## Language Study

Students must either complete the GE CLAS Core [p. 20] World Languages requirement or demonstrate fourth-semester-level language proficiency.

The Global Health Studies Program steering committee may advise students to take additional language study in preparation for a research or internship program. Students interested in learning an infrequently taught language to facilitate their participation in a global health project can contact the Center for Language and Culture Learning in the Division of World Languages, Literatures and Cultures.

## Public Presentation and Report

Certificate requirements culminate in a public presentation and report. Students present the results of their global health project in GHS:3010 Identifying and Developing a Global Health Project or in an equivalent public forum. Students also must submit a 10-12 page report that summarizes their global health project. Students enroll in GHS:4990 Independent Project in Global Health for 1 s.h. during the semester in which they are completing their report and presentation.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Global Health Studies, Graduate Certificate

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
GHS:3850	Promoting Health Globally	3
Global Health Studies elective <sup>a</sup>		1 - 3
<b>Hours</b>		<b>4-6</b>
<b>Spring</b>		
GHS:3720	Contemporary Issues in Global Health	3
<b>Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
GHS:3010	Identifying and Developing a Global Health Project <sup>b</sup>	3
Global Health Studies course <sup>c</sup>		1
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
GHS:4003 or GHS:4002	Case Studies in Global Health Inequities or Working in Global Health	3
Apply for a Stanley Award for International Research (optional, not required to earn the certificate)		
<b>Hours</b>		<b>3</b>
<b>Summer</b>		
Complete an approved global health project <sup>d, e</sup>		
<b>Hours</b>		<b>0</b>
<b>Third Year</b>		
<b>Fall</b>		
GHS:4990	Independent Project in Global Health	1
Complete a report and presentation on the approved global health project <sup>d</sup>		
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
Global Health Studies elective (if needed to reach a minimum of 4 s.h. of GHS electives) <sup>a</sup>		1 - 3
<b>Hours</b>		<b>1-3</b>
<b>Total Hours</b>		<b>16-20</b>

a Students complete 4 s.h. of approved electives. See the General Catalog for a list of approved courses.

b GHS:3010 can be taken earlier in the plan to prepare for the global health project; meet with the GHS academic advisor to create an individualized plan of study.

c Choose from GHS:3011, GHS:3030, GHS:3034, GHS:3035.

d See the Global Health Studies program website for details.

e The global health project may be completed during any session after GHS:3010 and before the student's final session; it can be local or international. Meet with the GHS academic advisor to create an individualized plan of study.



# Health and Human Physiology

## Chair

- Gary L. Pierce

**Undergraduate majors:** health and human physiology (B.A.); health studies (B.A.); exercise science (B.S.); health promotion (B.S.); human physiology (B.S.); sport and recreation management (B.S.); therapeutic recreation (B.S.)

**Undergraduate minors:** human physiology; lifestyle medicine; sport and recreation management

**Undergraduate certificate:** interscholastic athletic/activities administration

**Graduate degrees:** M.A. in sport and recreation management; M.S. in health and human physiology; Ph.D. in health and human physiology

**Faculty:** <https://clas.uiowa.edu/hhp/people/faculty>

**Website:** <https://clas.uiowa.edu/hhp/>

The Department of Health and Human Physiology offers undergraduate majors, minors, a certificate, and graduate degree programs in health and human physiology and in sport and recreation management. The department also administers the Certificate in Disability Studies, as well as coaching authorization courses. In addition, the department is home to the Health and Physical Activity Skills Program, which offers courses that provide instruction and practice in lifetime sports, fitness training, and wellness activities aimed at enhancing physical health and well-being. Additionally, the department collaborates with other departments to offer the Certificate in Event Management.

Undergraduates in all majors may use several health and human physiology courses to fulfill requirements of the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. The department's First-Year Seminar is designed for entering undergraduate students.

## Certificates

### Disability Studies

The Department of Health and Human Physiology administers the undergraduate certificate program in disability studies. Disability studies examines disability as a social, cultural, historical, and political phenomenon rather than focusing on its clinical, medical, or therapeutic aspects. It is an interdisciplinary field that draws on scholarship from diverse disciplines. The certificate program helps students expand their knowledge and awareness of disability issues and prepare for careers in public life. See the Certificate in Disability Studies [p. 390] in the Catalog.

### Event Management

The Departments of Health and Human Physiology and Communication Studies, the School of Journalism and Mass Communication, and the Department of Marketing (Tippie College of Business) collaborate to offer the undergraduate Certificate in Event Management. Students who earn the certificate will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event management and careers in the event management industry. For information, see the Certificate in Event Management [p. 512] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Health and Human Physiology (Bachelor of Arts) [p. 647]
- Major in Health Studies (Bachelor of Arts) [p. 650]
- Major in Exercise Science (Bachelor of Science) [p. 653]
- Major in Health Promotion (Bachelor of Science) [p. 656]
- Major in Human Physiology (Bachelor of Science) [p. 659]
- Major in Sport and Recreation Management (Bachelor of Science) [p. 662]
- Major in Therapeutic Recreation (Bachelor of Science) [p. 669]

#### Minors

- Minor in Human Physiology [p. 675]
- Minor in Lifestyle Medicine [p. 676]
- Minor in Sport and Recreation Management [p. 677]

#### Certificate

- Certificate in Interscholastic Athletic/Activities Administration [p. 678]

### Graduate Programs of Study

#### Majors

- Master of Arts in Sport and Recreation Management [p. 680]
- Master of Science in Health and Human Physiology [p. 682]
- Doctor of Philosophy in Health and Human Physiology [p. 687]

## Facilities

Classroom and research laboratories are located in the Field House and in other buildings on campus. They provide excellent facilities for instruction and research at both the undergraduate and graduate levels.

Cooperative efforts with other units facilitate specialization by allowing Department of Health and Human Physiology students to use additional special facilities and research equipment in other departments on campus (e.g., biology, biochemistry and molecular biology, molecular physiology and biophysics, orthopedic surgery, internal medicine, pharmacology, and the College of Engineering).

## Courses

- Health and Human Physiology Courses [p. 634]
- Sport and Recreation Management Courses [p. 640]
- Therapeutic Recreation Courses [p. 642]
- Health and Physical Activity Skills Courses [p. 644]

## Health and Human Physiology Courses

- HHP:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- HHP:1010 Exploring Athletic Training** 1 s.h.  
Exploration of professional preparation for athletic trainers; application, career opportunities, professional organizations, awareness of basic athletic training principles.
- HHP:1045 Diversity and Inclusion in Healthy Living** 3 s.h.  
Personal health strategies; information and empowerment; application-based work, including creating a family health pedigree or individual health portfolio; discussion of current health ethics topics; subjects may include nutrition, sleep, stress, physical fitness, relationships, injury prevention, prenatal health, vaccination, cancer, infectious diseases, global health, and more. GE: Diversity and Inclusion.
- HHP:1050 Exploring Health and Human Physiology** 1 s.h.  
Introduction to different ways of thinking within the fields of physiology, health, exercise, and medicine; exploration of quantitative reasoning, evidence-based reasoning, the scientific method, analytical reasoning and data literacy, ethical reasoning, importance of diversity and inclusion, and creative applications.
- HHP:1100 Human Anatomy** 3 s.h.  
General human anatomy covering most systems of the body. GE: Natural Sciences without Lab.
- HHP:1110 Human Anatomy Laboratory** 1 s.h.  
All major systems of the human body, understood through computer-generated images, models, histological slides, anatomical specimens. Corequisites: HHP:1100 or HHP:3105 or HHP:1400, if not taken as a prerequisite. GE: Natural Sciences Lab only.
- HHP:1150 Human Anatomy Lecture with Lab** 4 s.h.  
Study of general human anatomy, covering all systems of the body in lecture and most systems in lab; appropriate for students planning on careers in various health professions or for those needing an introductory human anatomy course. GE: Natural Sciences with Lab.
- HHP:1200 First Aid/CPR Athletic Training** 2 s.h.  
First Aid and CPR with automated external defibrillator (AED); opportunity for certification in basic life support through the American Heart Association; satisfies the first aid and CPR requirement for the athletic training program application; for declared athletic training interest majors. Requirements: completion of or current enrollment in HHP:1010.
- HHP:1300 Fundamentals of Human Physiology** 3 s.h.  
Introduction to function and regulation of the human body. Recommendations: high school chemistry and basic biology. GE: Natural Sciences without Lab.
- HHP:1310 Human Physiology Laboratory** 1 s.h.  
Laboratory course illustrating principles of physiological principles through experimental measurements, practical assessments, and computer-based illustrations of human function. Recommendations: one semester of biology.
- HHP:1350 Fundamentals of Human Physiology with Laboratory** 4 s.h.  
Combines lecture and laboratory; introduction to function and regulation of the human body; laboratory work illustrates principles learned in lectures utilizing experimental measurements, practical assessments, and computer-based simulations.
- HHP:1400 Human Anatomy and Physiology** 3 s.h.  
General human anatomy and physiology covering most systems of the body. GE: Natural Sciences without Lab.
- HHP:2020 Developing Your Professional Brand** 2 s.h.  
Development and preparation for professional growth; focus on image as a brand; how to manage brand on social media, LinkedIn, and professional documentation; expansion of brand; preparation for experiential learning and job searching. Corequisites: HHP:2200.
- HHP:2130 Human Development Through the Life Span** 3 s.h.  
Overview of human developmental theories across the life-span; aspects of cognitive, physical, and personality development from birth to death; the role of culture, environment, health, and economic factors over the developmental process and life continuum.
- HHP:2148 Personal Training** 3 s.h.  
Essential aspects of personal training including theory and applied practice of screening, assessment, exercise prescription, and technique for development of safe and effective training programs for clients. Prerequisites: (HHP:1300 or HHP:1350) and HHP:2200.
- HHP:2200 Physical Activity and Health** 3 s.h.  
Physical activity determinants in society; school, workplace, community-based health promotion interventions to improve activity levels. GE: Values and Culture.
- HHP:2280 Cultural Competency in Health Promotion** 3 s.h.  
Examination of the importance of ethnic and cultural factors for community health practice; essential theories, models, and practices for working with race, ethnicity, gender, and social issues; topics may include demographics, disparities, complementary and alternative medicine, spiritually grounded approaches, multicultural populations, communication, workforce, aging, sexual orientation, and future challenges. GE: Diversity and Inclusion.
- HHP:2310 Nutrition and Health** 3 s.h.  
Physiology, biochemistry of human nutrition; appropriate food sources; qualitative and quantitative evaluation of diets using standard references. GE: Natural Sciences without Lab.
- HHP:2350 Biomechanics of Sport and Physical Activity** 3 s.h.  
Principles of biomechanics, kinesiology, and anatomy; quantitative aspects of sport and physical activity; emphasis on developing a qualitative grasp on mechanical principles of human movement within sports and physical activity; how to apply these principles in a sport/exercise environment. Prerequisites: HHP:1100 or HHP:1150.
- HHP:3030 Lifestyle Medicine** 3 s.h.  
Overview of influences of lifestyle medicine on chronic disease treatment and prevention; understanding evidence-based lifestyle medicine factors on holistic well-being; development of communication skills to support behavioral and lifestyle medicine changes for treatment and prevention of chronic conditions. Prerequisites: HHP:2200 and HHP:2310.

- HHP:3045 Physical Activity Psychology 3 s.h.**  
People's thoughts, feelings, and behaviors in physical activity contexts; psychological theory and research related to benefits and determinants of physical activity, models for involvement in physical activity, and theories of change; focus on cognitive and social psychological perspectives. Prerequisites: HHP:2200.
- HHP:3050 Obesity: Causes, Consequences, Prevention, and Treatment 3 s.h.**  
In-depth overview of biological, behavioral, and societal causes and consequences of obesity epidemic; potential solutions from primary and secondary prevention standpoints; causes of obesity, available treatments, and global impact that obesity epidemic presents to society. Prerequisites: HHP:2200 and HHP:2310.
- HHP:3105 Anatomy for Human Physiology 3 s.h.**  
All major systems of the body are covered with focus on the normal structure of the human body; appropriate for preprofessional students planning on careers in the various health professions.
- HHP:3110 Advanced Anatomy Laboratory 2 s.h.**  
Detailed gross anatomy of all major systems of the body; structure of the human body at organ, tissue, and cellular levels; examination of various human and other mammalian specimens. Prerequisites: HHP:3105.
- HHP:3115 Anatomy for Human Physiology with Lab 5 s.h.**  
Covers all major systems of the body in a combined lecture and laboratory anatomy course; focus on normal structure of the human body; laboratory includes gross anatomy of some human structures and dissection of other mammalian specimen; appropriate for preprofessional students planning on careers in various health professions. Prerequisites: BIOL:1411.
- HHP:3150 Program Design in Strength and Conditioning 3 s.h.**  
Examination of elements of program design for developing muscular fitness and skill related to fitness; applies to programming for individuals with whom a major goal of their physical activity program is to maximize human performance potential; these goals can either be for personal fitness, success in specific sports, or for applications in occupational athletes.
- HHP:3200 Health Behavior and Health Promotion 3 s.h.**  
Principles of epidemiology and health behavior theories applied to multilevel frameworks for health promotion. Prerequisites: HHP:2200 and HHP:2310.
- HHP:3230 Psychopharmacology 3 s.h.**  
How drugs act to influence behavior; general principles of drug action on the nervous system; licit and illicit drugs, use/abuse, historical perspective on drug use. Prerequisites: PSY:2811 with a minimum grade of C- or (HHP:1300 with a minimum grade of C- or HHP:1350 with a minimum grade of C- or HHP:3500 with a minimum grade of C- or HHP:3550 with a minimum grade of C-). Same as PSY:3230.
- HHP:3300 Human Growth and Motor Development 3 s.h.**  
Human growth and biological maturation; focus on motor development from birth through puberty. Recommendations: prior course in anatomy, human physiology, or biology.
- HHP:3400 Applied Exercise Physiology 3 s.h.**  
Effects of acute exercise and chronic exercise training on different physiological systems (energy, neuromuscular, circulatory, respiratory, endocrine); overview of physiological principles necessary for more advanced study of fitness evaluation and exercise prescription; preparation for ACSM certification. Prerequisites: HHP:1300 or HHP:1350 or HHP:3500.
- HHP:3420 Practicum in Health Education and Outreach 3 s.h.**  
Coursework and experiential learning with the Office of Student Wellness; practical experience in planning, implementing, and evaluating health programs; students spend at least 20 hours assisting with health outreach events, programs, and opportunities which may include staffing a table, assisting with group fitness assessments, or participating in health promotion-related opportunities; students also work on a team health project and plan their own health event; reflection on how health issues apply to students personally and to their communities; foundation of theories/models that guide health behavior change in college setting; papers, projects, outreach events, presentations. Prerequisites: HHP:2310 and HHP:2200.
- HHP:3430 Health Management and Administration 3 s.h.**  
Introduction to management, administration, and leadership principles as they relate to health promotion programs. Prerequisites: HHP:2200 and HHP:2310 and (HHP:1100 or HHP:1150) and (HHP:1300 or HHP:1350).
- HHP:3440 Physical Activity Interventions 3 s.h.**  
Development, implementation, evaluation of effective health communication interventions; identification of health education resources for targeted groups. Prerequisites: HHP:2310 and HHP:2200.
- HHP:3450 Immunology in Health and Disease 3 s.h.**  
Overview of immunology, beginning at the molecular level and ending with the role of the immune system in disease; fundamental concepts of the immune system; innate and adaptive immunity, focusing on cell-mediated and humoral immune responses, in addition to effector mechanisms in both of these responses; concepts of immunologic tolerance; autoimmune disease; immunodeficiency syndromes; the inflammatory process in disease. Prerequisites: HHP:3500 or HHP:3550.
- HHP:3500 Human Physiology 3 s.h.**  
Organ system approach to physiology in order to understand normal function of the human body from the submolecular and cellular levels to the whole organism; emphasis on the development of a mechanistic understanding of organ system function and integrated physiological function across systems to promote homeostatic regulation in the human body. Prerequisites: (HHP:1300 or BIOL:1141 or BIOL:1140 or BIOL:1411) and (CHEM:1070 or CHEM:1110).
- HHP:3550 Human Physiology with Laboratory 5 s.h.**  
Mechanistic approach to understand organ system function and integrated function across systems as the basis for homeostatic regulation within the human body; experiential laboratory activities that incorporate fundamental measurements of human function and analysis, interpretation, and presentation of experimental findings. Prerequisites: (HHP:1300 or BIOL:1141 or BIOL:1140 or BIOL:1411) and (CHEM:1070 or CHEM:1110). Recommendations: one semester of human anatomy, and one semester of statistics or biostatistics.

- HHP:3555 Lab for Human Physiology** 2 s.h.  
 Experiential laboratory activities that incorporate fundamental measurements of human function and analysis, interpretation, and presentation of experimental findings. Prerequisites: HHP:3500. Recommendations: one semester of statistics or biostatistics.
- HHP:3820 Community Wellness Guided Practicum** arr. 3 s.h.  
 Application of theory into practice to support skill development; students work with local worksites to deliver a wellness program, conduct a well-being assessment, develop and implement a behavior change intervention, deliver education, and evaluate outcomes in a professional context; utilization of skills in marketing, design, presentation, and cultivating connections. Prerequisites: HHP:2200 and HHP:2310 and (HHP:1100 or HHP:1150) and (HHP:1300 or HHP:1350).
- HHP:3850 Promoting Health Globally** 3 s.h.  
 Major global health threats in the United States and abroad; impact of culture, history, economics on health disparities; approaches, programs, policies to remedy them. Same as GHS:3850.
- HHP:3870 Motivational Interviewing for Health Professions** 3 s.h.  
 Theoretical foundations, empirical research support, and application of motivational interviewing; how people make changes with regard to health behaviors, how health professionals can support positive change, barriers to change process, empowerment and autonomy, intrinsic motivation, applications of motivational interviewing; theory and research; motivational interviewing for health behavior change; extensive applied practice of motivational interviewing techniques and group work to practice skills; discussion and application of techniques, research, and practical knowledge.
- HHP:3900 Writing for Health and Human Physiology** 3 s.h.  
 Effective written communication specific to health sciences; planning, drafting, revising, and peer-editing materials (e.g., personal statements, professional communications, general articles of interest, scientific papers); practicum experience.
- HHP:4010 Behavioral and Clinical Health Assessment Laboratory** 4 s.h.  
 Expected assessment skill set for health promotion professionals, including ability to assess and interpret blood pressure, lung function, blood lipids, and heart rate; health behavior measurement issues including how to use objective monitors, self report, interview, and web-based trackers to assess diet, physical activity, and sleep; general measurement and research concepts will be introduced and students will have laboratory practice in sphygmomanometry, spirometry, anthropometry, accelerometry, sleep tracking, computerized dietary assessments, and graded exercise testing. Prerequisites: HHP:2200 and HHP:2310 and (HHP:1100 or HHP:1150) and (HHP:1300 or HHP:1350).
- HHP:4020 Health Communication and Coaching Strategies** 3 s.h.  
 Science of health communication, including evidence-based development, strategic dissemination, and critical evaluation of relevant, accurate, accessible, and understandable health information communicated to individuals to advance their health; the art of health coaching including the processes that facilitate healthy, sustainable behavior change; health coaching strategies will include motivational interviewing, goal setting, and social support. Prerequisites: HHP:2200 and HHP:2310.
- HHP:4030 Policy, Environmental, and Social Determinants of Health** 3 s.h.  
 How health is determined by access to social and economic opportunities (e.g., quality of our schools, safety of neighborhoods, and quality of our social interactions); policy, environmental, and social factors that influence health; how collaboration among federal, state, and local-level partners can improve health; goals and objectives of Healthy People 2020 (U.S. Federal Health Promotion Planning Guide) will be used to frame course material. Prerequisites: HHP:2200 and HHP:2310.
- HHP:4040 Health Services: Current Barriers and Innovative Solutions** 3 s.h.  
 Barriers to quality health care access (e.g., lack of availability, high costs, lack of insurance coverage, health disparities); consequences of such barriers (e.g., unmet health needs, delays in care, lack of preventive services, preventable hospitalization); innovative solutions for improving access and quality of care (e.g., technologies and innovations, improving access to preventive health services, reducing costs); novel ways to improve access and quality of today's health care system. Prerequisites: HHP:2200 and HHP:2310.
- HHP:4110 Advanced Human Anatomy Laboratory** 4 s.h.  
 Regional dissection of the human body. Prerequisites: HHP:3110 or HHP:3115.
- HHP:4130 Skeletal Muscle Physiology** 3 s.h.  
 Skeletal muscle structure, contractile mechanisms, production of movement, biomechanical properties; adaptation to increased use, disuse, injury. Prerequisites: HHP:3500 or HHP:3550.
- HHP:4150 Clinical Exercise Physiology** 3 s.h.  
 Recent advances in exercise physiology for clinical populations; emphasis on acute and chronic responses to exercise in healthy aged adults and in patients with cardiac, vascular, pulmonary, and metabolic diseases; basic and intermediate electrocardiography (ECG), pathophysiology of disease process, clinical assessment of disease severity, diagnostic testing, acute exercise responses, and exercise rehabilitation. Prerequisites: HHP:3500 or HHP:3550 or HHP:3400. Recommendations: HHP:4460.
- HHP:4190 Scientific Basis of Training for Elite Performance** 3 s.h.  
 Application of scientific principles to goal of improving strength, speed, endurance, and overall human function; general overview of structure and function of muscular, nervous, cardiovascular, and respiratory systems; bioenergetics of exercise; endocrine response to exercise; biomechanics of resistance exercise; adaptations to anaerobic and aerobic training programs; age and sex related considerations on training; nutrition and ergogenic aids. Prerequisites: HHP:3500 or HHP:1300 or HHP:1350.
- HHP:4195 Exercise Programming for Special Populations** 3 s.h.  
 Measurement of health-related fitness and exercise capacity in special populations (e.g., children, older adults, obesity, orthopedic problems, cerebral palsy, intellectual disabilities). Prerequisites: HHP:3400 and (HHP:4200 or HHP:4210).

- HHP:4200 Metabolic Exercise Testing and Prescription** 4 s.h.  
Basic techniques in physical fitness assessment, prescription of exercise for healthy and unhealthy adults, promotion of physical activity within communities; provides knowledge and skill competencies required for certification as American College of Sports Medicine health fitness instructor. Prerequisites: HHP:2200 and (HHP:3400 or HHP:3500 or HHP:3550). Requirements: health promotion, exercise science, or human physiology major.
- HHP:4210 Musculoskeletal Exercise Testing and Prescription** 4 s.h.  
Educational and practical experience for designing resistance training and flexibility programs; competencies for certification with National Strength and Conditioning Association. Prerequisites: HHP:2200 and (HHP:3400 or HHP:3500 or HHP:3550). Requirements: health promotion, exercise science, or human physiology major.
- HHP:4220 Biomechanics of Human Motion** 3 s.h.  
Application of the principles of mechanics to investigation of human motion in two dimensions; system modeling, force system and equilibrium analysis, particle and rigid body kinematics, Newton's and Euler's equations of motion, work-energy and impulse-momentum integral principles. Prerequisites: (HHP:1100 or HHP:1150 or HHP:3105 or HHP:3115) and (PHYS:1400 or PHYS:1511 or PHYS:1611 or HHP:2350).
- HHP:4230 Motor Learning: Theory and Application** 3 s.h.  
How skilled motor behavior is acquired; behavioral changes that occur during skill acquisition; structural and physiological changes that occur in central nervous system; principles of training and practice that yield efficient and effective motor learning; how this information is helpful to health professionals involved in motor rehabilitation, physical educators and coaches, music instructors and musicians, strength and conditioning professionals, fitness professionals, and athletes, among others. Prerequisites: HHP:1300. Recommendations: familiarity with basic neuroscience (neurons, synaptic transmission, basic anatomical organization of sensory and motor systems).
- HHP:4250 Human Pathophysiology** 3 s.h.  
In-depth study of human pathological processes and their effects on homeostasis; etiology, symptoms, and risk factors of various diseases; emphasis on major diseases impacting worldwide disability and death; how pathological processes are manifested and progress in the body. Prerequisites: HHP:3500 or HHP:3550 or HHP:1300 or HHP:1350.
- HHP:4260 Respiratory Pathophysiology** 3 s.h.  
Structure and function of human respiratory system; focus on didactic and case study-based learning; control of breathing, gas exchange, lung mechanics, regulation of pulmonary blood flow, respiratory responses to stress; application of these physiological concepts to case studies of human disease. Prerequisites: HHP:1300 or HHP:1350 or HHP:3500 or HHP:3550. Recommendations: PHYS:1511, and MATH:1460 or MATH:1850.
- HHP:4300 Sensorimotor Neurophysiology** 3 s.h.  
Neuroanatomical and neurophysiological bases of human motor control; role of sensory and motor structures in control of posture, locomotion, and upper limb movements. Prerequisites: HHP:3500 or HHP:3550. Requirements: anatomy or human physiology course.
- HHP:4310 Sport and Exercise Nutrition** 3 s.h.  
Relationship between nutrition, fitness and sport performance; basic nutrition, physiology, chemistry, psychology, food preparation. Prerequisites: HHP:2200 and HHP:2310.
- HHP:4320 Nutrition Interventions** 3 s.h.  
Strategies that assist in assessment and evaluation of nutrition behaviors of individuals and groups; interventions to meet nutritional needs of individuals and groups with a variety of health issues. Prerequisites: HHP:2200 and HHP:2310.
- HHP:4330 Physical Activity and Dietary Behavior Change** 1,3 s.h.  
Major determinants (barriers and facilitators) of physical activity and dietary behaviors; evidence-based behavior change techniques; application of behavior change techniques to improve physical activity and dietary behaviors at individual and organizational levels. Prerequisites: HHP:3050.
- HHP:4350 Health and Human Physiology Practicum** 1-3 s.h.  
Experience in planning and implementing programs in the areas of fitness, strength and conditioning, nutrition, clinical rehabilitation, or health promotion. Prerequisites: (HHP:1100 or HHP:1150) and HHP:2200 and HHP:2310 and (HHP:1300 or HHP:1350 or HHP:3500).
- HHP:4360 Practicum in Group Fitness Instruction** 2 s.h.  
Opportunity to observe group-fitness instructors in an applied setting; help organize and execute a group-fitness class. Prerequisites: (HHP:4410 or HHP:3400) and HHP:2310 and (HHP:3500 or HHP:1300) and HHP:1100. Requirements: CPR/AED or Group Fitness Instructor (ACSM, ACE, AFAA) or specific fitness (yoga, indoor cycling, crossfit) certification.
- HHP:4365 Practicum in Health Coaching** 3 s.h.  
Opportunity to develop and practice health coaching skills in an observed classroom setting; includes discussion, reviews of case studies, and role playing as health coaches; students dedicate seven-and-one-half hours per week in the community outreach laboratory, remotely (phone, Skype, text messaging) or in person, providing health coach services to referred patients and community members. Prerequisites: HHP:4020 or HHP:3030.
- HHP:4390 Understanding Human Disease** 3 s.h.  
Introduction to process of human disease at cell, organ, and whole body level throughout the lifespan; pathophysiological changes occurring with disease, including risk factors, disease development, and overall effects of disease on the body; cancer, diabetes, obesity, cardiovascular, neurodegenerative diseases, and aging. Prerequisites: HHP:1300 or HHP:1350.
- HHP:4400 Health Promotion Clinical Practicum** 1 s.h.  
Experience in planning and implementing clinical health promotion programs focusing on nutrition, physical fitness, cardiac rehabilitation, and respiratory rehabilitation. Prerequisites: HHP:3200 and (HHP:4200 or HHP:4010).
- HHP:4405 Health Promotion Community and Worksite Practicum** 1 s.h.  
Planning and implementing community and worksite health promotion programs. Prerequisites: HHP:3200 and (HHP:4200 or HHP:4010).
- HHP:4410 Exercise Physiology** 3 s.h.  
Mechanisms responsible for the acute and chronic effects of exercise on the different organ systems of the body. Offered fall semesters. Prerequisites: HHP:1300 or HHP:1350 or HHP:3500 or HHP:3550.

- HHP:4415 Exercise Science Practicum** 1 s.h.  
Experience in planning and implementing exercise programs related to physical fitness, including strength and conditioning in healthy and diseased/injured populations, and in elite athletes. Prerequisites: HHP:4200 and HHP:4210.
- HHP:4420 Planning and Evaluating Health Interventions** 3 s.h.  
Assessment, planning, implementation, and evaluation of health promotion programs. Prerequisites: HHP:3200.
- HHP:4440 Physiology of Nutrition** 3 s.h.  
Metabolic and biological aspects of human energy production, relationship to energy consumption; systems or integrative approach. Prerequisites: HHP:1300 or HHP:1350 or HHP:3500 or HHP:3550.
- HHP:4450 Human Genetics and Disease** 3-4 s.h.  
Fundamental concepts of human genetics including genome organization, expression of genes, and pedigree analysis; emphasis on role of genetics in human health and disease. Prerequisites: HHP:3500 or HHP:3550 or HHP:1300 or HHP:1350.
- HHP:4460 Cardiovascular Physiology** 3 s.h.  
Structure and function of cardiovascular system; heart, microcirculation, hemodynamics, regional circulation, reflex integration, regulation during physical stress. Prerequisites: HHP:3500 or HHP:3550. Recommendations: calculus and physics.
- HHP:4465 Environmental Exercise Physiology** 3 s.h.  
Study of physiological responses of the human organism to various forms of environmental stress at rest and during exercise; how physical performance is affected by environmental stressors such as heat, cold, altitude, microgravity, and hyperbaria. Prerequisites: HHP:3400 or HHP:3500 or HHP:3550.
- HHP:4470 Physiology of Aging** 3 s.h.  
Aging's effects on cells, tissues, and organs; how aging influences function of major body organ systems and the whole organism; physiological mechanisms that underlie age-related changes in body function and performance; integrative approach with focus on human aging. Prerequisites: HHP:3500 or HHP:3550. Same as ASP:4470.
- HHP:4490 International Medicine: Experiential Learning** 3 s.h.  
Experiential learning in select health care settings outside of the United States; for pre-health professional students.
- HHP:4500 Undergraduate Independent Study** arr.  
Library or laboratory research related to a specific topic in human physiology, normally culminating with a written manuscript; work directed by a faculty member.
- HHP:4510 Energetics in Health and Disease** 3 s.h.  
Comprehensive and molecular driven approach to: impairments in energy metabolism leading to obesity; type 2 diabetes and associated chronic diseases (e.g., cardiovascular diseases, cancer); and mechanisms by which exercise and calorie restriction regimens may prevent and/or reverse those impairments in skeletal muscle, adipose tissue, liver, and heart. Prerequisites: HHP:3500 or HHP:3550. Recommendations: HHP:4410 and BIOL:2723.
- HHP:4700 Health and Human Physiology Teaching Internship** 3 s.h.  
Opportunity to serve as an undergraduate learning assistant in selected health and human physiology courses; learning assistants are generally expected to attend class or lab sessions for a specific course, engage with students in an intentional manner that supports their learning, and serve as a positive role model for their undergraduate peers; learning assistants receive training for development of interpersonal skills and facilitating collaborative learning environments, along with content-specific mentoring provided by course supervisor.
- HHP:4800 Research Methods and Ethics** 3 s.h.  
Introduction to concepts, principles, and methods of research; topics include research design, data collection, data analysis, and reporting research; students identify and formulate research questions, design appropriate research, collect data using different methods, conduct data analysis, present research findings, and critically critique research literature; main ethical issues and professional conduct in scientific research. Requirements: honors standing.
- HHP:4900 Honors Research** 3 s.h.  
Completion of honors research begun in HHP:4800; analysis of data, writing and oral presentation of honors thesis, work with an active research tenure-track faculty member in a laboratory; second of a two-semester sequence. Prerequisites: HHP:4800 with a minimum grade of B. Requirements: honors standing.
- HHP:4930 Health and Human Physiology Internship** 3-9,12 s.h.  
Directed practical field experience involving program planning, implementation, evaluation, and administration; varied areas such as fitness, wellness, nutrition, clinical, and strength and conditioning.
- HHP:5200 Epidemiology of Physical Activity** 3 s.h.  
Overview of epidemiological evidence on how physical activity, sedentary behavior, and sleep affect health outcomes including cardiovascular disease, diabetes, cancer, and obesity; emphasis on research design, interpretation of studies, selection of appropriate measurement tools, and translating scientific findings to recommendations/policies for health promotion and disease prevention.
- HHP:5300 Advanced Human Physiology** 3 s.h.  
Provides an advanced study of human physiology for students entering health related fields; mechanisms of body function will be presented at various levels ranging from cellular and molecular, to tissue and organ system levels, with emphasis on integration of the various systems. Offered spring semesters. Prerequisites: HHP:1100 and HHP:3500.
- HHP:5935 Clinical Exercise Physiology Internship** 1-6 s.h.  
Directed practical field experience; program planning, implementation, evaluation, and administrative procedures.
- HHP:6000 Research** arr.
- HHP:6010 Nonthesis Seminar** 2 s.h.  
For candidates for the M.S. without thesis. Offered spring semesters.

**HHP:6020 Advanced Research Methods and Ethics****1-3 s.h.**

Introduction to concepts, principles, and methods of research; topics include research design, data collection, data analysis, and reporting research; students identify and formulate research questions, design appropriate research, collect data using different methods, conduct data analysis, present research findings, and critically critique research literature; main ethical issues and professional conduct in scientific research. Recommendations: concurrent enrollment in BIOS:5120 or STAT:6513.

**HHP:6030 Physical Activity and Dietary Behavior Change****3 s.h.**

Major determinants (barriers and facilitators) of physical activity and dietary behaviors; evidence-based behavior change techniques; application of behavior change techniques to improve physical activity and dietary behaviors at the individual and organizational levels.

**HHP:6050 Advanced Topics in Obesity****3 s.h.**

In-depth overview of biological, behavioral, and societal causes and consequences of obesity epidemic; potential solutions from primary and secondary prevention standpoints; causes of obesity, available treatments, and global impact that obesity epidemic presents to society.

**HHP:6100 Health and Human Physiology Seminar****0 s.h.**

Biweekly forum for research presentations by health and human physiology faculty and graduate students, and by invited guest speakers; attended by health and human physiology faculty and students, and by faculty and guests from other departments and programs on campus.

**HHP:6130 Advanced Skeletal Muscle Physiology****1,3 s.h.**

Skeletal muscle structure, contractile mechanisms, production of movement, biomechanical properties; adaptation to increased use, disuse, injury. Prerequisites: HHP:3500.

**HHP:6150 Advanced Clinical Exercise Physiology****1,3 s.h.**

Recent advances in exercise physiology for clinical populations; emphasis on acute and chronic responses to exercise in healthy aged adults and in patients with cardiac, vascular, pulmonary, and metabolic diseases; basic and intermediate electrocardiography (ECG), pathophysiology of disease process, clinical assessment of disease severity, diagnostic testing, acute exercise responses, and exercise rehabilitation. Prerequisites: HHP:3500. Recommendations: HHP:4460.

**HHP:6200 Instruction in Metabolic Exercise Testing and Prescription****1,4 s.h.**

Basic techniques in physical fitness assessment; prescription of exercise for healthy and unhealthy adults; promotion of physical activity within communities; knowledge and skill competencies required for certification as American College of Sports Medicine health fitness instructor. Prerequisites: HHP:2200 and (HHP:1300 or HHP:3500).

**HHP:6260 Advanced Respiratory Pathophysiology****1,3 s.h.**

Complements HHP:4260; structure and function of human respiratory system; focus on didactic and case study based learning; control of breathing, gas exchange, lung mechanics, regulation of pulmonary blood flow, and respiratory responses to stress; application of these physiological concepts to case studies of human disease. Prerequisites: HHP:3500. Corequisites: HHP:4260.

**HHP:6300 Motor Control Seminar****1 s.h.**

Current topics in neural control of movement, biomechanics, and rehabilitation sciences.

**HHP:6310 Advanced Sport and Exercise Nutrition****3 s.h.**

Relationship between nutrition and dietetics and sport and exercise performance; application of nutrition, dietetics, physiology, chemistry, psychology, and food preparation to sport and exercise training and performance. Requirements: M.C.N. graduate standing.

**HHP:6400 Integrative Physiology Seminar****1 s.h.**

Current topics in cardiovascular physiology, vascular biology, free radical biology.

**HHP:6410 Advanced Exercise Physiology****1,3 s.h.**

Mechanisms responsible for acute and chronic effects of exercise on different organ systems of the body. Offered fall semesters. Prerequisites: HHP:1300 or HHP:3500.

**HHP:6460 Advanced Cardiovascular Physiology****1,3 s.h.**

Structure and function of cardiovascular system; heart, microcirculation, hemodynamics, regional circulation, reflex integration, and regulation during physical stress. Prerequisites: HHP:3500. Recommendations: calculus and physics.

**HHP:6470 Advanced Physiology of Aging****1,3 s.h.**

Effects of aging on cells, tissues, and organs; how aging influences function of major body organ systems and the whole organism; physiological mechanisms that underlie age-related changes in body function and performance; integrative approach with focus on human aging. Prerequisites: HHP:1100 and HHP:3500.

**HHP:6480 Advanced Human Pharmacology****1,3 s.h.**

General pharmacology (administration, distribution, elimination of drugs, dose response curves, adverse effects, placebos, homeopathy); pharmacotherapy of selected human diseases, pathophysiologic aspects of disease, how different classes of drugs modify pathophysiologic effects to restore health or reduce impact of disease; focus on mechanisms of drug actions in humans; adverse effects, pharmacokinetic considerations, drug interactions; how to write prescriptions. Prerequisites: HHP:3500.

**HHP:6500 Seminar in Health Promotion****1 s.h.**

Peer and faculty response to graduate student work addressing health promotion, physical activity and health outcomes, clinical exercise physiology; review and critique current literature; presentation of published work or in-process projects; critical thinking, scientific writing, and oral communication skill development pertaining to health promotion.

**HHP:6510 Advanced Energetics in Health and Disease****1,3 s.h.**

Discussions of recent published, and/or seminal, state-of-the-art papers on energy metabolism related to exercise and diet interventions in context of obesity, diabetes, cardiovascular diseases, and cancer. Prerequisites: HHP:3500. Recommendations: HHP:4410 and BIOL:2723.

**HHP:7000 Practicum in College Teaching****arr.****HHP:7300 Advanced Sensorimotor Neurophysiology****1,3 s.h.**

Neuroanatomical and neurophysiological bases of human motor control; mechanisms for locomotion and posture, control of arm and hand movements, role of sensory information. Prerequisites: HHP:3500 or HHP:3550. Requirements: anatomy or human physiology course.

**HHP:7500 Thesis: M.S.****0-4 s.h.**

**HHP:7900 Thesis: Ph.D.**

## Sport and Recreation Management Courses

**SRM:1000 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, readings, visits to research facilities).

**SRM:1046 Health for Happiness** 3 s.h.

Recent research has discovered fundamental elements and mechanisms of human happiness and well-being; students review these discoveries in the fields of positive psychology, positive neurobiology, system theory, economics of happiness, and history; practical learning experiences that apply these findings to everyday student life; hands-on ways to improve both subjective well-being and individual character strengths and virtues.

**SRM:1060 Contemporary Issues in Sports** 3 s.h.

Basic philosophical, historical, scientific foundations and developments; function, settings of organized recreation.

**SRM:1072 Leisure and the Liberal Arts** 3 s.h.

Integration of the ideal of a liberal education with worthy, meaningful use of free time in contemporary society; classic writings in the humanities. GE: Values and Culture.

**SRM:1085 Introduction to Travel and Tourism** 3 s.h.

Nature, scope, and significance of fields of travel and tourism: their histories, theories and philosophies, current trends, issues and challenges; critical analysis of current travel and tourism practices; green alternatives that are more sustainable and in keeping with values the field of leisure studies has long placed on active participation and local, community development.

**SRM:2065 The Experience Economy** 3 s.h.

Introduction to emerging experience economy; just as manufacturing sector of economy supersedes agriculture and service economy supersedes manufacturing, how experience economy is now gaining ascendancy as the last, best hope for future economic growth; critical analysis of experience economy with discussion of ways in which experience economy may offer green, moral, and humane alternatives to previous stages of economic development; new opportunities for travel and tourism, sports settings, recreation and wellness services, possible applications in education and helping professions.

**SRM:3020 Nutrition in Health and Performance** 3 s.h.

Effects of exercise and nutrition on health- and sports-related fitness; for professionals in health and physical education. Same as INTD:3027.

**SRM:3146 Sports Officiating: Rules, Theories, and Issues** 3 s.h.

Fundamental principles of officiating sports at all levels; supervision and management of officials for sport and recreation administrators; rules and mechanics of sports officiating, general qualifications to be a sports official, philosophy of officiating, teaching and evaluation methods for officials, and application of principles through officiating intramural sports.

**arr. SRM:3147 Sport Event Management** 3 s.h.

Current status, challenges, and opportunities in sporting event industry; sporting event planning, budgeting, marketing, sponsorship, and evaluation; development of event timelines and event management skills; introduction to networking and interaction with sporting events. Recommendations: SRM:3154.

**SRM:3148 Interscholastic Activities and Athletics Administration** 3 s.h.

Survey of activities administration foundations including philosophy, leadership, professional programs and activities administration principles, strategies and methods; understanding of the techniques and theory of coaching concepts and strategies for interscholastic budget and concepts and strategies for interscholastic fundraising; basics of assessment and evaluation of interscholastic athletic programs and personnel, dealing with challenging personalities, and administration of professional growth programs for interscholastic personnel.

**SRM:3149 Coaching Theory, Body Structure, and Human Development** 3 s.h.

Comprehensive introduction to the coaching profession and obtaining a coaching license in the state of Iowa; ethics, licensing, and body development.

**SRM:3150 Recreation Administration** 3 s.h.

Personnel, finance, budgets, liability, marketing.

**SRM:3151 Liability in Sport and Recreation** 3 s.h.

The legal system shapes the way sport and recreation professionals at every level perform their jobs, and a basic understanding of the law and its impact on sport and recreation industry can help practitioners operate in a legally compliant manner, seek appropriate legal counsel when necessary, and reduce potential organizational and individual liability; exploration of tort law, constitutional law, statutory law, and contract law as applied to sport and recreation industry, and risk management process; students develop the ability to identify and analyze legal issues and how the law affects the sport and recreation industry. Requirements: 30 s.h. completed.

**SRM:3152 Design and Management of Sport and Recreation Facilities** 3 s.h.

Facilities management, personnel assignment and evaluation, fee structures, maintenance, programming, compliance with regulations and standards. Requirements: must have 30 s.h. completed.

**SRM:3153 Sport Business Practices** 3 s.h.

Business of professional and intercollegiate athletics including league, team, and player-level issues; revenue generation and distribution; competitive balance issues; sport league structure strategies; business behind intercollegiate athletics and challenges facing NCAA structure; negotiation. Requirements: must have 30 s.h. completed.

**SRM:3154 Foundations of Event Management** 3 s.h.

Large, major special events, professional meetings, and conferences; development and planning, implementation of events, management and evaluation of events; development requirements of planning events, development strategies, budgeting, staffing requirements, resource allocation, site planning, basic risk management requirements, emergency procedures; event implementation policy and procedures; relationship to elements within development stages; event management and evaluation procedures.



- SRM:3155 Prevention and Care of Athletic Injuries for Coaches** 3 s.h.  
Comprehensive introduction to the sports world in relation to obtaining a coaching license in the state of Iowa in regards to first aid, injury prevention, and care.
- SRM:3157 Managerial Operations in Sport and Recreation** 3 s.h.  
Introduction to the operation of a private or nonprofit sport-related business.
- SRM:3158 Sport and Recreation Promotion** 3 s.h.  
Foundations and principles of recreation sport promotion and sales operation; application of foundations and principles to sport and recreation industries; historical aspects; current and future trends of sport and recreation management as it relates to sales and promotions; sales management, marketing, financial/economic, legal, and ethical principles related to sport management. Requirements: must have 30 s.h. completed.
- SRM:3172 Finance in Sport and Recreation** 3 s.h.  
Capital funding and revenue acquisition for funding public and private sport and leisure service organizations; contemporary sport and leisure service; financial and economic issues. Requirements: 30 s.h. completed.
- SRM:3175 Sales in Sport** 3 s.h.  
Fundamentals of business development and sales management; incentivizing sports consumers, direct and indirect sales strategies, brand communications, atmospherics, technology in sports sales, ticket sales, licensing products, negotiating sports sponsorships, and brand building. Recommendations: health and human physiology major.
- SRM:3176 Sports Analytics for Coaches, Managers, and Other Decision Makers** 3 s.h.  
Data management, analytic models, and information systems; how sports analytics are used to make decisions for structuring athletic departments, develop in-game competitive strategies, and improve player performance; analytic examples applied to professional sports, college sports, high school sports, and fantasy sports; experience with statistics or computer science not required.
- SRM:3178 Communications and Public Relations in Sports** 3 s.h.  
How public relations is used to promote service products, demonstrate social responsibility, and communicate with consumers and investors; campaigns, customer service, legal and ethical considerations in promoting service products, media events, information services, public relations in strategic management, atmospherics, critical service moment, social media. Recommendations: health and human physiology major.
- SRM:3200 Topics in Sport and Recreation Management** 3 s.h.  
Exploration of various issues shaping the future of sport and recreation industries; in-depth focus on a specific topic within sport or recreation utilizing the expertise of the instructor.
- SRM:3210 Event Bidding: Processes and Strategies** 3 s.h.  
Event rights holders—such as the International Olympic Committee (IOC) and the National Collegiate Athletic Association (NCAA)—use a competitive bid process to select a location, venue, and host committee to plan and execute their sport events; non-sport organizations also use the bidding process to select hosts for exhibitions, conferences, and workshops; students learn the processes and strategies used by event rights holders and event hosts in event bidding process.
- SRM:3300 Writing for Sport and Recreation Managers** 3 s.h.  
Students discover their unique writing style and routine; areas of weakness in writing process; necessary tools to become more efficient, clear, and effective writers; discussion, practice, and review of important writing skills; writing skills of diverse professional situations; proper mechanics of persuasive, informative, and factual writing; styles applied to document formats (e.g., press releases, résumés, cover letters, emails, memos, marketing messages, interviews, crisis management); guest speakers provide unique expertise and insight; student-centered, workshop format.
- SRM:3700 Ethics in Sport** 3 s.h.  
Ethical development and decision making processes in the sport and recreation industry including personal development, educational focused programming, and other types of ethics-based program development.
- SRM:3800 Sport Law for Interscholastic Athletic Directors** 3 s.h.  
Part of the Interscholastic Athletic Director certificate; content includes sport unintentional torts, intentional torts, constitution, legislation, and risk management.
- SRM:4190 Preinternship** 0-1 s.h.  
Orientation to internship process. Requirements: sport and recreation management major.
- SRM:4194 Honors Readings** arr.
- SRM:4195 Honors Problems** arr.
- SRM:4196 Interscholastic Athletic Administration Field Experience** 1-9 s.h.  
Students complete 360 contact hours of practical experience with private or nonprofit recreation or sport-related enterprise; supervision by an agency mentor and a university representative.
- SRM:4197 Sport and Recreation Field Experience** arr.  
Educational opportunity involving a small group of students in a unique sport business experience; students serve as consultants for a sport or recreation organization; in-class preparation prior to off-campus work with designated agency; sport or recreation enterprise vary according to faculty expertise and agency availability.
- SRM:4198 NCAA Rules Compliance and Enforcement** 3 s.h.  
Rules that govern NCAA athletics, rules compliance function on campuses of member institutions, and enforcement of rules by NCAA; essential legislation in NCAA Manual, including bylaws covering recruiting, eligibility, and amateurism; history of NCAA as related to organization's current structure and activities; summer session capstone experience includes attendance at NCAA Regional Rules Seminar in Indiana and participation in educational sessions conducted by NCAA staff.

**SRM:4199 Independent Sport and Recreation Field Experience** **arr.**

Educational opportunity involving an independent study of students in a unique sport business experience; students serve as consultants for a sport or recreation organization; in-class preparation prior to off-campus work with designated agency; sport or recreation enterprise varies according to faculty expertise and agency availability.

**SRM:5065 The Economy of Experience** **3 s.h.**

In-depth analysis of emerging experience economy; just as manufacturing sector of economy supersedes agriculture and service economy supersedes manufacturing, how experience economy is gaining ascendancy as the last, best hope for future economic growth; exploration of current research in positive psychology and sociologist findings on evolution of post-materialist values as related to experience economy; evaluation of current trends; critical analysis and theory development; case studies; original research and investigation of novel marketing possibilities and experience design.

**SRM:6251 Risk Management** **3 s.h.**

Legal knowledge necessary for effective management of sport, recreation, and physical activity programs, avoidance of legal problems; strategies for addressing issues such as right to participate, liability for injuries, risk management; legal statutes that govern sport, health, recreation organizations.

**SRM:6252 Economics and Financing** **3 s.h.**

Economic issues for sport/leisure services in nonprofit, private/commercial, and public sectors; strategic financial analysis for the nonfinancial manager; principles, issues in financing sport/leisure organizations.

**SRM:6253 Sport Administration** **3 s.h.**

Overview of various segments that constitutes the role and function of a sport administrator (i.e., planning, organizing, leading, controlling); focus on ways in which sport administrators and their subsequent organizations influence and are influenced by the link between sport and globalization; sport administration encompassing services provided within an organizational context; administration viewed as the coordination of production and distribution of those services.

**SRM:6254 Marketing and Sport Promotion** **3 s.h.**

Overview of varied segments that constitutes sports business practice, including marketing, data-based marketing, sales, promotion, sponsorship; varied segments that make up the sport industry, including the mass media, infrastructure, stadium building, consumer behavior; readings and discussions consider the development and structure of each segment, interactions between segments, planning, policy implications; focus on the United States, professional team sports, comparisons to other sports.

**SRM:6255 Capstone Project** **3 s.h.**

Development of a project applying expertise acquired through required coursework to an area of interest fitting student's career ambitions; includes final presentation to a faculty committee and written paper to support the presentation. Prerequisites: SRM:5065 and SRM:6251 and SRM:6252 and SRM:6253 and SRM:6254.

**Therapeutic Recreation Courses****TR:1000 First-Year Seminar** **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, readings, visits to research facilities).

**TR:1070 Perspectives on Leisure and Play** **3 s.h.**

Relationships between leisure and economics, sociology, other social sciences; effect of leisure on individual and group behavior; antecedents, motives, consequences of leisure behavior. GE: Social Sciences.

**TR:1077 Introduction to Child Life** **3 s.h.**

Orientation to the field of child life services including services for hospitalized children and their families.

**TR:1800 Aging Matters: Introduction to Gerontology** **3 s.h.**

Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, CSD:1800, NURS:1800, SSW:1800.

**TR:2061 Recreation Leadership and Programming** **3 s.h.**

Leadership principles, techniques; programming techniques.

**TR:3160 Introduction to Therapeutic Recreation** **3 s.h.**

Lifestyles and barriers faced by persons with disabilities; basic aspects of the therapeutic recreation profession; skills used to establish therapeutic relationship; techniques used with patients; theoretical and conceptual bases for practice.

**TR:3161 Assessment and Evaluation in Therapeutic Recreation** **3 s.h.**

Basic assessment psychometrics (e.g., reliability), standardized instrumentation and data collection (e.g., observation, self-report), construction of instruments, data reduction. Prerequisites: TR:3160.

**TR:3162 Therapeutic Recreation: Clientele** **3 s.h.**

Developmental patterns of special populations; examination of specific interventions and research applied to specific cognitive, emotional, and physical impairments.

**TR:3163 Concepts and Issues in Therapeutic Recreation: Advancement of the Profession** **3 s.h.**

Ethical, professional, and theoretical issues in delivery of therapeutic recreation services; impact of legislation, standards of practice, health care reform; application of research to practice and marketing services. Prerequisites: TR:3160.

**TR:3164 Therapeutic Recreation: Rehabilitation** **3 s.h.**

In-depth review of therapeutic recreation techniques used in clinical and community rehabilitation; opportunities to use techniques with patients. Prerequisites: TR:3160.

**TR:3171 Child Life Practical Application** **3 s.h.**

Overview of medical conditions and treatments commonly encountered by children and adolescents in health care settings; common pediatric sedation medications; sequence of medical procedures to understand how to provide procedural preparation and support; facilitate medical play with pediatric population.

**TR:3174 Cultural Perspectives in Health Care** **3 s.h.**

Health care beliefs related to various cultures and religions; focus on illness, hospitalization, treatment, death.

- TR:3261 Inclusive Recreation** 3 s.h.  
Laws pertaining to access to recreation and leisure opportunities for disabled persons in a community; evaluation of physical access to built environment; how social construction of disability can be a barrier to integrated leisure involvement; practical aspects of how to include disabled persons in community recreation and sport activities.
- TR:3262 Therapeutic Recreation Administration** 3 s.h.  
Examination of the organization and administration of therapeutic recreation services; focus on planning, organizing, and managing therapeutic recreation services; comprehensive and strategic planning, funding, marketing, legal and legislative issues, personnel management, and professional practice of therapeutic recreation. Prerequisites: TR:3160.
- TR:3281 Special Projects in Child Life Practice** 2 s.h.  
Student directed and student led hospital camping experience for patients at the University of Iowa Children's Hospital; planning and preparing for a large function, planning and leading therapeutic activities, working directly with patients and their families, processing and discussion of experiences and concerns; practical and clinical-based experiences for students interested in working with pediatric population in health care setting. Requirements: hospital orientation, patient confidentiality (HIPAA) training, and health screening.
- TR:4169 Child Life Experience** 1 s.h.  
Practical experience with ill children, including a trip to the Give Kids the World village in Florida; documentation and engagement of course materials, experience working with ill children; students are assigned a specific diagnosis and present the diagnosis (appropriate statistics, effects of hospitalization, treatment, etc.) on child and family; coping strategies, appropriate methods of talking to and interacting with children and families, overview of child life in hospitals.
- TR:4190 Preinternship Seminar** 1 s.h.  
Interviewing skills, résumés and cover letters, selection of internship site(s), application procedures for internship positions, and responsibilities of interns to the agency.
- TR:4191 Therapeutic Recreation Internship** arr.  
Practical field experience; direct leadership, program planning, administrative procedures. Prerequisites: TR:4190. Requirements: overall g.p.a. of 2.00 and major g.p.a. of 2.00.
- TR:4193 Independent Study** arr.  
Problem in a specific area.
- TR:4194 Honors Readings** arr.  
Independent reading or research project under faculty supervision usually leading to an honors paper. Requirements: admission to honors program.
- TR:4195 Honors Problems** arr.  
Completion of a project over and above normal independent study as an honors project; major research effort involving close work with an advisor.
- TR:4197 Practicum in Therapeutic Recreation** 1-3 s.h.  
Educational opportunity in inclusive and therapeutic recreation professional settings; development of skills, techniques, and proficiencies under guidance of experienced professionals and academic supervisors; students gain experience with various populations and differing abilities; academic research, in-class preparation, and off-campus work with designated agency. Same as DST:4198.
- TR:5165 Child Life: Child Development and Healthcare Interventions** 3 s.h.  
Application of typical growth and development content, including theoretical content for children and adolescents (birth to 18 years old); theories of cognitive development, psycho-social development, and attachment applied to essential healthcare interventions unique to child life practice; history of child life profession and scope of practice; application of developmental perspectives to intervention (e.g., education, healthcare play, support and coping interventions, pain management, bereavement).
- TR:5166 Child Life: Seminar** 3 s.h.  
Students utilize official documents of the Association of Child Life Professionals (ACLP) and evidenced-based practice to understand current issues and research in child life as well as the expanding scope of service; cultural issues and impact of care for children and families; need for understanding of cultural diversity in a variety of settings; meets the six requirements of a child life course taught by a Certified Child Life Specialist (CCLS) for the ACLP including professional scope of practice in child life, impact of illness and hospitalizations of children and families, patient and family-centered care, therapeutic play, and preparation.
- TR:5167 Child Life Practicum** 1-3 s.h.  
Observational experience with children and families in hospitals and other community settings to understand the scope of practice for child life; development of basic clinical skills in child life; opportunities to observe the integration of theories with practice and understand the impact of illness, injury, and health care on patients and families; integration of therapeutic play and preparation for children; academic requirements in addition to clinical observation hours under supervision of a Certified Child Life Specialist in hospital, outpatient, rehabilitation, camp, or bereavement setting.
- TR:5205 Research Methods and Play Behavior** 3 s.h.  
The scientific process: research designs for experiments and surveys, questionnaire construction, sampling theory, basic data analysis.
- TR:5211 Professional Ethics and Practice in Pediatrics** 3 s.h.  
Examination of core issues in clinical pediatrics; beginning life critical care, end-of-life care, role of medical technology, public health research pertinent to children, and maintaining professional boundaries. Prerequisites: TR:1077.
- TR:5212 Child Life Research Problems** arr.  
Work one-to-one with a faculty member on a mentored research project pertaining to child life, play, and development, or an appropriate special topic agreed upon by student and faculty member. Prerequisites: TR:5205. Requirements: acceptance to M.S. program in health and human physiology child life track.
- TR:5260 Play and Childhood** arr.  
Multiple levels of theories and current research on importance of play in child development; advocacy for importance and necessity of play in childhood that leads to well-being and healthy lifestyles; practical and theoretically based experiences; for students interested in working with children in health care, clinical, school, community, and family life settings.
- TR:5261 Family Systems** 3 s.h.  
Examination of dynamics of family life as a social system from a historical, sociocultural, and theoretical perspective; approaches to working with diverse children and families facing life stresses; interactive format, incorporates experiential learning, classroom lecture, and discussion.

**TR:5270 Child Life Internship 4-5,9,12 s.h.**

Child life student interns complete a minimum 15-week, 600-hour field experience under supervision of a Certified Child Life Specialist to meet certification requirements of the Association of Child Life Professionals; students are required to complete academic coursework in addition to clinical requirements. Prerequisites: TR:5165 and TR:5166 and TR:5167 and TR:5205 and TR:5211 and TR:5260 and TR:5261.

**TR:6200 Child Life Graduate Forum 0 s.h.**

Informational sessions, networking, review of research scholarship, resources, and joint collaboration for first- and second-year child life graduate students. Requirements: enrollment in Department of Health and Human Physiology M.S. child life track.

## Health and Physical Activity Skills Courses

**HPAS:1001 Alcohol and Your College Experience 1 s.h.**

Patterns of alcohol, drug use focused on college years; strategies for monitoring use, behavioral change plans for implementing lower-risk drinking practices; for drinkers and non-drinkers.

**HPAS:1002 Vaping, Tobacco Use, and Your College Experience 1 s.h.**

Current behavior change theories related to tobacco use and cessation; vaping, nicotine replacement therapies (NRT), and non-NRT methods; triggers, relapse prevention, cognitive behavioral skills, and support systems; for smokers and nonsmokers.

**HPAS:1003 Resiliency and Your College Experience 2 s.h.**

Resiliency and psychological hardiness theories relevant to college life; resiliency and ability to cope with challenges; components of psychological fitness; skills for personal growth and emotional well-being.

**HPAS:1004 Food and Your College Experience 2 s.h.**

Sociocultural perspective on the forces that facilitate low-quality diets, particularly during young adulthood; basic components of nutrition; opportunity to develop and personalize healthy eating skills.

**HPAS:1005 Indoor Group Cycling 1 s.h.**

Introduction to group cycling; bike setup, safety, proper technique, injury prevention, and utilization of interval training.

**HPAS:1006 Intuitive Eating 1 s.h.**

How to create and sustain a healthy relationship with mind, body, food, and exercise using an evidence-based approach; introduction to 10 basic principles of intuitive eating, taking a critical look at dieting and a healthful approach to satisfying eating balanced with exercise.

**HPAS:1007 Basic CPR 1 s.h.**

Basic, beginner-level information on CPR procedures; passing the course leads to certification in CPR; more advanced certifications may be sought for medical professionals.

**HPAS:1008 Basic First Aid and CPR 1 s.h.**

Basic, beginner-level information on automated external defibrillator (AED), CPR, and first aid procedures; in-class certification testing leads to certification in CPR and first aid; more advanced certifications may be needed for medical professionals.

**HPAS:1009 Personal Fitness: Theory and Practice 2 s.h.**

Introduction to dimensions of wellness with focus on health-related components of physical fitness; varied health and wellness topics; emphasis on engaging in physical activity to create a sustainable lifelong habit; theory, practice, physical activity; application of materials and exercise; prior physical activity or exercise experience not required.

**HPAS:1010 Introduction to Workout Design 1 s.h.**

Introduction to personal workout programming and design; includes sections on cardiovascular fitness, muscular strength and endurance, and flexibility.

**HPAS:1020 Core Strengthening 1 s.h.**

Introduction to developing strength, flexibility, and endurance through the core; students will learn what the core is, how to best develop the muscles of the core, and why core training is important.

**HPAS:1030 Cardio Training 1 s.h.**

Beginner's guide to cardio fitness to develop and maintain levels of cardiovascular health and fitness.

**HPAS:1040 Pilates I 1 s.h.**

Introduction to the study and practice of Pilates for beginners; topics include proper breathing techniques, flexibility, balance, relaxation, and Pilates exercises.

**HPAS:1045 Pilates II: Intermediate Pilates 1 s.h.**

Study and practice of Pilates; intermediate and advanced Pilates moves; modifications and use of props based on current ability level; musculoskeletal anatomy and biomechanics as related to Pilates. Prerequisites: HPAS:1040.

**HPAS:1055 Introduction to Triathlon Training 1 s.h.**

Introduction to the sport of triathlon; promote skill development to enable beginner level students to complete an indoor sprint triathlon; students will swim in an indoor pool, cycle on indoor bicycles and run inside and outside weather permitting; how to use basic periodization, improve technique, and nutritional guidelines for triathlon; beginning training for the outdoor triathlon season. Requirements: ability to swim 200 yards (4 laps) without stopping.

**HPAS:1060 High Intensity Interval Training 1 s.h.**

Increased fitness levels through principles of resistance training using a high-intensity interval training (HIIT) method; various types of resistance (free weights, rubber bands, partner resistance, and body weight resistance); topics include muscular anatomy, principles of resistance training, various resistance training exercises, safety, motivation and goal setting, and personal program design.

**HPAS:1070 Introduction to Weight Training 1 s.h.**

Introduction to basic principles of weight training using barbells and dumbbells as resistance; muscular anatomy, principles of weight training, muscular strength, muscular endurance, weight room safety, motivation and goal setting, personal program development; no prior weight training experience required.

**HPAS:1075 Weight Training II 1 s.h.**

Builds on skills and concepts acquired in HPAS:1070; advanced weight training programs aimed at developing muscular strength and endurance. Prerequisites: HPAS:1070. Recommendations: knowledge of basic anatomy, ability to demonstrate proper lifting techniques, and understanding of weight training principles.

- HPAS:1080 Olympic Weightlifting** 1 s.h.  
Beginning-level introduction to classical Olympic weightlifting movements leading up to the snatch, clean and jerk, power snatch, and power clean. Recommendations: HPAS:1070 and/or an understanding of weight training fundamentals and basics.
- HPAS:1090 Sports Skills and Drills** 1 s.h.  
Develop and practice basic skills and game strategy for an array of team sports; participate in a variety of educational and competitive physical activities that may include flag football, soccer, basketball, tennis, pickleball, and racquetball.
- HPAS:1100 Kettlebell Training** 1 s.h.  
Introduction to basic principles and benefits of using kettlebells for strength, power, mobility, weight loss, and more; topics include history, mobility drills, foundational movements (e.g., deadlift, swing, clean, press, Turkish Get Up, high pull, snatch), safety, goal-setting, and personal program development.
- HPAS:1110 Fitness Walking** 1 s.h.  
Walking as a means to improve cardiovascular health and fitness; utilizes outdoor walking, weather permitting, or the indoor track.
- HPAS:1130 5K Training** 1 s.h.
- HPAS:1140 PE Games** 1 s.h.  
Participation in and design of physical activity games and skills; students improve physical health through cardio endurance and resistance training during game play; games and variations of games may consist of basketball, dodgeball, tag, volleyball, and other physical activities; how to be physically active and healthy while having fun; physiological responses to physical activity.
- HPAS:1150 Introduction to Health and Wellness** 1 s.h.  
Optimal physical health and wellness in the college years; focus on behavioral change and goal setting, five components of fitness, dimensions of wellness, and stress management.
- HPAS:1210 Stress Management** 1 s.h.  
How to define the sources of underlying stress, learn to cope with everyday stressors, and become more proactive through life skill management.
- HPAS:1220 Flexibility** 1 s.h.  
Help students move through full range of motion, work to correct imbalances, and ultimately move better through activities of daily living.
- HPAS:1230 Hatha Yoga** 1 s.h.  
Introduction to the study and practice of yoga; geared towards beginners.
- HPAS:1235 Hatha Yoga II: Intermediate Hatha Yoga** 1 s.h.  
Study and practice of Hatha Yoga; topics may include history and philosophy of Hatha Yoga, props and modifications, and biomechanics and anatomy as it relates to yoga. Prerequisites: HPAS:1230.
- HPAS:1240 Power Yoga** 1 s.h.  
Build strength, flexibility, and balance while maintaining traditional yoga emphasis of breath and intention; breath and movement are linked as you flow in and out of a combination of vinyasas (yoga sequences) and balancing poses; topics include proper breathing techniques, sun salutations, arm balances, backbends, and inversions. Requirements: basic understanding and background in yoga; a 6-week yoga practice is recommended.
- HPAS:1250 Tai Chi** 1 s.h.  
Introduction to the practice of tai chi; basic structure, footwork, and breathing involved in execution of routines consisting of a variety of postures; application of this knowledge to a self-defense situation.
- HPAS:1260 Movement and Mobility** 1 s.h.  
Introduction to basic self-care and movement recommendations for injury prevention, efficient movement, and health; topics include posture and movement correction and form, optimization of daily movement patterns, and self-care principles; prior exercise experience not required.
- HPAS:1320 Lap Swimming I** 1 s.h.  
Introduction to swim stroke development utilizing swimming as a form of exercise; this is not a learn-to-swim class and a basic prerequisite swimming test will be performed prior to instruction.
- HPAS:1340 Water Workout** 1 s.h.  
Basic principles and benefits of aquatic exercise; guidelines for creating safe and effective aquatic exercise programs; topics include fitness and conditioning, anatomy, safety, deep-water workouts, goal setting, and nutrition.
- HPAS:1400 Pickleball** 1 s.h.  
Introduction to the game of pickleball; rules of the game, terminology, key offensive and defensive strategies, and drills to help improve performance; class time involves instruction, practice, and playing time; no prior pickleball experience required.
- HPAS:1410 Badminton** 1 s.h.  
Introduction to the game, rules, and skills involved in badminton.
- HPAS:1430 Racquetball** 1 s.h.  
Introduction to the game, rules, and skills involved in racquetball.
- HPAS:1440 Table Tennis** 1 s.h.  
Introduction to the game, rules, and skills involved in table tennis.
- HPAS:1460 Basketball I** 1 s.h.  
Introduction to the game of basketball at the beginning level, assumes little or no prior basketball experience; students learn rules of the game, basketball terminology, key offensive and defensive strategies, fundamental skills (e.g., dribbling, passing, catching, shooting, rebounding, defending), and drills to help improve performance; course format consists of instruction, practice, and playing time.
- HPAS:1530 Volleyball I** 1 s.h.  
Introduction to the game, rules, and skills involved in volleyball.
- HPAS:1535 Volleyball II** 1 s.h.  
Advanced skill refinement course geared towards students who have passed HPAS:1530 or are able to show mastery of the basic techniques. Prerequisites: HPAS:1530.
- HPAS:1540 Soccer I** 1 s.h.  
Beginner-level introduction to the game of soccer; students learn rules, terminology, and basic offensive and defensive strategies; fundamental skills of dribbling, passing, trapping, and shooting; individual practice, partner, and small group drills; small and large field games; course format consists of instruction, practice, and playing time.
- HPAS:1560 Ultimate Frisbee** 1 s.h.  
Introduction to the game, rules, and skills involved in ultimate frisbee; course will meet outside, weather permitting.

**HPAS:1610 Self Defense****1 s.h.**

Introduction to the practice of self-defense through upper and lower body strikes, joint manipulation, and other personal protection measures; this is a noncontact course.

# Health and Human Physiology, B.A.

## Learning Outcomes

The B.A. degree in health and human physiology:

- provides students a broad education in the health sciences;
- prepares students to employ their fundamental knowledge of human physiology and health sciences together with the scientific method to solve problems in their chosen professional and/or graduate career fields; and
- instills an understanding and appreciation of the relevance of healthy behaviors to a fulfilling and productive life, and the importance of lifelong learning in the rapidly evolving fields of physiology and the health sciences.

## Requirements

*Students who enter CLAS during or after fall 2022, or who declare the major on or after the first day of fall semester 2022, should choose from the B.A. in health studies, the B.S. in exercise science, or the B.S. in health promotion. These three majors have an identical curriculum to the corresponding track in the B.A. in health and human physiology.*

The Bachelor of Arts with a major in health and human physiology requires a minimum of 120 s.h., including work for the major, which varies by track. The health promotion track requires a total of 47-51 s.h. of work for the major; the health studies track requires 43-47 s.h. of work for the major; and the exercise science track requires 48-52 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The health promotion track is intended for students seeking careers that promote wellness in the community and the workplace. The health studies track is designed for students who want a more flexible health science curriculum. The exercise science track is intended for students seeking careers as professionals in fitness and in strength and conditioning.

Students may earn a B.A. in health and human physiology or a B.S. in human physiology, but not both.

Students who earn a B.A. in health and human physiology may not earn the minor in lifestyle medicine.

Students in all tracks are required to complete the following science and math foundation courses and departmental core courses, as well as additional courses required specifically for their track.

The B.A. with a major in health and human physiology requires the following coursework.

Code	Title	Hours
	Science and Math Foundation Courses	10-12
	Departmental Core Courses	12-14
	Track Courses	21-26
<b>Total Hours</b>		<b>43-52</b>

## Science and Math Foundation Courses

All students complete three foundation courses (minimum of 10 s.h.): one each in chemistry, biology, and mathematics or statistics.

Code	Title	Hours
<b>Chemistry</b>		
One of these:		
CHEM:1080	General Chemistry II	3
CHEM:1120	Principles of Chemistry II	4
<b>Biology</b>		
One of these:		
BIOL:1140	Human Biology: Nonmajors	4
BIOL:1141	Human Biology: Health Professions	4
BIOL:1411	Foundations of Biology	4
<b>Mathematics or Statistics</b>		
One of these:		
MATH:1020	Elementary Functions	4
MATH:1350	Quantitative Reasoning for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3

## Departmental Core Courses

All students must complete the four-course departmental core (12-14 s.h.).

Code	Title	Hours
One of these:		
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
One of these:		
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
Both of these:		
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3

## Tracks

### Exercise Science Track Requirements

The exercise science track provides focused study in physical fitness, physical activity, sport nutrition, and sport

conditioning as they pertain to health and performance outcomes. The curriculum has been approved by the American College of Sports Medicine (ACSM) as meeting the academic preparation for certification as an ACSM certified exercise physiologist and ACSM certified personal trainer. It also prepares students for certification by the National Strength and Conditioning Association as a certified strength and conditioning specialist and certified special population specialist. The strong physiological science-based curriculum can serve as preparation for professional or graduate study in rehabilitation sciences, performance sciences, or medical fields.

In addition to completing the courses listed above under Science and Math Foundation Courses and Departmental Core Courses, exercise science track students must complete the following exercise science core courses (20 s.h.) and major electives (6 s.h.).

### Exercise Science Core

Code	Title	Hours
All of these:		
HHP:2350	Biomechanics of Sport and Physical Activity	3
HHP:3045	Physical Activity Psychology	3
HHP:3400	Applied Exercise Physiology	3
HHP:4200	Metabolic Exercise Testing and Prescription	4
HHP:4210	Musculoskeletal Exercise Testing and Prescription	4
HHP:4310	Sport and Exercise Nutrition	3

### Exercise Science Major Electives

Code	Title	Hours
At least 6 s.h. from these:		
Health and human physiology courses numbered HHP:2000 or above		

### Health Promotion Track Requirements

The health promotion track prepares students to directly work with individuals and communities to improve health and quality of life. Students learn how to assess, plan, implement, evaluate, and oversee programs designed to improve health behaviors, create environments supportive of healthy lifestyles, and effectively communicate health issues to key stakeholders. The health promotion track prepares students to take the certification exam from the National Commission for Health Education Credentialing. The mix of natural and social sciences in this track also provides a foundation for professional or graduate study in allied health, health management, or public health.

In addition to completing the courses listed above under Science and Math Foundation Courses and Departmental Core Courses, health promotion track students must complete the following health promotion core courses (16 s.h.), the applied learning requirement (3 s.h.), and major electives (6 s.h.).

### Health Promotion Core

Code	Title	Hours
All of these:		
HHP:3200	Health Behavior and Health Promotion	3
HHP:3430	Health Management and Administration	3

HHP:4010	Behavioral and Clinical Health Assessment Laboratory	4
HHP:4020	Health Communication and Coaching Strategies	3
HHP:4420	Planning and Evaluating Health Interventions	3

### Health Promotion Experiential Learning

Code	Title	Hours
3 s.h. from these:		
HHP:3820	Community Wellness Guided Practicum	3
HHP:4350	Health and Human Physiology Practicum	1-3
HHP:4365	Practicum in Health Coaching	3
HHP:4490	International Medicine: Experiential Learning	3
HHP:4500	Undergraduate Independent Study	arr.
HHP:4900	Honors Research	3
HHP:4930	Health and Human Physiology Internship	3-9,12

### Health Promotion Major Electives

Code	Title	Hours
At least 6 s.h. from these:		
Health and human physiology courses numbered HHP:2000 or above		

### Health Studies Track Requirements

The health studies track interconnects the systems, technologies, and policies driving the U.S. wellness and health care industries. It provides flexible opportunities to work with faculty in developing the knowledge and skills needed to understand health determinants and anticipate continuing changes in preventive and clinical health delivery.

In addition to completing the courses listed above under Science and Math Foundation Courses and Departmental Core Courses, health studies track students must complete the following health studies core courses (9 s.h.) and major electives (12 s.h.).

### Health Studies Core

Code	Title	Hours
All of these:		
HHP:4030	Policy, Environmental, and Social Determinants of Health	3
HHP:4040	Health Services: Current Barriers and Innovative Solutions	3
HHP:4390	Understanding Human Disease	3

### Health Studies Major Electives

Code	Title	Hours
At least 12 s.h. from these:		
Health and human physiology courses numbered HHP:2000 or above		



## Combined Programs

### **B.A. (Exercise Science Track)/ M.S. in Athletic Training**

The Department of Health and Human Physiology and the Department of Orthopedics and Rehabilitation (Carver College of Medicine) offer a combined Bachelor of Arts in health and human physiology (exercise science track)/Master of Science in athletic training. The combined degree program allows students to count a limited amount of credit toward both degrees, enabling them to begin the study of athletic training before they complete their bachelor's degree. Coursework taken during the first three years on campus constitutes the required prerequisites for application to the master's degree program.

#### **Admission**

Students apply to the M.S. program in their third year of undergraduate study. Admission to the M.S. program in athletic training is for summer entry. Students should consult their advisor about the appropriate sequence of courses and other requirements.

For more information, see the M.S. in athletic training [p. 1924] in the Carver College of Medicine section of the Catalog.

## Honors

### **Honors in the Major**

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 in work for their major and a cumulative University of Iowa g.p.a. of at least 3.33.

In order to graduate with honors in the major, students must successfully complete the honors research course sequence HHP:4800 Research Methods and Ethics and HHP:4900 Honors Research; write an honors thesis that is judged to be of honors quality; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or professional conference.

### **University of Iowa Honors Program**

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the health and human physiology major.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### **Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay

on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** one foundation course and at least six more courses in the major.

**Before the seventh semester begins:** at least six more courses in the major (total of 13) and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two more courses in the major (total of 15).

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

# Health Studies, B.A.

## Learning Outcomes

Students will be able to:

- gain a broad education in the health sciences;
- employ their fundamental knowledge of human physiology and health sciences;
- use and understand scientific methods to solve problems at the level needed in their chosen professional and/or graduate career fields;
- instill an understanding and appreciation of the relevance of healthy behaviors to a fulfilling and productive life; and
- engage in and encourage life-long learning in the rapidly evolving fields of physiology and the health sciences.

## Requirements

The Bachelor of Arts with a major in health studies requires a minimum of 120 s.h., including at least 43-47 s.h. of work for the major. A minimum of 16 s.h. in the major must be earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The B.A. in health studies is designed for students who want a more flexible health science curriculum. The major interconnects the systems, technologies, and policies driving the U.S. wellness and health care industries. It provides flexible opportunities to work with faculty in developing the knowledge and skills needed to understand health determinants and anticipate continuing changes in preventive and clinical health delivery.

Students who earn the major in health studies may not earn a major in exercise science, human physiology, or health promotion.

Students who earn the major in health studies may not earn a minor in lifestyle medicine, but can earn a minor in human physiology.

The B.A. with a major in health studies requires the following coursework.

Code	Title	Hours
	Science and Math Foundation Courses	10-12
	Departmental Core Courses	12-14
	Health Studies Core Courses	9
	Electives	12
<b>Total Hours</b>		<b>43-47</b>

## Science and Math Foundation Courses

Students complete three foundation courses (minimum of 10 s.h.): one each in chemistry, biology, and mathematics or statistics.

Code	Title	Hours
<b>Chemistry</b>		
One of these:		
CHEM:1080	General Chemistry II	3
CHEM:1120	Principles of Chemistry II	4
<b>Biology</b>		

One of these:

BIOL:1140	Human Biology: Nonmajors	4
BIOL:1141	Human Biology: Health Professions	4
BIOL:1411	Foundations of Biology	4

### Mathematics or Statistics

One of these:

MATH:1020	Elementary Functions	4
MATH:1350	Quantitative Reasoning for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3

## Departmental Core Courses

Students must complete the four-course departmental core (12-14 s.h.).

Code	Title	Hours
One of these:		
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
One of these:		
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
Both of these:		
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3

## Health Studies Core Courses

Code	Title	Hours
All of these:		
HHP:4030	Policy, Environmental, and Social Determinants of Health	3
HHP:4040	Health Services: Current Barriers and Innovative Solutions	3
HHP:4390	Understanding Human Disease	3

## Electives

Code	Title	Hours
At least 12 s.h. from these:		
Health and human physiology courses numbered HHP:2000 or above		

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 in work for their major and a cumulative University of Iowa g.p.a. of at least 3.33.

In order to graduate with honors in the major, students must successfully complete the honors research course sequence HHP:4800 Research Methods and Ethics and HHP:4900 Honors Research; write an honors thesis that is judged to be of honors quality; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or professional conference.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the health and human physiology major.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** one foundation course and at least six more courses in the major.

**Before the seventh semester begins:** at least six more courses in the major (total of 13) and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two more courses in the major (total of 15).

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Health Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1070	General Chemistry I <sup>b</sup>	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: Social Sciences <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
CHEM:1080	General Chemistry II	3
HHP:2200	Physical Activity and Health <sup>d</sup>	3
Major: math/statistics requirement <sup>d</sup>		3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
HHP:2310	Nutrition and Health	3
Major: biology requirement <sup>d</sup>		4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
HHP:1100	Human Anatomy	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
HHP:1300	Fundamentals of Human Physiology	3
HHP:4030	Policy, Environmental, and Social Determinants of Health	3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
HHP:4390	Understanding Human Disease	3
Major: elective course <sup>g</sup>		3
GE CLAS Core: World Languages Fourth Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		3

Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Fourth Year</b>		
<b>Fall</b>		
HHP:4040	Health Services: Current Barriers and Innovative Solutions	3
Major: elective course <sup>g</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
Major: elective course <sup>g</sup>		3
Major: elective course <sup>g</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>123-129</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Course not required before CHEM:1080 if student has completed high school chemistry.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Fulfills a major requirement and may fulfill a GE requirement.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students must complete at least 12 s.h. selected from HHP courses numbered 2000 or above.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Exercise Science, B.S.

## Learning Outcomes

Students will be able to:

- undertake focused study in physical fitness, physical activity, sport nutrition, and sport conditioning as they pertain to health and performance outcomes;
- use and understand scientific methods to approach and solve problems in exercise science;
- effectively communicate physical wellness issues to key stakeholders; and
- encourage life-long learning in the rapidly evolving fields of exercise science.

## Requirements

The Bachelor of Science with a major in exercise science requires a minimum of 120 s.h., including at least 48-52 s.h. of work for the major. A minimum of 16 s.h. in the major must be earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The B.S. in exercise science is intended for students seeking careers as professionals in fitness and in strength and conditioning. The major provides focused study in physical fitness, physical activity, sport nutrition, and sport conditioning as they pertain to health and performance outcomes. The curriculum has been approved by the American College of Sports Medicine (ACSM) as meeting the academic preparation for certification as an ACSM certified exercise physiologist and ACSM certified personal trainer. It also prepares students for certification by the National Strength and Conditioning Association as a certified strength and conditioning specialist and certified special population specialist. The strong physiological science-based curriculum can serve as preparation for professional or graduate study in rehabilitation sciences, performance sciences, or medical fields.

Students who earn the major in exercise science may not earn a major in human physiology, health promotion, or health studies.

Students who earn the major in exercise science may not earn a minor in lifestyle medicine, but can earn a minor in human physiology.

The B.S. with a major in exercise science requires the following coursework.

Code	Title	Hours
	Science and Math Foundation Courses	10-12
	Departmental Core Courses	12-14
	Exercise Science Core Courses	20
	Electives	6
	<b>Total Hours</b>	<b>48-52</b>

## Science and Math Foundation Courses

Students complete three foundation courses (minimum of 10 s.h.): one each in chemistry, biology, and mathematics or statistics.

Code	Title	Hours
<b>Chemistry</b>		
One of these:		
CHEM:1080	General Chemistry II	3
CHEM:1120	Principles of Chemistry II	4
<b>Biology</b>		
One of these:		
BIOL:1140	Human Biology: Nonmajors	4
BIOL:1141	Human Biology: Health Professions	4
BIOL:1411	Foundations of Biology	4
<b>Mathematics or Statistics</b>		
One of these:		
MATH:1020	Elementary Functions	4
MATH:1350	Quantitative Reasoning for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3

## Departmental Core Courses

Students must complete the four-course departmental core (12-14 s.h.).

Code	Title	Hours
One of these:		
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
One of these:		
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
Both of these:		
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3

## Exercise Science Core Courses

Code	Title	Hours
All of these:		
HHP:2350	Biomechanics of Sport and Physical Activity	3
HHP:3045	Physical Activity Psychology	3
HHP:3400	Applied Exercise Physiology	3
HHP:4200	Metabolic Exercise Testing and Prescription	4

HHP:4210	Musculoskeletal Exercise Testing and Prescription	4
HHP:4310	Sport and Exercise Nutrition	3

## Electives

Code	Title	Hours
At least 6 s.h. from these:		
Health and human physiology courses numbered HHP:2000 or above		

## Combined Programs

### B.S./M.S. in Athletic Training

The Department of Health and Human Physiology and the Department of Orthopedics and Rehabilitation (Carver College of Medicine) offer a combined Bachelor of Science/Master of Science in athletic training. The combined degree program allows students to count a limited amount of credit toward both degrees, enabling them to begin the study of athletic training before they complete their bachelor's degree. Coursework taken during the first three years on campus constitutes the required prerequisites for application to the master's degree program.

### Admission

Students apply to the M.S. program in their third year of undergraduate study. Admission to the M.S. program in athletic training is for summer entry. Students should consult their advisor about the appropriate sequence of courses and other requirements.

For more information, see the M.S. in athletic training [p. 1924] in the Carver College of Medicine section of the Catalog.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 in work for their major and a cumulative University of Iowa g.p.a. of at least 3.33.

In order to graduate with honors in the major, students must successfully complete the honors research course sequence HHP:4800 Research Methods and Ethics and HHP:4900 Honors Research; write an honors thesis that is judged to be of honors quality; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or professional conference.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the exercise science major.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** one foundation course and at least six more courses in the major.

**Before the seventh semester begins:** at least six more courses in the major (total of 13) and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two more courses in the major (total of 15).

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Exercise Science, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1070	General Chemistry I <sup>b</sup>	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: Social Sciences <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
CHEM:1080	General Chemistry II	3
HHP:2200	Physical Activity and Health <sup>d</sup>	3
Major: math/statistics major requirement <sup>d</sup>		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
HHP:2310	Nutrition and Health	3
Major: biology requirement <sup>d</sup>		4

GE CLAS Core: Historical Perspectives <sup>c</sup>	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>e</sup>	2

**Hours 16-17**

### Spring

HHP:1100 Human Anatomy	3
HHP:3045 Physical Activity Psychology	3
GE CLAS Core: International and Global Issues <sup>c</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>e</sup>	3

**Hours 16-17**

### Third Year

#### Fall

HHP:1300 Fundamentals of Human Physiology	3
HHP:4310 Sport and Exercise Nutrition	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>e</sup>	3

**Hours 16-17**

#### Spring

HHP:2350 Biomechanics of Sport and Physical Activity	3
HHP:3400 Applied Exercise Physiology	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3

**Hours 16-17**

### Fourth Year

#### Fall

HHP:4200 Metabolic Exercise Testing and Prescription	4
Major: elective course <sup>g</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	2

**Hours 15**

#### Spring

HHP:4210 Musculoskeletal Exercise Testing and Prescription	4
Major: elective course <sup>g</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	2

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours 15**

**Total Hours 123-129**

International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Course not required before CHEM:1080 if student has completed high school chemistry.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Fulfills a major requirement and may fulfill a GE requirement.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Students must complete at least 6 s.h. selected from HHP courses numbered 2000 or above.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives;

# Health Promotion, B.S.

## Learning Outcomes

Students will be able to:

- undertake focused study in physical fitness, physical activity, sport nutrition, and sport conditioning as they pertain to health and performance outcomes;
- use and understand scientific methods to solve problems in health promotion;
- instill an understanding and appreciation of the relevance of healthy behaviors to a fulfilling and productive life; and
- encourage life-long learning in the rapidly evolving fields of health promotion.

## Requirements

The Bachelor of Science with a major in health promotion requires a minimum of 120 s.h., including at least 47-51 s.h. of work for the major. A minimum of 16 s.h. in the major must be earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The health promotion track is intended for students seeking careers that promote wellness in the community and the workplace. The major prepares students to directly work with individuals and communities to improve health and quality of life. Students learn how to assess, plan, implement, evaluate, and oversee programs designed to improve health behaviors, create environments supportive of healthy lifestyles, and effectively communicate health issues to key stakeholders. The major prepares students to take the certification exam from the National Commission for Health Education Credentialing. The mix of natural and social sciences in this major also provides a foundation for professional or graduate study in allied health, health management, or public health.

Students who earn the major in health promotion may not earn a major in exercise science, human physiology, or health studies.

Students who earn the major in health promotion may not earn a minor in lifestyle medicine, but can earn a minor in human physiology.

The B.S. with a major in health promotion requires the following coursework.

Code	Title	Hours
	Science and Math Foundation Courses	10-12
	Departmental Core Courses	12-14
	Health Promotion Core Courses	16
	Experiential Learning	3
	Electives	6
<b>Total Hours</b>		<b>47-51</b>

## Science and Math Foundation Courses

Students complete three foundation courses (minimum of 10 s.h.): one each in chemistry, biology, and mathematics or statistics.

Code	Title	Hours
<b>Chemistry</b>		
One of these:		
CHEM:1080	General Chemistry II	3
CHEM:1120	Principles of Chemistry II	4
<b>Biology</b>		
One of these:		
BIOL:1140	Human Biology: Nonmajors	4
BIOL:1141	Human Biology: Health Professions	4
BIOL:1411	Foundations of Biology	4
<b>Mathematics or Statistics</b>		
One of these:		
MATH:1020	Elementary Functions	4
MATH:1350	Quantitative Reasoning for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3

## Departmental Core Courses

Students must complete the four-course departmental core (12-14 s.h.).

Code	Title	Hours
One of these:		
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
One of these:		
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
Both of these:		
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3

## Health Promotion Core Courses

Code	Title	Hours
All of these:		
HHP:3200	Health Behavior and Health Promotion	3
HHP:3430	Health Management and Administration	3
HHP:4010	Behavioral and Clinical Health Assessment Laboratory	4



HHP:4020	Health Communication and Coaching Strategies	3
HHP:4420	Planning and Evaluating Health Interventions	3

## Experiential Learning

Code	Title	Hours
3 s.h. from these:		
HHP:3820	Community Wellness Guided Practicum	3
HHP:4350	Health and Human Physiology Practicum	1-3
HHP:4365	Practicum in Health Coaching	3
HHP:4490	International Medicine: Experiential Learning	3
HHP:4500	Undergraduate Independent Study	arr.
HHP:4900	Honors Research	3
HHP:4930	Health and Human Physiology Internship	3-9,12

## Electives

Code	Title	Hours
At least 6 s.h. from these:		
Health and human physiology courses numbered HHP:2000 or above		

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 in work for their major and a cumulative University of Iowa g.p.a. of at least 3.33.

In order to graduate with honors in the major, students must successfully complete the honors research course sequence HHP:4800 Research Methods and Ethics and HHP:4900 Honors Research; write an honors thesis that is judged to be of honors quality; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or professional conference.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the health promotion major.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** one foundation course and at least six more courses in the major.

**Before the seventh semester begins:** at least six more courses in the major (total of 13) and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two more courses in the major (total of 15).

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Health Promotion, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1070	General Chemistry I <sup>b</sup>	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: Social Sciences <sup>c</sup>		3
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>14-15</b>
<b>Spring</b>		
HHP:2200	Physical Activity and Health <sup>d</sup>	3
CHEM:1080	General Chemistry II	3
Major: math/statistics requirement <sup>d</sup>		3 - 4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
Elective course <sup>e</sup>		3
	<b>Hours</b>	<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
HHP:2310	Nutrition and Health	3
Major: biology requirement <sup>d</sup>		4
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course <sup>f</sup>		
Elective course <sup>e</sup>		2
	<b>Hours</b>	<b>16-17</b>

**Spring**

HHP:1100	Human Anatomy	3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>e</sup>		3

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**Hours** **16-17**

**Third Year****Fall**

HHP:1300	Fundamentals of Human Physiology	3
HHP:3200	Health Behavior and Health Promotion	3
Major: elective course <sup>g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>e</sup>		3

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**Hours** **16-17**

**Spring**

HHP:4020	Health Communication and Coaching Strategies	3
Major: elective course <sup>g</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3

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**Hours** **16-17**

**Fourth Year****Fall**

HHP:3430	Health Management and Administration	3
HHP:4010	Behavioral and Clinical Health Assessment Laboratory	4
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3

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**Hours** **16**

**Spring**

HHP:4420	Planning and Evaluating Health Interventions	3
Major: experiential learning requirement		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

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**Hours** **15**

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**Total Hours** **124-131**

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Fulfills a major requirement and may fulfill a GE requirement.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Complete at least 6 s.h. from HHP courses numbered 2000 or above.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Course not required before CHEM:1080 if student has completed high school chemistry.

# Human Physiology, B.S.

## Learning Outcomes

The B.S. degree in human physiology:

- provides students a broad education in the health sciences;
- prepares students to employ their fundamental knowledge of human physiology and health sciences together with the scientific method to solve problems in their chosen professional and/or graduate career fields; and
- instills an understanding and appreciation of the relevance of healthy behaviors to a fulfilling and productive life, and the importance of lifelong learning in the rapidly evolving fields of physiology and the health sciences.

## Requirements

The Bachelor of Science with a major in human physiology requires a minimum of 120 s.h., including 62 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must complete a minimum of 16 s.h. in human physiology coursework at the University of Iowa, including HHP:3550 Human Physiology with Laboratory.

The major in human physiology is designed primarily for individuals who intend to continue their education beyond the B.S. in the health professions, including medicine, physician assistant, physical therapy, dentistry, occupational therapy, chiropractic, and optometry, and for those who intend to pursue graduate degrees in basic life sciences.

Students may earn a B.S. in human physiology or a B.A. in health and human physiology, but not both.

Students who earn a B.S. in human physiology may not earn the minor in human physiology.

The B.S. with a major in human physiology requires the following coursework.

Code	Title	Hours
	Human Physiology Courses	31
	Cognate Area Courses	31
	<b>Total Hours</b>	<b>62</b>

## Human Physiology Courses

Code	Title	Hours
All of these:		
HHP:2200	Physical Activity and Health	3
HHP:3115	Anatomy for Human Physiology with Lab	5
HHP:3550	Human Physiology with Laboratory	5
At least 18 s.h. from these, with at least 12 s.h. in HHP coursework:		
HHP:3230/PSY:3230	Psychopharmacology	3
HHP:3300	Human Growth and Motor Development	3
HHP:3450	Immunology in Health and Disease	3

HHP:3900	Writing for Health and Human Physiology	3
HHP:4110	Advanced Human Anatomy Laboratory	4
HHP:4130	Skeletal Muscle Physiology	3
HHP:4150	Clinical Exercise Physiology	3
HHP:4200	Metabolic Exercise Testing and Prescription	4
HHP:4210	Musculoskeletal Exercise Testing and Prescription	4
HHP:4220	Biomechanics of Human Motion	3
HHP:4250	Human Pathophysiology	3
HHP:4260	Respiratory Pathophysiology	3
HHP:4300	Sensorimotor Neurophysiology	3
HHP:4410	Exercise Physiology	3
HHP:4440	Physiology of Nutrition	3
HHP:4450	Human Genetics and Disease	3-4
HHP:4460	Cardiovascular Physiology	3
HHP:4465	Environmental Exercise Physiology	3
HHP:4470/ASP:4470	Physiology of Aging	3
HHP:4490	International Medicine: Experiential Learning	3
HHP:4500	Undergraduate Independent Study	arr.
HHP:4510	Energetics in Health and Disease	3
HHP:4900	Honors Research	3
BIOL:2254	Endocrinology	3
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
BIOL:2753	Introduction to Neurobiology	3
BMB:3110	Biochemistry	3
MICR:2157	General Microbiology	3
MICR:2158	General Microbiology Laboratory	2
MICR:3168	Viruses and Human Disease	3
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3
PCOL:3102	Pharmacology II: Mechanisms of Drug Action	3
SOC:3510	Medical Sociology	3
May include one of these:		
PSY:2130	Advanced Psychology for Pre-Medical Track	3
PSY:2930	Abnormal Psychology: Health Professions	3

## Cognate Areas

Students must earn a minimum of 31 s.h. in cognate areas—subjects outside of human physiology—by completing courses from the following lists.

Code	Title	Hours
<b>Biology</b>		
This sequence:		

BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
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**Chemistry**

This sequence:

CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
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**Mathematics**

One of these:

MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

**Physics**

This sequence:

PHYS:1511- PHYS:1512	College Physics I-II	8
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**Statistics**

One of these:

STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

**Honors**

**Honors in the Major**

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 in work for their major and a cumulative University of Iowa g.p.a. of at least 3.33.

In order to graduate with honors in the major, students must successfully complete the honors research course sequence HHP:4800 Research Methods and Ethics and HHP:4900 Honors Research; write an honors thesis that is judged to be of honors quality; and make an oral or poster presentation of the honors thesis in an approved venue, such as a department research seminar or professional conference.

**University of Iowa Honors Program**

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the human physiology major.

**Career Advancement**

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

**Academic Plans**

**Four-Year Graduation Plan**

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** calculus and at least six more courses in the major.

**Before the seventh semester begins:** at least six more courses in the major (total of 13) and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least two more courses in the major (total of 15).

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

**Sample Plan of Study**

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

**Human Physiology, B.S.**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Transfer students must complete a minimum of 16 s.h. in human physiology coursework at the University of Iowa, including HHP:3550 Human Physiology with Laboratory.

GE CLAS Core: Sustainability <sup>a</sup>

<b>Hours</b>		<b>0</b>
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**First Year**

**Fall**

MATH:1460	Calculus for the Biological Sciences <small>b, c</small>	4
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RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
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GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
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GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
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CSI:1600	Success at Iowa	2
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<b>Hours</b>		<b>15-16</b>
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**Spring**

CHEM:1110	Principles of Chemistry I <sup>c, e</sup>	4
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ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
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GE CLAS Core: Social Sciences <sup>d</sup>		3
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Elective course <sup>f</sup>		3
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Elective course <sup>f</sup>		2
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<b>Hours</b>		<b>15-16</b>
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**Second Year**

**Fall**

BIOL:1411	Foundations of Biology <sup>c</sup>	4
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CHEM:1120	Principles of Chemistry II	4
HHP:2200	Physical Activity and Health	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5

**Hours 15-16**

### Spring

BIOL:1412	Diversity of Form and Function	4
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5

**Hours 14-15**

### Third Year

#### Fall

HHP:3115	Anatomy for Human Physiology with Lab	5
PHYS:1511	College Physics I	4
Major: statistics requirement		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5

**Hours 16-17**

### Spring

HHP:3550	Human Physiology with Laboratory	5
PHYS:1512	College Physics II	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>f</sup>		3

**Hours 16-17**

### Fourth Year

#### Fall

Major: Elective course <sup>i</sup>		3
Major: Elective course <sup>i</sup>		3
Major: Elective course <sup>i</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3

**Hours 15**

### Spring

Major: Elective course <sup>i</sup>		3
Major: Elective course <sup>i</sup>		3
Major: Elective course <sup>i</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		2

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

**Hours 14**

**Total Hours 120-126**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c Fulfills a major requirement and may fulfill a GE requirement.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Enrollment in chemistry courses requires completion of a placement exam.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h This course must be completed at the University of Iowa.

i Students complete at least 18 s.h. in approved major electives, of which at least 12 s.h. must be in HHP coursework.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Sport and Recreation Management, B.S.

## Learning Outcomes

Graduates will be able to:

- demonstrate knowledge of foundational sport and recreation management principles;
- apply and analyze financial, human resource and facility management principles; marketing, communications and sales strategies; and legal concepts to the sport and recreation industries;
- evaluate and explore career paths in the sport and recreation industries to identify where individual student strengths and interests will thrive;
- acquire knowledge in a concentration area within sport or recreation unique to individual student career objectives;
- express ideas clearly, logically, and persuasively in both oral and written formats; and
- demonstrate critical thinking; effective research methods; and teamwork, project management, and presentation principles to unique sport and recreation organization business challenges.

## Requirements

The Bachelor of Science with a major in sport and recreation management requires a minimum of 120 s.h., including 48 s.h. of work for the major (27 s.h. in sport and recreation management, 12 s.h. in a concentration area, and 9 s.h. in field experience). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The Bachelor of Science in sport and recreation management prepares students to make meaningful contributions to the sport and recreation industry at all levels and broaden their understanding and appreciation of the sport and recreation industry.

The curriculum challenges students to think critically and creatively while developing analytical, rhetorical, and research abilities that are required for leadership positions in the sport and recreation industry. Moreover, the program emphasizes and provides experiential learning opportunities for a student's application of concepts and skills in professional settings to enhance learning and development.

Students who earn a B.S. in sport and recreation management may not earn the minor in sport and recreation management.

## Online Degree Option

The Department of Health and Human Physiology offers an online B.S. degree in sport and recreation management. The online program enables students to complete their B.S. degree from anywhere in the world. For more information, see Online B.S. Degree in Sport and Recreation Management on the Department of Health and Human Physiology website, or contact the Department of Health and Human Physiology directly.

## Degree Requirements

The B.S. with a major in sport and recreation management requires the following coursework.

Code	Title	Hours
Foundation Courses		27
Field Experience		9
Concentration Area Courses		12
<b>Total Hours</b>		<b>48</b>

## Foundation Courses

Code	Title	Hours
All of these:		
SRM:1060	Contemporary Issues in Sports	3
SRM:3157	Managerial Operations in Sport and Recreation	3
SRM:3175	Sales in Sport	3
SRM:3178	Communications and Public Relations in Sports	3
Students must have completed 30 s.h. before they enroll in the following:		
SRM:3151	Liability in Sport and Recreation	3
SRM:3152	Design and Management of Sport and Recreation Facilities	3
SRM:3153	Sport Business Practices	3
SRM:3158	Sport and Recreation Promotion	3
SRM:3172	Finance in Sport and Recreation	3

## Field Experience

Students are required to complete a total of 9 s.h. of field experience (guided and/or independent) and must obtain prior approval from the director of field experience before performing any independent field experience for academic credit. See Independent Field Experience on the Department of Health and Human Physiology website, or contact the Department of Health and Human Physiology directly.

Field experience includes both guided and independent options. Guided experience sections are led by faculty who set learning objectives and outcomes with partner organizations. Courses have regular meeting times and faculty oversee and evaluate student engagement, participation, and completion.

Independent experience is student initiated with an approved sport or recreation affiliated organization, such as an internship. In consultation with the faculty and organization, a student sets the learning objectives for the duration of the experience. Faculty communicates with each student and site supervisor to evaluate student engagement, participation, and completion of learning objectives.

Both guided and independent field experience credit is based on 45 hours of field experience for each semester hour earned.

Code	Title	Hours
SRM:4196	Interscholastic Athletic Administration Field Experience	1-9

SRM:4197	Sport and Recreation Field Experience	1-9
SRM:4199	Independent Sport and Recreation Field Experience	1-9

## Concentration Areas

Students must complete 12 s.h. in one of the following concentration areas: business studies, coaching and sport instruction, communications and public relations/journalism, entrepreneurship, event management, interscholastic athletic/activities administration, sport and diversity, or the student-designed concentration that allows students to map out their own concentration with approval of their advisor and faculty. Some of these courses below have prerequisites; students must complete all of a course's prerequisites before they may register for the course. Prerequisite courses do not count toward the concentration unless also listed as a concentration course.

Topics in Sport and Recreation Management (SRM:3200) can be used for certain concentration areas depending on the topic being taught. Students may request a waiver to allow a course that is not listed to count toward a concentration. All students should consult with the SRM program's academic advisor for details and approval prior to enrolling in SRM:3200 or any unlisted course for concentration credit.

- Business Studies [p. 663]
- Coaching and Sport Instruction [p. 663]
- Communications and Public Relations/Journalism [p. 664]
- Entrepreneurship [p. 665]
- Event Management [p. 665]
- Interscholastic Athletic/Activities Administration [p. 664]
- Sport and Diversity [p. 666]
- Student-Designed [p. 666]

## Business Studies Concentration

Code	Title	Hours
Business studies concentration students select 12 s.h. from these:		
SRM:1046	Health for Happiness	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:2065	The Experience Economy	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3150	Recreation Administration	3
SRM:3210	Event Bidding: Processes and Strategies	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:4198	NCAA Rules Compliance and Enforcement	3
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
ARTS:1070	Elements of Graphic Design	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
BAIS:1500	Business Computing Essentials	2

BAIS:2800	Foundations of Business Analytics	3
CCP:1301	Communication for the Workplace	1
CNW:3640	Writing for Business	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ECON:3690	Sports Economics	3
FIN:3000	Introductory Financial Management	3
JMC:3530	Social Media Marketing	3
JMC:3710	Fundraising Fundamentals	3
JMC:3720	Nonprofit Communications	3
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
MGMT:3050	Professional Preparation for Management	1
RHET:2085	Speaking Skills	3
RHET:3009/ PBAF:3217/ URP:3217	Negotiation and Conflict Resolution	3
SPST:2500	Sport and Technology	3

## Coaching and Sport Instruction Concentration

In addition to the 12 s.h. concentration area requirement, students also may choose to complete the Certificate in Interscholastic Athletic/Activities Administration [p. 678], a 21 s.h. program.

Code	Title	Hours
Coaching and sport instruction concentration students select 12 s.h. from these:		
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3149	Coaching Theory, Body Structure, and Human Development	3
SRM:3150	Recreation Administration	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches	3
SRM:3176	Sports Analytics for Coaches, Managers, and Other Decision Makers	3
SRM:3210	Event Bidding: Processes and Strategies	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
SRM:4198	NCAA Rules Compliance and Enforcement	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
ARTS:1070	Elements of Graphic Design	3
CCP:1301	Communication for the Workplace	1

COMM:1819	Organizational Leadership	3
CSED:4111	Building Leadership and Success at Work	3
DANC:3070	Dance Kinesiology	3
EDTL:3114	Parent-Child Relationships	3
EDTL:3131	Movement Education	2
EPLS:4200	Diversity and Inclusion in Athletics	3
HHP:1045	Diversity and Inclusion in Healthy Living	3
HHP:1100	Human Anatomy	3
HHP:2130	Human Development Through the Life Span	3
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3
HHP:3045	Physical Activity Psychology	3
HHP:3300	Human Growth and Motor Development	3
HHP:3400	Applied Exercise Physiology	3
HHP:4310	Sport and Exercise Nutrition	3
HPAS:1007	Basic CPR	1
HPAS:1008	Basic First Aid and CPR	1
HPAS:1010	Introduction to Workout Design	1
RHET:2085	Speaking Skills	3
SPST:2081	Theory and Ethics of Coaching	3
TR:2061	Recreation Leadership and Programming	3

## Coaching Certification Process

University of Iowa students can become authorized to coach K-12 school-sponsored athletics in the state of Iowa by taking the following two courses. These courses prepare students for statewide coaching authorization application only; students must take these courses and can opt to apply for certification as part of their coursework.

Code	Title	Hours
SRM:3149	Coaching Theory, Body Structure, and Human Development	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches	3

## Interscholastic Athletic/Activities Administration Concentration

In addition to the 12 s.h. concentration area requirement, students also may choose to complete the Certificate in Interscholastic Athletic/Activities Administration [p. 678], a 21 s.h. program.

Code	Title	Hours
All of these (9 s.h.):		
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
EPLS:4200	Diversity and Inclusion in Athletics	3
At least one of these (3 s.h.):		
SRM:2065	The Experience Economy	3

SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3147	Sport Event Management	3
SRM:3149	Coaching Theory, Body Structure, and Human Development (this course and SRM:3155 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3150	Recreation Administration	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches (this course and SRM:3149 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3176	Sports Analytics for Coaches, Managers, and Other Decision Makers	3
SRM:3210	Event Bidding: Processes and Strategies	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
ARTS:1070	Elements of Graphic Design	3
COMM:1819	Organizational Leadership	3
CSED:4111	Building Leadership and Success at Work	3
EDTL:3114	Parent-Child Relationships	3
EDTL:4940	Characteristics of Disabilities	3
HHP:1045	Diversity and Inclusion in Healthy Living	3
HHP:3045	Physical Activity Psychology	3
JMC:1300	Introduction to Journalism and Strategic Communication	3
JMC:3530	Social Media Marketing	3
JMC:3710	Fundraising Fundamentals	3
JMC:3720	Nonprofit Communications	3
MGMT:3500/ ENTR:3595/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
PSQF:1075	Educational Psychology and Measurement	3
PSQF:4134/ EDTL:4934	Parent-Teacher Communication	3
RHET:2085	Speaking Skills	3

## Communications and Public Relations/Journalism Concentration

Code	Title	Hours
Communications and public relations/journalism concentration students select 12 s.h. from these:		
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3150	Recreation Administration	3



SRM:3210	Event Bidding: Processes and Strategies	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:4198	NCAA Rules Compliance and Enforcement	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
ARTS:1070	Elements of Graphic Design	3
CINE:1100	The Art of Smartphone Filmmaking	3
CNW:1620	Introduction to Creative Nonfiction	3
CNW:2780	The Art and Craft of Writing About Sports	3
CNW:2910	Writing for Applications and Awards	3
CNW:3640	Writing for Business	3
COMM:1816	Business and Professional Communication	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	3
COMM:2064	Media, Advertising, and Society	3
JMC:1100	Introduction to Media Effects	3
JMC:1300	Introduction to Journalism and Strategic Communication	3
JMC:1500	Introduction to Social Media	3
JMC:3122	Digital and Gaming Culture	3
JMC:3135/ AMST:3198/ SPST:3198	New Media and the Future of Sport	3
JMC:3182/ SPST:3182	Sport, Scandal, and Strategic Communication in Media Culture	3
JMC:3183/ SPST:3175	Sport and the Media	3
JMC:3412	Strategic Communication Writing	4
JMC:3510	Audience Engagement: Marketing Research in the Digital Age	3
JMC:3530	Social Media Marketing	3
JMC:3540/ SPST:3181	The Business of Sport Communication	3
JMC:3720	Nonprofit Communications	3
RHET:2085	Speaking Skills	3
RHET:2095	Fundamental Strategies of Persuasion	3
RHET:2620	Body Language: Study of Movement and Gesture in Speaking	3
SPST:3911	Sport Since 9/11	3

## Entrepreneurship Concentration

Students who choose ENTR:1350 Foundations in Entrepreneurship must register for ENTR:2000 Entrepreneurship and Innovation during the same semester

if they have not taken ACCT:2100 Introduction to Financial Accounting and MKTG:3000 Introduction to Marketing Strategy.

Code	Title	Hours
Entrepreneurship concentration students select 12 s.h. from these:		
SRM:1046	Health for Happiness	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:3150	Recreation Administration	3
SRM:3210	Event Bidding: Processes and Strategies	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
ARTS:1070	Elements of Graphic Design	3
BAIS:1500	Business Computing Essentials	2
CNW:3640	Writing for Business	3
COMM:1818	Communication Skills for Leadership	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ECON:3690	Sports Economics	3
ENTR:1350	Foundations in Entrepreneurship	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3350	Entrepreneurial Strategy	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:4400	Managing the Growth Business	3
JMC:3530	Social Media Marketing	3
JMC:3720	Nonprofit Communications	3
MGMT:3050	Professional Preparation for Management	1
RHET:2085	Speaking Skills	3

## Event Management Concentration

Students who aspire to work in the field of event management may earn one or both of the following credentials: the event management concentration (12 s.h.) and/or the Certificate in Event Management [p. 512] (21 s.h.). It is strongly recommended that students consult the sport and recreation management undergraduate academic advisor and a member

of the Certificate in Event Management committee to discuss what is appropriate to earn.

Students who wish to earn the Certificate in Event Management must take SRM:3154 Foundations of Event Management and cannot substitute EVNT:3154 Foundations of Event Management. They also must take SRM:3147 Sport Event Management and cannot substitute EVNT:3260 Event Management Workshop.

Code	Title	Hours
Both of these:		
SRM:3147	Sport Event Management	3
SRM:3154	Foundations of Event Management	3
At least 6 s.h. from these:		
SRM:1046	Health for Happiness	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:2065	The Experience Economy	3
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3150	Recreation Administration	3
SRM:3210	Event Bidding: Processes and Strategies	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
ARTS:1070	Elements of Graphic Design	3
BUS:3800	Business Writing	3
CINE:1610	Contemporary Cinema	3
COMM:1809	Social Marketing Campaigns	3
COMM:1816	Business and Professional Communication	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
JMC:1300	Introduction to Journalism and Strategic Communication	3
JMC:1500	Introduction to Social Media	3
JMC:3530	Social Media Marketing	3
JMC:3540/ SPST:3181	The Business of Sport Communication	3
JMC:3720	Nonprofit Communications	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:2005	Issues in Popular Music: Women Who Rock	3
MKTG:3000	Introduction to Marketing Strategy	3

## Sport and Diversity Concentration

Code	Title	Hours
Sport and diversity concentration students select 12 s.h. from these:		

SRM:1046	Health for Happiness	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3150	Recreation Administration	3
SRM:3210	Event Bidding: Processes and Strategies	3
SRM:3700	Ethics in Sport	3
AFAM:1030	Introduction to African American Society	3
AFAM:2079/ SPST:2079	Race and Ethnicity in Sport	3
ANTH:1401	Language, Culture, and Communication	3
CLSA:1875	Ancient Sports and Leisure	3
COMM:1174	Media and Society	3
EPLS:4200	Diversity and Inclusion in Athletics	3
HHP:1045	Diversity and Inclusion in Healthy Living	3
HIST:1040	Diversity in History	3
RHET:2085	Speaking Skills	3
RUSS:2110	Russian Sports: Politics, Scandal, Glory	3
SPAN:2700/ COMM:2800/ IS:2700/LAS:2700/ PORT:2700	Introduction to Latin American Studies	3
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3
SPST:2077/ RELS:2877	Sport and Religion in America	3
SPST:2078/ GWSS:2078	Women, Sport, and Culture	3
SPST:2170	Sport and Globalization	3
SPST:3176	Sport and Nationalism	3
SPST:3911	Sport Since 9/11	3
TR:1070	Perspectives on Leisure and Play	3

## Student-Designed Concentration

If a student wishes to develop a concentration area focused on a specialized area that is not covered by an existing concentration area outlined above, the student must consult with an advisor in the sport and recreation management program. After consultation, the student must submit a written proposal to the sport and recreation management program director for approval. The proposal should provide a rationale for, and description of, the student-designed concentration, including proposed courses. The proposal must be approved before the start of the semester in which the student wishes to use the concentration for graduation.

The concentration requires at least 12 s.h. of coursework. Self-designed concentrations may not include coursework that was used to complete GE CLAS Core or field experience requirements.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, a major g.p.a. of at least 3.50, and earn a grade of at least a B-plus in SRM:4195 Honors Problems. During SRM:4195 Honors Problems, the student works on a project under the supervision of a program faculty member. For additional information, visit B.S. in Sport and Recreation Management Curriculum on the Department of Health and Human Physiology website or contact the sport and recreation management program director.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the sport and recreation management major.

## Career Advancement

Sport and recreation management majors find employment in municipal or campus recreation; interscholastic, high school, or college athletic administration; intramural departments; community private clubs or community parks and recreation departments; nonprofit organizations; armed forces recreation; professional or Olympic sports organizations; commercial fitness businesses; and in firms specializing in sport marketing or sport sponsorship. The sport and recreation management faculty provides individual mentoring to students and offers several opportunities for students to connect with industry professionals throughout the year to learn about internships and jobs.

The Office of Field Experience in the sport and recreation management program in the Department of Health and Human Physiology assists students in finding their specific connection to the industry. The Pomerantz Career Center also offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** four foundation courses, at least 3 s.h. in the concentration area, and 3 s.h. in a field experience course.

**Before the seventh semester begins:** two more foundation courses (total of six), an additional 6 s.h. in the concentration area, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two more foundation courses (total of eight), an additional 3 s.h. in a field experience course, and one remaining concentration area course (3 s.h.).

**During the eighth semester:** enrollment in the final 3 s.h. in a field experience course, all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Sport and Recreation Management, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SRM:1060	Contemporary Issues in Sports	3
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Social Sciences <sup>b</sup>		3
GE CLAS Core: Values and Culture <sup>b</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
SRM:3157	Managerial Operations in Sport and Recreation	3
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>b</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>b</sup>		4
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Second Year</b>		
<b>Fall</b>		
SRM:3175	Sales in Sport	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
SRM:3152	Design and Management of Sport and Recreation Facilities	3
SRM:3178	Communications and Public Relations in Sports	3
Major: concentration course		3
GE CLAS Core: Natural Sciences without Lab <sup>b</sup>		3

GE CLAS Core: World Languages Second Level Proficiency or elective course<sup>d</sup> 4 - 5

**Hours 16-17**

### Third Year

#### Fall

SRM:3158 Sport and Recreation Promotion 3

SRM:4199 Independent Sport and Recreation 3  
 or SRM:4197 Field Experience  
 or SRM:4196 or Sport and Recreation Field Experience  
 or Interscholastic Athletic Administration Field Experience

Major: concentration course 3

GE CLAS Core: International and Global Issues<sup>b</sup> 3

GE CLAS Core: World Languages Second Level Proficiency or elective course<sup>d</sup> 4 - 5

**Hours 16-17**

#### Spring

SRM:3153 Sport Business Practices 3

Major: concentration course 3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>d</sup> 4 - 5

Elective course<sup>c</sup> 3

Elective course<sup>c</sup> 3

**Hours 16-17**

### Fourth Year

#### Fall

SRM:3172 Finance in Sport and Recreation 3

SRM:4196 Interscholastic Athletic 3  
 or SRM:4197 Administration Field Experience  
 or SRM:4199 or Sport and Recreation Field Experience  
 or Independent Sport and Recreation Field Experience

Major: concentration course 3

GE CLAS Core: Literary, Visual, and Performing Arts<sup>b</sup> 3

Elective course<sup>c</sup> 3

**Hours 15**

#### Spring

SRM:3151 Liability in Sport and Recreation 3

SRM:4197 Sport and Recreation Field Experience 3  
 or SRM:4196 Experience  
 or SRM:4199 or Interscholastic Athletic Administration Field Experience  
 or Independent Sport and Recreation Field Experience

GE CLAS Core: Historical Perspectives<sup>b</sup> 3

Elective course<sup>c</sup> 3

Elective course<sup>c</sup> 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours 15**

**Total Hours 124-130**

International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives;

# Therapeutic Recreation, B.S.

Therapeutic recreation is a professional field that involves providing recreation programs designed to improve or maintain the physical, emotional, mental, and social functioning of patients and consumers. Therapeutic practice involves a continuum of services that use recreational activities to improve functional abilities; leisure education to help individuals acquire skills, knowledge, and attitudes that facilitate an independent lifestyle; and other programs to enhance health, growth, development, and independence through intrinsically rewarding leisure activities. Additionally, inclusive recreation provides opportunities for people with all abilities and disabilities to participate together in meaningful and purposeful therapeutic recreation programs based on choice and common interests.

## Learning Outcomes

The B.S. degree in therapeutic recreation:

- instills an understanding and appreciation of leisure, recreation, and play in diverse and inclusive settings;
- prepares students for professional fields and/or graduate study through the integration of research and critical thinking;
- provides service and experiential learning to enhance students' leadership strengths and their ability to build therapeutic relationships;
- teaches critical skills necessary in inclusive practice to assess, plan goals, design appropriate interventions, and evaluate effectiveness;
- instructs students in the practice of inclusion for persons of diverse abilities, backgrounds, and cultures; and
- teaches students how to facilitate inclusive and therapeutic recreation programs.

## Requirements

The Bachelor of Science with a major in therapeutic recreation requires a minimum of 120 s.h., including 60-63 s.h. of work for the major, which varies by track. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The therapeutic recreation program prepares students for professional work with persons in various underserved populations and as advocates for social inclusion. The major emphasizes the use of a systematic process of assessment, planning, implementation, and evaluation to provide equitable opportunity for recreation, leisure, and play by diverse populations.

The curriculum consists of two tracks designed to allow students to acquire in-depth knowledge in their chosen area of interest. The courses in each track provide an opportunity for students to tailor the degree to best fit their career goals and academic interests. The inclusive recreation track (60-63 s.h.) allows students to gain knowledge in a variety of domains related to adaptive and inclusive recreation. Students may choose to focus on a certain population or diversify their experience through their curriculum design. The NCTRC Certification track (63 s.h.) focuses on developing therapeutic recreation competencies necessary to sit for the National

Council on Therapeutic Recreation Certification examination and successfully pursue a career in clinical or community therapeutic recreation.

The B.S. with a major in therapeutic recreation requires the following coursework.

Code	Title	Hours
Core Courses		33
Track Requirements (varies by track)		27-30
<b>Total Hours</b>		<b>60-63</b>

Students in both tracks are required to complete the following core courses, as well as additional courses required specifically for their track.

## Core Courses

Code	Title	Hours
This course:		
PSY:1001	Elementary Psychology	3
One of these:		
HHP:2130	Human Development Through the Life Span	3
NURS:1030	Human Development and Behavior	3
One of these:		
PSY:2501	Introduction to Social Psychology	3
SOC:1010	Introduction to Sociology	3
All of these:		
HHP:1400	Human Anatomy and Physiology	3
TR:1070	Perspectives on Leisure and Play	3
TR:1077	Introduction to Child Life	3
TR:1800/ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800	Aging Matters: Introduction to Gerontology	3
TR:2061	Recreation Leadership and Programming	3
TR:3160	Introduction to Therapeutic Recreation	3
TR:3162	Therapeutic Recreation: Clientele	3
TR:3261	Inclusive Recreation	3

## Tracks

Students select one of the following tracks and complete the requirements.

### Inclusive Recreation Track

#### Requirements

Inclusive recreation in community-based settings is the fastest growing area of practice in therapeutic recreation and the most diverse. Community-based inclusive recreation specialists may be affiliated with community recreation departments, adaptive sports programs, school systems, independent living support services, special recreation associations, and community mental health agencies. The goals of inclusive recreation in community-based settings are equally diverse, including enhancing quality of life, health

protection and health promotion, and integration and inclusion of persons with disabilities in recreation programs.

Students who complete this track are not eligible for the National Council on Therapeutic Recreation Certification exam or for the CTRS credential.

Students earn a minimum of 27 s.h. in this track. Coursework is selected around several themes relevant for foundational comprehension and practice in the field of inclusion and diversity in recreation.

## Inclusive Recreation Coursework

### Social Justice

Code	Title	Hours
One of these:		
GWSS:2250/ HIST:2250/ SJUS:2250	The History of Social Justice Movements	3
SOC:1022/ SSW:1022	Social Justice and Social Welfare in the United States	3
SOC:1030	Contemporary Social Problems	3
SPST:1074/ AMST:1074/ GWSS:1074	Inequality in American Sport	3
One of these:		
CSED:4130	Human Sexuality	3
GWSS:3100	LGBTQ/Queer Studies	3
GWSS:3154	Sexuality in the United States	3
NURS:3712/ SSW:3712	Human Sexuality, Diversity, and Society	3

### Culture

Code	Title	Hours
One of these:		
HHP:2280	Cultural Competency in Health Promotion	3
CCCC:2220	Foundations of Critical Cultural Competence	3

### Characteristics of Disability

Code	Title	Hours
Both of these:		
DST:1101	Introduction to Disability Studies	3
EDTL:4900	Foundations of Special Education	3

### Administration and Nonprofit

Code	Title	Hours
One of these:		
TR:3262	Therapeutic Recreation Administration	3
SRM:3150	Recreation Administration	3
ENTR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3

## Human Interaction and Health Behavior

Code	Title	Hours
This course:		
HHP:2200	Physical Activity and Health	3
One of these:		
HHP:3200	Health Behavior and Health Promotion	3
CSED:4175	Motivational Interviewing	3
CSED:4199	Counseling for Related Professions	3

### Field Experience

Code	Title	Hours
3-6 s.h. from these:		
TR:4197/DST:4198	Practicum in Therapeutic Recreation	1-3
CCP:1201	Academic Internship	1-3
CSI:1410	Life Design	2
CSI:1420	Life Design II: A Better World	2

## NCTRC Certification Track

### Requirements

Certified therapeutic recreation specialists (CTRS) work in both clinical and community-based settings with a wide variety of client populations. The most common clientele groups include persons with mental illness, spinal cord and brain injuries, older adults, individuals who experience chemical dependence and substance abuse, at-risk youth, and people with developmental disabilities. Settings often focus on psychiatric or physical rehabilitation where the therapist works with a team of allied health professionals to provide treatment through recreation and leisure-based interventions. Services also may be provided in long-term care settings where the therapist works with the health care team to provide treatment interventions and recreation opportunities to enhance quality of life for residents in nursing homes, memory care and assisted-living centers, or respite care agencies. Many certified therapeutic recreation specialists also are employed by community and nonprofit agencies that provide services for underrepresented populations.

This is a selective track; students earn 30 s.h. of coursework for the NCTRC certification track. To enter the track they must complete 24 s.h. at the University of Iowa (or 12 s.h. for transfer students) and must have a University of Iowa g.p.a. of at least 2.50 and a cumulative g.p.a. of at least 2.50. Entrance to the track can occur after completion of HHP:1400 Human Anatomy and Physiology, TR:1070 Perspectives on Leisure and Play, and TR:3160 Introduction to Therapeutic Recreation. Students who complete this track, including the therapeutic recreation internship, are eligible to sit for the National Council for Therapeutic Recreation Certification exam. Successful completion of the exam confers the Certified Therapeutic Recreation Specialist (CTRS) credential.

### NCTRC Certification Coursework

Code	Title	Hours
All of these (17 s.h.):		
TR:3161	Assessment and Evaluation in Therapeutic Recreation	3
TR:3163	Concepts and Issues in Therapeutic Recreation: Advancement of the Profession	3

TR:3164	Therapeutic Recreation: Rehabilitation	3
TR:3262	Therapeutic Recreation Administration	3
CLSA:3750	Medical and Technical Terminology	2
PSY:2930	Abnormal Psychology: Health Professions	3

### Field Experience

Code	Title	Hours
Both of these (13 s.h.):		
TR:4190	Preinternship Seminar	1
TR:4191	Therapeutic Recreation Internship	12

### Combined Programs

## B.S./M.S. in Health and Human Physiology (Child Life Subprogram)

The combined program allows qualified students to begin work toward a master's degree while they complete their bachelor's degree. It permits students to count certain courses toward both degrees, completing them in less time than they would need to complete each degree separately.

The completion of the two degrees in five years is designed for students who wish to pursue a career providing services to children and their families, primarily in the health care field. Graduates are eligible to be credentialed professionals in child life (certified child life specialist). They fill positions such as child life specialist, activity director, or administrative positions.

Students follow the standard curriculum of their B.S. degree the first two years and complete all the prerequisite courses for the M.S. degree in health and human physiology with a child life subprogram during the third year. Successful students receive a B.S. at the end of the fourth year and a M.S. at the end of the fifth year.

Applicants to the combined program must:

- be enrolled as a B.S. student at the University of Iowa;
- have completed a minimum of 80 s.h. at the time of admission to the combined program, with at least 30 s.h. earned at the University of Iowa;
- have completed all GE CLAS Core requirements and all prerequisites; and
- have a cumulative University of Iowa g.p.a. of at least 3.25.

Applicants must submit a letter of application to the program that includes a statement of purpose, a résumé, document a minimum of 100 hours of paid or volunteer experience in a child life and/or pediatric health care setting, and three letters of recommendation (with at least one from a certified child life specialist).

Each application is reviewed by the program and requires support from the applicant's undergraduate advisor. Recommendations for approval will be sent to the Office of Graduate Admissions. Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

For more information about applying to the combined program, contact the child life program in the Department of Health and Human Physiology.

### Honors

## Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain an overall g.p.a. of at least 3.33 in work for their major and a cumulative University of Iowa g.p.a. of at least 3.33.

In order to graduate with honors, students must successfully complete TR:4194 Honors Readings and TR:4195 Honors Problems, in which they conduct a reading or research project under the supervision of a faculty member in their major and write a paper summarizing the project's results.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the therapeutic recreation major.

### Career Advancement

Graduates find jobs in a variety of settings. Therapeutic recreation professionals are employed in settings such as skilled nursing facilities, community recreation centers, state and community mental health institutions, general medical hospitals, physical rehabilitation centers, special recreation districts, the Special Olympics, correctional facilities, senior living communities, facilities for persons with intellectual disabilities or mental illness, substance abuse programs, and camp programs as inclusion specialists. The majority of children's hospitals and pediatric units in other health care facilities employ child life specialists to address cognitive, social, and psychological issues associated with child illness and hospitalization. Child life specialists also work in rehabilitation centers, private practice and consulting, school systems, special-purpose camps, and hospice.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** eleven courses.

**Before the seventh semester begins:** two more major requirement courses, 3 s.h. of supporting coursework, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two more major requirement courses and the remaining supporting coursework.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Therapeutic Recreation, B.S.

- Inclusive Recreation Track [p. 672]
- NCTRC Certification Track [p. 673]

#### Inclusive Recreation Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students may declare the Therapeutic Recreation (Inclusive Recreation) BS major at any point in their academic career.		
GE CLAS Core: Sustainability		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSY:1001	Elementary Psychology <sup>a</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>b</sup>		4
CSI:1600	Success at Iowa	2
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
TR:1070	Perspectives on Leisure and Play <sup>a</sup>	3
PSY:2501 or SOC:1010	Introduction to Social Psychology <sup>a</sup> or Introduction to Sociology	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Historical Perspectives <sup>b</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>b</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
HHP:1400	Human Anatomy and Physiology <sup>a</sup>	3
TR:3160	Introduction to Therapeutic Recreation	3
GE CLAS Core: International and Global Issues <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c, d</sup>		4 - 5
GE CLAS Core: Quantitative or Formal Reasoning <sup>b</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
DST:1101	Introduction to Disability Studies <sup>a, e</sup>	3
HHP:2130 or NURS:1030	Human Development Through the Life Span or Human Development and Behavior	3

TR:1077	Introduction to Child Life	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c, d</sup>		4 - 5
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
HHP:2200	Physical Activity and Health <sup>a, e</sup>	3
TR:1800	Aging Matters: Introduction to Gerontology <sup>a</sup>	3
TR:2061	Recreation Leadership and Programming	3
IR Track: Field Experience or elective course <sup>c, f</sup>		1 - 3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c, d</sup>		4 - 5
<b>Hours</b>		<b>14-17</b>
<b>Spring</b>		
TR:3162	Therapeutic Recreation: Clientele	3
IR Track: Social Justice course <sup>e, g</sup>		3
IR Track: Field Experience or elective course <sup>c, f</sup>		1 - 3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c, d</sup>		4 - 5
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>14-17</b>
<b>Fourth Year</b>		
<b>Fall</b>		
HHP:2280 or CCCC:2220	Cultural Competency in Health Promotion <sup>e</sup> or Foundations of Critical Cultural Competence	3
TR:3261	Inclusive Recreation	3
IR Track: Human Interaction and Health Behavior course <sup>e, g</sup>		3
IR Track: Social Justice course <sup>e, g</sup>		3
IR Track: Field Experience or elective course <sup>c, f</sup>		1 - 3
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
EDTL:4900	Foundations of Special Education <sup>a, e</sup>	3
IR Track: Administration and Nonprofit course <sup>e, g</sup>		3
IR Track: Field Experience or elective course <sup>c, f</sup>		1 - 3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
<b>Hours</b>		<b>15-17</b>
<b>Total Hours</b>		<b>120-134</b>

a Fulfills a major requirement and may fulfill a GE requirement.

b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.



d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e This course fulfills a themed area within the Inclusive Recreation Track.

f Complete 3-6 s.h. of field experience coursework; see list of approved courses in General Catalog.

g See list of approved courses in the General Catalog.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## NCTRC Certification Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Therapeutic Recreation (NCTRC Certification) BS program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSY:1001	Elementary Psychology <sup>c</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
CSI:1600	Success at Iowa	2
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
TR:1070	Perspectives on Leisure and Play <sup>c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture <sup>d</sup>		3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
HHP:1400	Human Anatomy and Physiology <sup>f</sup>	3
PSY:2501 or SOC:1010	Introduction to Social Psychology <sup>c</sup> or Introduction to Sociology	3
TR:3160	Introduction to Therapeutic Recreation <sup>f</sup>	3
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e, g</sup>		4 - 5
Admission Application: apply to the Therapeutic Recreation (NCTRC Certification) BS program. <sup>h</sup>		
<b>Hours</b>		<b>16-17</b>

## Spring

CLSA:3750	Medical and Technical Terminology	2
TR:1077	Introduction to Child Life	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e, g</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>

## Third Year

### Any Semester

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the Therapeutic Recreation (NCTRC Certification) BS program. <sup>h</sup>

<b>Hours</b>		<b>0</b>
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### Fall

NURS:1030 or HHP:2130	Human Development and Behavior or Human Development Through the Life Span	3
TR:2061	Recreation Leadership and Programming	3
TR:3161	Assessment and Evaluation in Therapeutic Recreation	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e, g</sup>		4 - 5
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>

### Spring

PSY:2930	Abnormal Psychology: Health Professions	3
TR:1800	Aging Matters: Introduction to Gerontology	3
TR:3162	Therapeutic Recreation: Clientele	3
TR:4190	Preinternship Seminar	1
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e, g</sup>		4 - 5
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>16-17</b>

## Fourth Year

### Fall

TR:3163	Concepts and Issues in Therapeutic Recreation: Advancement of the Profession	3
TR:3164	Therapeutic Recreation: Rehabilitation	3
TR:3261	Inclusive Recreation	3
TR:3262	Therapeutic Recreation Administration	3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

### Spring

TR:4191	Therapeutic Recreation Internship	12
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>		
Exam: National Council for Therapeutic Recreation Certification <sup>j</sup>		
<b>Hours</b>		<b>12</b>

<b>Total Hours</b>		<b>120-126</b>
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- a The Academic Advising Center advises Therapeutic Recreation Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than two years to complete.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f This course is a requirement for admission to the Therapeutic Recreation (NCTRC Certification) BS program.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- h Applicants for admission should use the application form on the Department of Health and Human Physiology website. Completed applications typically must be submitted in October for admission the following spring or in March for admission the following fall. For more information see your advisor.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.
- j Students who complete the curriculum, including the therapeutic recreation internship, are eligible to sit for the National Council for Therapeutic Recreation Certification exam. Successful completion of the exam confers the Certified Therapeutic Recreation Specialist (CTRS) credential.

# Human Physiology, Minor

## Requirements

The undergraduate minor in human physiology requires a minimum of 15 s.h. in Department of Health and Human Physiology courses. Students must maintain a g.p.a. of at least 2.00 in all courses taken for the minor and in all UI courses to earn the minor. Coursework in the minor may not be taken pass/nonpass. Transfer credit does not count toward the minor.

Students who earn a B.S. in human physiology may not earn the minor in human physiology.

The minor is designed to provide in-depth study of human structure and function. Students must complete a human physiology course plus elective coursework as indicated below. Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

The minor in human physiology requires the following coursework.

HHP:4465	Environmental Exercise Physiology	3
HHP:4470/ASP:4470	Physiology of Aging	3
HHP:4490	International Medicine: Experiential Learning	3
HHP:4510	Energetics in Health and Disease	3

## Core Courses

Code	Title	Hours
One of these:		
HHP:3500	Human Physiology	3
HHP:3550	Human Physiology with Laboratory	5

## Electives

Code	Title	Hours
10-12 s.h. from these:		
HHP:3105	Anatomy for Human Physiology	3
HHP:3110	Advanced Anatomy Laboratory	2
HHP:3115	Anatomy for Human Physiology with Lab	5
HHP:3300	Human Growth and Motor Development	3
HHP:3450	Immunology in Health and Disease	3
HHP:3900	Writing for Health and Human Physiology	3
HHP:4110	Advanced Human Anatomy Laboratory	4
HHP:4130	Skeletal Muscle Physiology	3
HHP:4150	Clinical Exercise Physiology	3
HHP:4220	Biomechanics of Human Motion	3
HHP:4250	Human Pathophysiology	3
HHP:4260	Respiratory Pathophysiology	3
HHP:4300	Sensorimotor Neurophysiology	3
HHP:4410	Exercise Physiology	3
HHP:4440	Physiology of Nutrition	3
HHP:4450	Human Genetics and Disease	3-4
HHP:4460	Cardiovascular Physiology	3

# Lifestyle Medicine, Minor

The minor in lifestyle medicine focuses on whole person health by providing students the knowledge, skill, and ability to help individuals improve their health and well-being and prevent the onset and/or progression of chronic diseases. The minor prepares students to incorporate the principals of evidence-based lifestyle medicine in health and wellness related careers.

## Requirements

The undergraduate minor in lifestyle medicine requires a minimum of 15 s.h. of courses taken at the University of Iowa offered by the Department of Health and Human Physiology. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students who earn a B.A. in health and human physiology may not earn the minor in lifestyle medicine. Students who earn a B.S. in human physiology may earn the minor in lifestyle medicine.

For the minor, students complete courses and elective courses that focus on various facets of lifestyle medicine and prevention. Students choose electives in consultation with an undergraduate advisor. Some courses for the minor have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

The minor in lifestyle medicine requires the following coursework.

## Core Courses

Code	Title	Hours
All of these:		
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3
HHP:3030	Lifestyle Medicine	3

## Electives

Code	Title	Hours
Two of these:		
HHP:3045	Physical Activity Psychology	3
HHP:3050	Obesity: Causes, Consequences, Prevention, and Treatment	3
HHP:3200	Health Behavior and Health Promotion	3
HHP:4010	Behavioral and Clinical Health Assessment Laboratory	4
HHP:4020	Health Communication and Coaching Strategies	3
HHP:4365	Practicum in Health Coaching	3

# Sport and Recreation Management, Minor

## Requirements

The undergraduate minor in sport and recreation management requires a minimum of 15 s.h. in Department of Health and Human Physiology courses, including at least 12 s.h. in courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. A maximum of 3 s.h. of transfer credit may be accepted toward the minor with the approval of the sport and recreation management program director.

Students who earn a B.S. in sport and recreation management may not earn the minor in sport and recreation management.

## Online Option

The minor in sport and recreation management may be earned through coursework that is offered online. For more information, contact the Department of Health and Human Physiology.

## Requirements

The minor in sport and recreation management requires the following coursework.

Students take 15 s.h., with at least 12 s.h. in coursework numbered 3000 or above, from the following. No more than 6 s.h. combined from SRM:4196 Interscholastic Athletic Administration Field Experience, SRM:4197 Sport and Recreation Field Experience, and SRM:4199 Independent Sport and Recreation Field Experience may count toward the minor.

Code	Title	Hours
SRM:1060	Contemporary Issues in Sports	3
SRM:1085	Introduction to Travel and Tourism	3
SRM:2065	The Experience Economy	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3147	Sport Event Management	3
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3149	Coaching Theory, Body Structure, and Human Development (this course and SRM:3155 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3150	Recreation Administration	3
SRM:3151	Liability in Sport and Recreation	3
SRM:3152	Design and Management of Sport and Recreation Facilities	3

SRM:3153	Sport Business Practices	3
SRM:3154	Foundations of Event Management	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches (this course and SRM:3149 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3157	Managerial Operations in Sport and Recreation	3
SRM:3158	Sport and Recreation Promotion	3
SRM:3172	Finance in Sport and Recreation	3
SRM:3175	Sales in Sport	3
SRM:3176	Sports Analytics for Coaches, Managers, and Other Decision Makers	3
SRM:3178	Communications and Public Relations in Sports	3
SRM:3200	Topics in Sport and Recreation Management	3
SRM:3210	Event Bidding: Processes and Strategies	3
SRM:3300	Writing for Sport and Recreation Managers	3
SRM:3700	Ethics in Sport	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
SRM:4196	Interscholastic Athletic Administration Field Experience	1-6
SRM:4197	Sport and Recreation Field Experience	arr.
SRM:4198	NCAA Rules Compliance and Enforcement	3
SRM:4199	Independent Sport and Recreation Field Experience	arr.

# Interscholastic Athletic/ Activities Administration, Certificate

The Certificate in Interscholastic Athletic/Activities Administration provides students an opportunity to focus a segment of their studies on extracurricular activities at the interscholastic level. The program provides experiential learning and networking prospects along with academic coursework.

The world of interscholastic athletics has become increasingly competitive and commercialized. The certificate will aid marketability for students as they enter the job market. Students will be prepared to enter a school district with preparation to succeed in athletic/activities administration roles.

The certificate is an option for educators and other professionals who already have a degree but may wish to pursue career opportunities in interscholastic athletics/activities administration. Students who want to earn the certificate and do not want to pursue a degree may apply as nondegree students.

## Learning Outcomes

Students will be able to:

- summarize the history of the position and the development of interscholastic athletics;
- utilize management techniques to develop and maintain facilities; plan and oversee financially sustainable events; transfer practical experience into improved employment opportunities; and carry out effective and appropriate marketing, communication, and fundraising campaigns;
- recognize and establish liability protections in programming; and
- formulate effective program and coach assessment/evaluation.

## Requirements

The undergraduate Certificate in Interscholastic Athletic/Activities Administration requires a minimum of 21 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Students may transfer up to 9 s.h. of credit toward certificate completion. Contact the Department of Health and Human Physiology for guidance on submitting courses from other institutions that may be approved for certificate credit. Field experience taken elsewhere is not eligible for use toward the certificate.

Some courses below have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

The Certificate in Interscholastic Athletic/Activities Administration requires the following coursework.

## Core Courses

Code	Title	Hours
All of these:		
SRM:3148	Interscholastic Activities and Athletics Administration	3
SRM:3700	Ethics in Sport	3
SRM:3800	Sport Law for Interscholastic Athletic Directors	3
EPLS:4200	Diversity and Inclusion in Athletics	3

## Field Experience

Field experience is essential to completion of the National Interscholastic Athletic Administrators Association (NIAAA) requirements for first-level certification as a registered athletic administrator (RAA). Students must complete a minimum of 3 s.h. in the following course with an approved partner and oversight from the Office of Field Experience (sport and recreation management) in the Department of Health and Human Physiology.

Code	Title	Hours
SRM:4196	Interscholastic Athletic Administration Field Experience	3-9

## Electives

Students select a minimum of 6 s.h. from the following.

Code	Title	Hours
HHP:1045	Diversity and Inclusion in Healthy Living	3
HHP:3045	Physical Activity Psychology	3
SRM:2065	The Experience Economy	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
SRM:3146	Sports Officiating: Rules, Theories, and Issues	3
SRM:3147	Sport Event Management	3
SRM:3149	Coaching Theory, Body Structure, and Human Development (this course and SRM:3155 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3150	Recreation Administration	3
SRM:3155	Prevention and Care of Athletic Injuries for Coaches (this course and SRM:3149 together allow students to apply for state of Iowa coaching authorization)	3
SRM:3176	Sports Analytics for Coaches, Managers, and Other Decision Makers	3
SRM:3200	Topics in Sport and Recreation Management (when topic is the politics of sports)	3
SRM:3210	Event Bidding: Processes and Strategies	3
ARTS:1070	Elements of Graphic Design	3

COMM:1819	Organizational Leadership	3
EDTL:3114	Parent-Child Relationships	3
EDTL:4940	Characteristics of Disabilities	3
EPLS:4180	Human Relations for the Classroom Teacher	3
EPLS:6201	Foundations of School Administration	3
JMC:1300	Introduction to Journalism and Strategic Communication	3
JMC:5240	Digital Strategic Communication	3
PSQF:1075	Educational Psychology and Measurement	3
PSQF:4134/ EDTL:4934	Parent-Teacher Communication	1-3
RHET:2085	Speaking Skills	3

The Iowa Board of Educational Examiners (BoEE) requires applicants for the state activities director authorization to also have a BoEE coaching authorization. Students who do not have the BoEE coaching authorization must complete the following certificate elective courses, which lead to the BoEE coaching authorization: SRM:3149 Coaching Theory, Body Structure, and Human Development and SRM:3155 Prevention and Care of Athletic Injuries for Coaches.

# Sport and Recreation Management, M.A.

## Learning Outcomes

Graduates will be able to:

- apply and analyze financial and risk management principles and marketing and promotion strategies in the sport and recreation industries;
- demonstrate comprehensive understanding of leadership principles in the sport and recreation industries;
- demonstrate comprehensive understanding of the experience economy and its application in the sport and recreation industries;
- demonstrate the ability to perform research for and apply findings to the sport and recreation industries;
- express ideas clearly, logically, and persuasively in both oral and written formats;
- demonstrate critical thinking, teamwork, project management, and presentation principles to unique sport and recreation organization challenges;
- develop a career objective and begin to implement a clear plan for achieving it; and
- demonstrate an understanding of and the ability to apply ethical decision-making to sport and recreation industry challenges.

## Requirements

The Master of Arts program in sport and recreation management requires a minimum of 30 s.h. Required coursework (21 s.h.) includes experiential learning in a field experience course and a capstone course that allows students to perform research in an area of interest that has practical application during the final semester before graduation.

The M.A. with a major in sport and recreation management requires the following coursework.

Code	Title	Hours
All of these:		
SRM:4197	Sport and Recreation Field Experience	3
SRM:5065	The Economy of Experience	3
SRM:6251	Risk Management	3
SRM:6252	Economics and Financing	3
SRM:6253	Sport Administration	3
SRM:6254	Marketing and Sport Promotion	3
SRM:6255	Capstone Project	3
Electives (need advisor approval for electives; no more than 3 s.h. in elective credit may be taken in SRM:4197)		9
<b>Total Hours</b>		<b>30</b>

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants also must meet sport and recreation management program requirements, which include:

- U.S. baccalaureate degree from a regionally accredited college or university or an equivalent degree from another country as determined by the Office of Admissions;
- a minimum g.p.a. of at least 3.00 or the international equivalent as determined by the Office of Admissions;
- a score from either the Graduate Record Examination (GRE) General Test or the Graduate Management Admissions Test (GMAT) taken no more than five years prior to the date the applicant is seeking admission;
- a personal statement;
- three letters of recommendation;
- a résumé; and
- international applicants whose native language is other than English must comply with the Graduate College guidelines for admission, which include submission of an acceptable score on the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET), and any other Office of Admission requirements.

Application deadlines are:

- Fall semester—February 1
- Spring semester—October 1
- Summer session—February 1

Applications submitted after the deadline will be considered only if there is available space.

## Financial Support

The sport and recreation management program offers a limited number of teaching assistantships. Applicants interested in being considered for a position should indicate their interest when they submit their online application.

## Career Advancement

Through academic coursework, practical experience, an individualized capstone project, and a network of industry contacts, the program is designed to help students achieve their unique professional and educational goals. Alumni find employment in such settings as professional team front offices, college and high school athletic departments, campus and community recreation programs, agencies serving sport and recreation clients, league offices, coaching, and in a number of other areas.

The faculty provides individual mentoring to students and offers several opportunities for students to connect with industry professionals throughout the year to learn about internships and jobs.

The Office of Field Experience in the sport and recreation management program in the Department of Health and Human Physiology assists students in finding their specific connection to the industry. The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and



should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Sport and Recreation Management, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SRM:5065	The Economy of Experience	3
SRM:6252	Economics and Financing	3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
SRM:4197	Sport and Recreation Field Experience	3
SRM:6253	Sport Administration	3
SRM:6254	Marketing and Sport Promotion	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
SRM:6251	Risk Management	3
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
SRM:6255	Capstone Project <sup>c</sup>	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>30</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b No more than 3 s.h. of elective coursework may be from SRM:4197 field experiences; work with faculty advisor to determine appropriate graduate coursework and sequence.

c Includes oral and written components.

# Health and Human Physiology, M.S.

## Learning Outcomes

### Child Life Subprogram

Graduates will:

- demonstrate an understanding of developmental and psychosocial needs of children and families in health care settings and the assessment, planning, implementation, and documentation of developmentally appropriate child life interventions;
- demonstrate an understanding of stressful life experiences and coping techniques for children and families from a family systems perspective;
- demonstrate the ability to maintain relationships with children, families, peers, and an approach to teamwork and collaboration skills;
- demonstrate an understanding of therapeutic play and creating a therapeutic environment with opportunities in health care and community settings;
- demonstrate effective oral and written communication and strong critical thinking skills;
- learn to analyze and present research and evidenced-based practice related to children and families;
- prepare for the role of a certified child life specialist in hospitals and community-based facilities; and
- successfully complete a child life practicum, child life internship, and meet all requirements and pass the certification exam.

### Clinical Exercise Physiology Subprogram

Graduates will:

- demonstrate comprehensive understanding of normal and abnormal cardiovascular, respiratory, and exercise physiology;
- demonstrate comprehensive understanding of pharmacokinetics, mechanisms of action, indication, contraindication, and names of common cardiac, vascular, metabolic, pulmonary, hematological, and neurological drugs;
- demonstrate comprehensive understanding of physical activity assessment, the major determinants of physical activity behaviors, and the application of physical activity behavior change strategies;
- demonstrate comprehensive understanding of metabolic exercise testing and exercise prescription for healthy adults;
- demonstrate understanding of beginning and intermediate electrocardiography (ECG), exercise testing, and exercise prescription for adults with cardiovascular, pulmonary, or metabolic disease;
- demonstrate competency in clinical skill, including taking health screening, heart rate pulse, blood pressure, and pulse oximetry at rest and during exercise;
- understand basic research methods, study design, and statistical analysis; and
- read, interpret, and critique scientific papers in clinical exercise physiology.

## M.S. in Health and Human Physiology Without Subprogram

Graduates will:

- demonstrate understanding and critical evaluation of the scholarly literature in the area of specialization within human physiology and/or health promotion;
- formulate testable research questions and hypotheses resulting in proper experimental study design and analysis plan;
- conduct quantitative or qualitative research including data collection, analysis, and interpretation of results in the context of current scientific knowledge; and
- present scientific results to the department, University, or regional/national scientific community.

## Requirements

The Master of Science program in health and human physiology requires 30-36 s.h. of graduate credit. Required credit varies by subprogram: the child life subprogram requires a minimum of 36 s.h. and is offered without thesis; the clinical exercise physiology subprogram requires a minimum of 32 s.h. and is offered without thesis; the M.S. program in health and human physiology requires a minimum of 30 s.h. and is offered with thesis.

Students interested in pursuing a Ph.D. after earning a master's degree should choose the M.S. in health and physiology program with thesis.

## Child Life Subprogram

The child life subprogram provides expertise in child development through services to support families and to promote children's mastery of life experiences, particularly children's health care events. Professionals in this area enhance effective coping skills through play, education, communication, and family-centered care. The program prepares students to meet credentialing requirements. For more information about the profession, visit the Association of Child Life Professionals.

In order to be admitted to the subprogram, students must:

- hold a B.S. or B.A. degree with a g.p.a. of at least 3.00;
- have completed one course each in human anatomy, medical terminology, and two courses in child development that focus on children and adolescents;
- have verification of 100 hours of paid or volunteer experience in child life or in a pediatric setting; and
- three letters of recommendation, with at least one from a credentialed child life specialist.

Students who have not completed an introductory course in child life must enroll in TR:1077 Introduction to Child Life during their first semester.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Students who pursue the child life subprogram must successfully pass comprehensive exams in the last semester prior to their child life internship. The comprehensive exam

committee works with each student to develop exam questions.

The M.S. in health and human physiology with the child life subprogram requires the following coursework (minimum of 36 s.h.).

## Core Courses

Code	Title	Hours
All of these:		
PSQF:4143/ STAT:4143	Introduction to Statistical Methods	3
TR:5165	Child Life: Child Development and Healthcare Interventions	3
TR:5166	Child Life: Seminar	3
TR:5167	Child Life Practicum	3
TR:5211	Professional Ethics and Practice in Pediatrics	3
TR:5260	Play and Childhood	3
TR:5261	Family Systems	3
One of these:		
CSED:4131	Loss, Death, and Bereavement	3
SSW:3786/ ASP:3786	Death/Dying: Issues Across the Life Span	3-4
One of these:		
HHP:6020	Advanced Research Methods and Ethics	1-3
TR:5205	Research Methods and Play Behavior	3

## Internship

The supervised internship requires 600 contact hours with a certified child life specialist.

Code	Title	Hours
This course:		
TR:5270	Child Life Internship	9

## Clinical Exercise Physiology Subprogram

The clinical exercise physiology subprogram provides an advanced scientific and clinical education. It prepares students to be allied health professionals who work in the application of physical activity and behavioral interventions for clinical diseases and health conditions including cardiovascular, pulmonary, metabolic, orthopedic, neuromuscular, immunologic, and hematologic diseases.

In order to be admitted to the subprogram, students must:

- hold a B.S. or B.A. degree with a g.p.a. of at least 3.00; and
- have completed anatomy and physiology with laboratories (8 s.h.).

The Master of Science with the clinical exercise physiology subprogram requires the following coursework (minimum of 33 s.h.).

## Core Courses

Code	Title	Hours
All of these:		
HHP:6030	Physical Activity and Dietary Behavior Change	3
HHP:6150	Advanced Clinical Exercise Physiology (consult advisor for semester hours required)	1,3
HHP:6200	Instruction in Metabolic Exercise Testing and Prescription	4
HHP:6260	Advanced Respiratory Pathophysiology (consult advisor for semester hours required)	1,3
HHP:6410	Advanced Exercise Physiology (consult advisor for semester hours required)	1,3
HHP:6460	Advanced Cardiovascular Physiology (consult advisor for semester hours required)	1,3
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3

## Statistics Courses

Code	Title	Hours
One of these introductory courses (or equivalent):		
BIOS:4120	Introduction to Biostatistics	3
PSQF:6242	Selected Applications of Statistics	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Research Methods Course

Code	Title	Hours
This course:		
HHP:6020	Advanced Research Methods and Ethics	2

## Internship

Students complete an individually arranged internship, usually during their second year, earning at least 3 s.h. of credit.

Code	Title	Hours
This course:		
HHP:5935	Clinical Exercise Physiology Internship	3-6

## General Elective Courses

With advisor approval, students choose elective coursework that enhances their concentration in human and exercise physiology, clinical exercise physiology, prescriptive exercise and training for health and fitness, health maintenance, and understanding human disease.

Code	Title	Hours
HHP:4400	Health Promotion Clinical Practicum	1

HHP:4405	Health Promotion Community and Worksite Practicum	1
HHP:4420	Planning and Evaluating Health Interventions	3
HHP:5200	Epidemiology of Physical Activity	3
HHP:6050	Advanced Topics in Obesity	3
HHP:6130	Advanced Skeletal Muscle Physiology	1,3
HHP:6300	Motor Control Seminar	1
HHP:6400	Integrative Physiology Seminar	1
HHP:6470	Advanced Physiology of Aging	1,3
HHP:6500	Seminar in Health Promotion	1
HHP:6510	Advanced Energetics in Health and Disease	1,3
HHP:7300	Advanced Sensorimotor Neurophysiology	1,3
ACB:5203	Gross Human Anatomy for Graduate Students	5-6
EPID:6350	Nutritional Epidemiology	2
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
PSY:3010	Health Psychology	3
PSY:3340	Behavior Modification	3
PTRS:6224	Activity-Based Neural and Musculoskeletal Plasticity in Health Care	4
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3

## M.S. in Health and Human Physiology with Thesis

The health and human physiology program requires a thesis. Students who intend to earn a Ph.D. after completing the master's degree should choose this program. In order to be admitted, students must hold a B.S. or B.A. degree with a g.p.a. of at least 3.00.

The Master of Science program in health and human physiology requires the following coursework (minimum of 30 s.h.).

### Introductory Statistics Courses

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
PCOL:5204	Basic Biostatistics and Experimental Design	1
PSQF:6242	Selected Applications of Statistics	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

### Advanced Statistics Courses

Code	Title	Hours
One of these:		
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	3

### Research Methods Course

Code	Title	Hours
This course:		
HHP:6020	Advanced Research Methods and Ethics	3

### Seminar Courses

Code	Title	Hours
Two enrollments (1 s.h. each) chosen from these:		
HHP:6300	Motor Control Seminar	1
HHP:6400	Integrative Physiology Seminar	1
HHP:6500	Seminar in Health Promotion	1

### General Elective Courses

Students choose elective courses that broaden their knowledge in health and human physiology and related disciplines, and enhance their knowledge in their specific areas of interest, with guidance from their advisor/mentor; electives may include the following.

Code	Title	Hours
HHP:3050	Obesity: Causes, Consequences, Prevention, and Treatment	3
HHP:3440	Physical Activity Interventions	3
HHP:3450	Immunology in Health and Disease	3
HHP:4020	Health Communication and Coaching Strategies	3
HHP:4320	Nutrition Interventions	3
HHP:4390	Understanding Human Disease	3
HHP:4450	Human Genetics and Disease	3-4
HHP:5200	Epidemiology of Physical Activity	3
HHP:6000	Research	arr.
HHP:6030	Physical Activity and Dietary Behavior Change	3
HHP:6050	Advanced Topics in Obesity	3
HHP:6130	Advanced Skeletal Muscle Physiology	1,3
HHP:6150	Advanced Clinical Exercise Physiology	1,3
HHP:6200	Instruction in Metabolic Exercise Testing and Prescription	1,4
HHP:6260	Advanced Respiratory Pathophysiology	1,3

HHP:6410	Advanced Exercise Physiology	1,3
HHP:6460	Advanced Cardiovascular Physiology	1,3
HHP:6470	Advanced Physiology of Aging	1,3
HHP:6510	Advanced Energetics in Health and Disease	1,3
HHP:7300	Advanced Sensorimotor Neurophysiology	1,3
ACB:5203	Gross Human Anatomy for Graduate Students	5-6
BMB:3110	Biochemistry	3
EPID:4400	Epidemiology I: Principles	3
EPID:6350	Nutritional Epidemiology	2
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6600	Epidemiology of Chronic Diseases	3
MPB:5153	Graduate Physiology	4
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3

## Thesis

Code	Title	Hours
This course:		
HHP:7500	Thesis: M.S.	4

## Admission

Admission to the department's graduate programs is based on grade-point average, and score on the Graduate Record Examination (GRE) General Test or the International English Language Testing System (IELTS). International students also can submit acceptable scores on the Test of English as a Foreign Language (TOEFL) or the Duolingo English Test (DET).

Applicants to the M.S. program must have an undergraduate g.p.a. of at least 3.00. They also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Application deadline is February 1 for admission the following fall.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Health and Human Physiology, M.S.

- Child Life Subprogram [p. 685]
- Clinical Exercise Physiology Subprogram [p. 685]
- Health and Human Physiology with Thesis [p. 686]

### Child Life Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
36 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
TR:5165	Child Life: Child Development and Healthcare Interventions	3
TR:5260	Play and Childhood	3
TR:5261	Family Systems	3
TR:6200	Child Life Graduate Forum	0
		<b>Hours</b>
		<b>9</b>
<b>Spring</b>		
PSQF:4143 or STAT:4143	Introduction to Statistical Methods or Introduction to Statistical Methods	3
TR:5166	Child Life: Seminar	3
TR:5167	Child Life Practicum	3
		<b>Hours</b>
		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
CSED:4131 or SSW:3786	Loss, Death, and Bereavement or Death/Dying: Issues Across the Life Span	3
TR:5205 or HHP:6020	Research Methods and Play Behavior or Advanced Research Methods and Ethics	3
TR:5211	Professional Ethics and Practice in Pediatrics	3
TR:6200	Child Life Graduate Forum	0
Final Exam <sup>b</sup>		
		<b>Hours</b>
		<b>9</b>
<b>Spring</b>		
TR:5270	Child Life Internship <sup>c</sup>	9
		<b>Hours</b>
		<b>9</b>
		<b>Total Hours</b>
		<b>36</b>

<sup>a</sup> Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

<sup>b</sup> Written four-hour exam covering three areas: research, child life practice, and case study analysis.

<sup>c</sup> Supervised internship; requires 600 contact hours with a certified child life specialist.

### Clinical Exercise Physiology Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
33 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
HHP:6020	Advanced Research Methods and Ethics	2
HHP:6200	Instruction in Metabolic Exercise Testing and Prescription	4
HHP:6460	Advanced Cardiovascular Physiology	3
Elective course or Statistics requirement <sup>b, c</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
HHP:6030	Physical Activity and Dietary Behavior Change	3
HHP:6150	Advanced Clinical Exercise Physiology	3
HHP:6260	Advanced Respiratory Pathophysiology	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
HHP:6410	Advanced Exercise Physiology	3
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
HHP:5935	Clinical Exercise Physiology Internship <sup>d</sup>	3
Elective course <sup>e</sup>		3
Final Exam <sup>f</sup>		3
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>33</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Work with faculty advisor to determine appropriate graduate elective coursework and sequence.
- c If statistics course completed as an undergraduate, may be waived upon approval; otherwise choose one introductory course from BIOS:4120, PSQF:6242, STAT:3510/IGPI:3510, STAT:4143/PSQF:4143 and work with faculty advisor to determine which course to take.
- d May complete in summer of year one or during year two of the program.
- e Work with faculty advisor to determine appropriate graduate elective coursework and sequence. Note: may complete a 2nd HHP:5935 Internship instead of a 2nd elective.
- f Written one-day (4-6 hour) exam.

Course	Title	Hours
<b>Health and Human Physiology with Thesis</b>		
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
HHP:6000	Research	3
HHP:6020	Advanced Research Methods and Ethics	3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Introductory Statistics course <sup>c</sup>		1 - 3
Seminar course <sup>d</sup>		1
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		2
<b>Hours</b>		<b>7-9</b>
<b>Second Year</b>		
<b>Fall</b>		
HHP:6000	Research	3
Seminar course <sup>d</sup>		1
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>7</b>
<b>Spring</b>		
Advanced Statistics course <sup>e</sup>		3
HHP:7500	Thesis: M.S.	4
Final Exam: Thesis Defense		3
<b>Hours</b>		<b>7</b>
<b>Total Hours</b>		<b>30-32</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Work with faculty advisor to determine appropriate graduate coursework and sequence.
- c Choose one course from BIOS:4120, PCOL:5204, PSQF:6242, STAT:3510/IGPI:3510, STAT:4143/PSQF:4143.
- d Choose from HHP:6300, HHP:6400, HHP:6500; enroll two times for 1 s.h. each.
- e Choose one course from BIOS:5120/IGPI:5120/STAT:5610, STAT:6513/PSQF:6243.

# Health and Human Physiology, Ph.D.

## Learning Outcomes

Graduates will:

- demonstrate understanding and critical evaluation of the scholarly literature in the area of specialization within human physiology and/or health promotion;
- formulate testable research questions and hypotheses resulting in proper experimental study design and analysis plan;
- conduct quantitative or qualitative research including data collection, analysis, and interpretation of results in the context of current scientific knowledge;
- present research results in oral, poster, and/or written format to the scientific community;
- prepare a research grant or fellowship for an extramural federal, state, or private funding agency; and
- prepare original research manuscript(s) as first author for submission to a peer-reviewed scientific journal.

## Requirements

The Doctor of Philosophy program in health and human physiology requires a minimum of 72 s.h. of graduate credit.

Doctoral students should have a strong background in the natural sciences and/or health promotion, and a working knowledge of statistics and research methodology. Students may acquire additional knowledge of statistics and research methodology after entering the program.

All Ph.D. students complete a common core of courses, elective courses, 10 s.h. of independent research in HHP:6000 Research, and a 12 s.h. dissertation requirement in HHP:7900 Thesis: Ph.D. They must complete a dissertation in their specialization area.

Some courses in the program are offered by other departments. Faculty members from those departments frequently serve on comprehensive examination committees and on dissertation committees for the initial presentation of a candidate's prospectus. They also participate in the final examination.

The Ph.D. with a major in health and human physiology requires the following coursework.

## Core Courses

Code	Title	Hours
All of these:		
HHP:6000	Research	arr.
HHP:6020	Advanced Research Methods and Ethics	3
HHP:7000	Practicum in College Teaching (only for students without a teaching assistantship)	arr.
HHP:7900	Thesis: Ph.D.	arr.

## Introductory Statistics Course

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
PSQF:6242	Selected Applications of Statistics	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Advanced Statistics Courses

Code	Title	Hours
Two advanced statistics courses, such as the following (consult advisor):		
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	3

## Seminar Courses

Code	Title	Hours
Four enrollments (1 s.h. each) from the following:		
HHP:6300	Motor Control Seminar	1
HHP:6400	Integrative Physiology Seminar	1
HHP:6500	Seminar in Health Promotion	1

## General Electives

Students are expected to obtain broad-based knowledge in their specialization area. This normally entails approximately 30 s.h. of coursework. Students choose specialization electives with guidance from their advisor/mentor. Electives may include any of the following.

Code	Title	Hours
HHP:3050	Obesity: Causes, Consequences, Prevention, and Treatment	3
HHP:3440	Physical Activity Interventions	3
HHP:3450	Immunology in Health and Disease	3
HHP:4020	Health Communication and Coaching Strategies	3
HHP:4320	Nutrition Interventions	3
HHP:4390	Understanding Human Disease	3
HHP:4450	Human Genetics and Disease	3-4
HHP:5200	Epidemiology of Physical Activity	3
HHP:6030	Physical Activity and Dietary Behavior Change	3
HHP:6050	Advanced Topics in Obesity	3
HHP:6130	Advanced Skeletal Muscle Physiology	1,3
HHP:6150	Advanced Clinical Exercise Physiology	1,3

HHP:6200	Instruction in Metabolic Exercise Testing and Prescription	1,4
HHP:6260	Advanced Respiratory Pathophysiology	1,3
HHP:6310	Advanced Sport and Exercise Nutrition	3
HHP:6410	Advanced Exercise Physiology	1,3
HHP:6460	Advanced Cardiovascular Physiology	1,3
HHP:6470	Advanced Physiology of Aging	1,3
HHP:6510	Advanced Energetics in Health and Disease	1,3
HHP:7300	Advanced Sensorimotor Neurophysiology	1,3
ACB:5203	Gross Human Anatomy for Graduate Students	5-6
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3
EPID:4400	Epidemiology I: Principles	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:6350	Nutritional Epidemiology	2
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6600	Epidemiology of Chronic Diseases	3
FRRB:7000	Redox Biology and Medicine	4
MMED:6230	Pathogenesis of Metabolic and Cardiovascular Disorders	3
MPB:5153	Graduate Physiology	4
NSCI:4353/ BIOL:4353	Neurophysiology: Cells and Systems	3-4
NSCI:7235/ NEUR:7235	Neurobiology of Disease	3
OEH:4310	Occupational Ergonomics: Principles	3
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3
PCOL:3102	Pharmacology II: Mechanisms of Drug Action	3
PTRS:5210	Kinesiology and Pathomechanics	4
PTRS:6224	Activity-Based Neural and Musculoskeletal Plasticity in Health Care	4
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3

## Independent Research

Students must enroll in the independent research course.

Code	Title	Hours
This course:		
HHP:6000	Research	10

## Dissertation

Students working on a dissertation register for the following course.

Code	Title	Hours
HHP:7900	Thesis: Ph.D.	12

## Admission

Admission to the graduate program is based on grade-point average, and score on the Graduate Record Examination (GRE) General Test or International English Language Testing System (IELTS). International students also can submit acceptable scores on the Test of English as a Foreign Language (TOEFL) or the Duolingo English Test (DET).

Applicants to the Ph.D. program must have a g.p.a. of at least 3.00 on undergraduate work and previous graduate work. They also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Application deadline is February 1 for admission the following fall.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Health and Human Physiology, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
HHP:6020	Advanced Research Methods and Ethics	3
	Specialization Area elective <sup>b</sup>	4
	Introductory Statistics course <sup>c</sup>	3
	Seminar course <sup>d</sup>	1
		<b>11</b>
<b>Spring</b>		
HHP:6000	Research	3
	Advanced Statistics course <sup>e</sup>	3
	Specialization Area elective <sup>b</sup>	4



Seminar course <sup>d</sup>	1
<b>Hours</b>	<b>11</b>
<b>Second Year</b>	
<b>Fall</b>	
HHP:6000 Research	3
Advanced Statistics course <sup>e</sup>	3
Specialization Area elective <sup>b</sup>	3
Seminar course <sup>d</sup>	1
<b>Hours</b>	<b>10</b>
<b>Spring</b>	
HHP:6000 Research	4
Specialization Area elective <sup>b</sup>	3
Specialization Area elective <sup>b</sup>	4
Comprehensive Exam <sup>f</sup>	
<b>Hours</b>	<b>11</b>
<b>Third Year</b>	
<b>Fall</b>	
Specialization Area elective or HHP:6000 Research <sup>b</sup>	3
Specialization Area elective or HHP:6000 Research <sup>b</sup>	3
HHP:7900 Thesis: Ph.D.	3
Seminar course <sup>d</sup>	1
<b>Hours</b>	<b>10</b>
<b>Spring</b>	
Specialization Area elective or HHP:6000 Research <sup>b</sup>	3
Specialization Area elective or HHP:6000 Research <sup>b</sup>	4
HHP:7900 Thesis: Ph.D. <sup>b</sup>	3
Comprehensive Exam <sup>g</sup>	
<b>Hours</b>	<b>10</b>
<b>Fourth Year</b>	
<b>Fall</b>	
Specialization Area elective or HHP:6000 Research <sup>b</sup>	3
HHP:7900 Thesis: Ph.D.	3
<b>Hours</b>	<b>6</b>
<b>Spring</b>	
HHP:7900 Thesis: Ph.D.	3
Final Exam: Dissertation Defense	
<b>Hours</b>	<b>3</b>
<b>Total Hours</b>	<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with faculty advisor to determine appropriate graduate coursework and sequence.

c Choose one course from BIOS:4120, PSQF:6242, STAT:3510/IGPI:3510, STAT:4143/PSQF:4143.

d Choose from HHP:6300, HHP:6400, HHP:6500; enroll four times for 1 s.h. each.

e Choose two courses from BIOS:5120/IGPI:5120/STAT:5610, STAT:6513/PSQF:6243.

f For students entering with an MA or MS degree.

g For students entering with a BA or BS degree.

# History

## Interim Chair

- Elizabeth Heineman

## Director, Graduate Program

- Mariola Espinosa

## Director, Undergraduate Program

- Sarah Bond

**Undergraduate major:** history (B.A.)

**Undergraduate minor:** history

**Graduate degrees:** M.A. in history; Ph.D. in history

**Faculty:** <https://clas.uiowa.edu/history/people/>

**Website:** <https://clas.uiowa.edu/history/>

History is the heart of a liberal arts education. Students of history develop an understanding of change—how it happens and why it happens the way it does—that enables them to engage the world they inhabit and to participate fully in civic life. Department of History courses engage the diversity of American life and bring a global consciousness that helps students to navigate the streets (and the news) from Iowa City to Berlin to Dar es Salaam.

Faculty and students in the department participate in many of the University's interdisciplinary departments and programs, including American studies, African American studies, Native American and Indigenous studies, classics, Asian studies, international studies, global health studies, Latin American studies, Latina/o/x studies, and gender, women's, and sexuality studies.

In addition to the undergraduate and graduate programs offered by the Department of History, many history courses are approved for the GE CLAS Core. Look for courses with prefix HIST under Diversity and Inclusion, Historical Perspectives, International and Global Issues, and Values and Culture areas in the GE CLAS Core [p. 20] section of the Catalog. History courses approved for the GE CLAS Core may not be taken pass/nonpass, even when they are taken as electives.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in History (Bachelor of Arts) [p. 704]

#### Minor

- Minor in History [p. 708]

### Graduate Programs of Study

#### Majors

- Master of Arts in History [p. 709]
- Doctor of Philosophy in History [p. 711]

## Facilities

University of Iowa Libraries offer excellent resources for undergraduate study in all fields of history, with distinct

strengths in U.S. history. The Main Library houses the Henry A. Wallace papers and related collections, the Iowa Women's Archives, and other unique materials. Special Collections has a vast archive of both printed and digitized materials, including five decades of papers and work donated by television news correspondent Tom Brokaw. The State Historical Society of Iowa in Iowa City and the Herbert Hoover Presidential Library and Museum in West Branch also hold valuable research materials. The Digital Scholarship and Publishing Studio offers assistance with projects in the digital humanities.

## Courses

### History Courses

History majors should take HIST:2151 Introduction to the History Major during their sophomore year or the first semester after they declare the major. First-year students planning to major in history may be admitted to HIST:2151 with permission from the director of undergraduate studies in the Department of History.

#### **HIST:1000 First-Year Seminar** 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **HIST:1010 History Matters** 3 s.h.

How do we understand the past on its own terms and what is its relevance to the present? Introduction to historical thinking through a variety of topics. GE: Historical Perspectives.

#### **HIST:1016 The History That Made Our World** 3 s.h.

How does history help to explain our interconnected world? Introduction to international and global thinking through a variety of topics. GE: Historical Perspectives; International and Global Issues.

#### **HIST:1025 Medieval Religion and Culture** 3 s.h.

Religion in Europe from classical antiquity to dawn of the Reformation; the religious element in traditions such as art, architecture, literature. GE: Historical Perspectives. Same as RELS:1225.

#### **HIST:1030 Introduction to Islamic Civilization** 3 s.h.

Survey of texts, ideas, events, institutions, geography, communities, literature, arts, sciences, and cultures in Islamic communities and societies since the 7th century. GE: International and Global Issues; Values and Culture. Same as RELS:1130.

#### **HIST:1040 Diversity in History** 3 s.h.

How did diversity affect past societies? How does history help us to understand diversity today? Introduction to thinking about diversity and inclusion; topics vary. GE: Diversity and Inclusion.

#### **HIST:1049 Introduction to Native American and Indigenous Studies** 3 s.h.

Exploration of past, present, and future of American Indians in the United States and beyond through film, art, music, and comedy. GE: Values and Culture. Same as AMST:1049, NAIS:1049.

#### **HIST:1050 Modern Religion and Culture** 3 s.h.

European and American religious life from Renaissance to 21st century; focus on specific themes, such as secularism, regionalism, pluralism. GE: Historical Perspectives. Same as RELS:1250.

- HIST:1101 The Modern World** 3 s.h.  
How did today's globalized world come to be? Which aspects of globalization are new and which are inherited from the past? Taking a long-term perspective, this course traces the development and acceleration of global interdependence since the 14th century; how far-flung parts of the globe have been linked to one another, how long-distance connections affected the societies involved, and how individuals have experienced and contributed to such global networks; students develop an understanding of globalization's long history leading up to the present and of their place in contemporary global networks. GE: Historical Perspectives.
- HIST:1115 The History and Science of Oil** 3 s.h.  
Historical perspective on business, science, geology, technology, politics, environment, and culture of the global oil industry; the rise of oil as the most influential international business of the last 150 years, the material foundation of economies, a major force in world politics, a shaper of daily life, and a guide to understanding Earth's deep history. Offered fall semesters. GE: Sustainability. GE: Historical Perspectives. Same as EES:1115, ENVS:1115, GEOG:1115.
- HIST:1166 Rapid Response History** 1 s.h.  
Bringing historians' expertise to bear on breaking news.
- HIST:1216 The American Dream in Historical Context** 1-3 s.h.  
Introduction to the "American Dream" from the perspective of workers in the United States.
- HIST:1219 Big Ideas: Equality, Opportunity, and Public Policy in America** 3 s.h.  
Examination of major social issues and challenges faced by nation, state, and communities; what government's role is in a democratic society; how we decide when, where, and how government acts in ways consistent with social goals and values; focus on pressing social issues (i.e., education, inequality, labor standards, health care); historical development of the problem or policy; ways we address social issues; effectiveness of current policies and alternative policies; ways in which social science contributes to policy design and assessment. Same as SOC:1219.
- HIST:1261 American History to 1877** 3 s.h.  
America before European colonization; encounters between Native Americans, Europeans, and Africans in North America; the rise and decline of European imperial powers; the independence and expansion of the American republic; economic, political, and social change from the American Revolutionary era through Civil War and Reconstruction. GE: Historical Perspectives.
- HIST:1262 American History 1877-Present** 3 s.h.  
America since Civil War and Reconstruction; politics, society, and culture from the post-Civil War decades through the Progressive Era, the Great Depression, and two world wars; the "Cold War" with Soviet communism abroad and at home, social protest movements and their influence on electoral politics, and the evolving economic and political role of U.S. in the world. GE: Historical Perspectives.
- HIST:1290 Native American Foods and Foodways** 3 s.h.  
Native Americans as original farmers of 46 percent of the world's table vegetables; examination of food as a cultural artifact (e.g., chocolate, tobacco); food as a primary way in which human beings express their identities; environmental, material, and linguistic differences that shape unique food cultures among Native peoples across the Western Hemisphere; close analysis of Indigenous foods, rituals, and gender roles associated with them; how colonization transformed Native American, European, and African American cultures. GE: Diversity and Inclusion. Same as AMST:1290, GHS:1290, NAIS:1290.
- HIST:1401 The West and the World: Ancient** 3 s.h.  
Many consider Greece and Rome important influences for the modern West, but who influenced the Greeks and Romans? Students look to the ancient Near East, home to civilizations such as Egypt and the Babylonians, and investigate the formation of larger communities, study how peoples of the ancient Mediterranean viewed their world, follow the paths of Greeks and Romans, and end with Christianization of the Roman Empire, to not only understand the history of the period, but also learn how to think, read, and write critically. GE: Historical Perspectives.
- HIST:1402 The West and the World: Medieval** 3 s.h.  
How have events of European history shaped modern institutions, politics, and culture worldwide, and how have other regions of the world shaped Europe? Students explore this question by tracing European history in a global context from the late Roman Empire to the 18th century to not only understand this history, but also learn how to read, write, and think critically about it. GE: Historical Perspectives.
- HIST:1403 The West and the World: Modern** 3 s.h.  
Why are debates about Western Civilization so heated? What is the relationship between the West and other world regions? Exploration of the idea of "the West" as it evolved from interactions between modern Europe, its colonies, and other regions; overview of topics including politics, slavery, global economy, colonialism, migration, and cultural norms over the last 300 years. GE: Historical Perspectives; International and Global Issues.
- HIST:1601 Civilizations of Asia: China from Origins to the 17th Century** 3 s.h.  
Introductory survey of Chinese history and civilization from its origins to 1800; exploration of traditions in politics, social organization, thought, religion, and culture. GE: Historical Perspectives; International and Global Issues. Same as ASIA:1601.
- HIST:1602 Civilizations of Asia: China from the 17th Century to the Present** 3 s.h.  
Introductory survey of Chinese history from the 17th century to present; exploration of political, social, economics, and culture. GE: Historical Perspectives; International and Global Issues. Same as ASIA:1602.
- HIST:1604 Civilizations of Asia: Japan** 3-4 s.h.  
GE: Historical Perspectives; International and Global Issues. Same as ASIA:1604.
- HIST:1606 Civilizations of Asia: South Asia** 3-4 s.h.  
Civilization of a vast region that includes India, Pakistan, Bangladesh, Nepal, and Sri Lanka. GE: Historical Perspectives; International and Global Issues. Same as ASIA:1606, RELS:1606.

**HIST:1607 Civilizations of Asia: Korea 3-4 s.h.**

Introduction to Korean history and culture; how meanings of "Korea" and "Koreans" changed from ancient times to present; relevant issues of politics, society, and culture; events that shaped ancient Korean states—Koryo state (918-1392), the Choson dynasty (1392-1910), Japanese colonization (1910-1945), and the two Koreas (1945-present); how present perspectives on Korea have influenced understandings of its past. GE: Historical Perspectives; International and Global Issues. Same as ASIA:1607.

**HIST:1609 India Now! Surveying the World's Largest Democracy 3-4 s.h.**

Introduction to India and its place in global economics, politics, religion, science, and culture since independence in 1947; India's contributions and adaptations to contemporary world, gender roles, changing sexual standards, and new ways India enters American lives—from globalized Bollywood films and music to new foods, fashions, and lifestyles; students examine the quiet revolution of affirmative action that has brought self-respect to millions, and market liberalization that has heightened economic inequality; consideration of ongoing challenges to world's largest democracy and contemporary efforts, both peaceful and violent, to address them. GE: Values and Culture. Same as ASIA:1609.

**HIST:1610 Living Religions of the East 3 s.h.**

Religious beliefs, practices in India, China, Japan. GE: Values and Culture. Same as ASIA:1040, RELS:1404.

**HIST:1612 Introduction to Buddhism 3 s.h.**

Development of Buddhism in India, its spread across Asia, and arrival in the West; exploration of diverse Buddhist philosophies, practices, and cultures; readings from India, Tibet, China, Japan, Korea, and Southeast Asia. GE: Values and Culture. Same as ASIA:1060, RELS:1506.

**HIST:1708 Civilizations of Africa 3 s.h.**

Introduction to the study of Africa; brief survey of African history; aspects of modern African life, including political and social issues, economic and health problems (including HIV/AIDS); classroom discussion of selected African films and assigned African novels. GE: Values and Culture.

**HIST:2120 World History: Stone Age to Feudal Age 3 s.h.**

World history from human origins, through classical antiquity, to the 16th century; political, economic, and environmental forces contributing to social transformations. Same as IS:2120.

**HIST:2122 World History: Feudal Age to Nuclear Age 3 s.h.**

World history from the late 1400s to 1945; colonialism, imperialism, capitalism, and industrialization as forces of global social and cultural transformation. Same as IS:2122.

**HIST:2148 The Invention of Writing: From Cuneiform to Computers 3 s.h.**

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, IS:2248, LING:2248, TRNS:2248, WLLC:2248.

**HIST:2150 Jews, Judaism, and Social Justice 3 s.h.**

Jewish frameworks for grappling with justice and ethics from ancient world to present day; emphasis on internal diversity of Jewish experience as well as interactions with dominant and other minority cultures. Same as GWSS:2050, RELS:2250, SJUS:2050.

**HIST:2151 Introduction to the History Major 3 s.h.**

Topics vary; development of skills needed to succeed as a history major and post-graduation; exploration of diverse sources historians use (textual, visual, oral history, digital, material culture); examination of primary sources created by the people studied; analysis of how historians comb evidence to offer varying interpretations of controversies; how to frame historical questions, find and interpret relevant sources, integrate them into clear arguments; the ways history is used in public life (public service, education, policy making, political debate, information management, culture industry); students complete at least one graded paper to be included in history portfolio (HIST:3193). Requirements: history major.

**HIST:2190 Global Print Cultures 3 s.h.**

Introduction to history of the book and book arts in diverse global contexts; histories of visual and verbal media, cross-cultural exchange, and the book's impact across time and space; hands-on work with historical books and book arts including papermaking, woodblock and letterpress printing, and binding. Same as ENGL:2901, UICB:2190.

**HIST:2195 Digital History Workshop 3-4 s.h.**

Introduction to use of new media in historical research and writing; web-based publishing and blogging; photo, text, and video editing; digital mapping; curation of digital resources; projects may include short documentary videos, web development, mapping projects, or collaborative curation (identifying, digitizing, annotating artifacts or documents from University collections) in collaboration with University of Iowa Libraries Digital Research & Publishing.

**HIST:2230 Fame and Celebrity in U.S. History 3 s.h.**

Cultural history of the meanings and implications of fame and celebrity in America; conception of fame in the 18th century as something earned through great deeds and conferred by future generations; rise of a culture of celebrity in 19th- and 20th-century America; focus on theater, sports, movie, and musical stars; use of celebrities to sell products; implications for presidential campaigns; instant and ephemeral celebrity generated by television and the internet. Same as AMST:2230.

**HIST:2250 The History of Social Justice Movements 3 s.h.**

History of contemporary social movements in the U.S. and how these movements have directly affected policies related to environment, food, reproductive justice, civil rights, immigration, labor, race, and gender; students read, explore, discuss, and write about the history of contemporary social movements in the U.S. that had lasting effects on policies related to environment, agriculture, health, reproductive justice, civil rights, labor, race, gender, and immigration; exploration of multiple modes of representation and resistance including protests, boycotts, strikes, music, art, writing, riots, civil disobedience, theater, poetry, dance, and poetry. Same as GWSS:2250, SJUS:2250.

**HIST:2266 Civil War and Emancipation 3 s.h.**

160 years later, what can we learn about American history from studying a war that both killed and liberated an unprecedented number of people? Why did it take a war to end slavery? How did emancipation occur and how did enslaved people accelerate the destruction of U.S. slavery during the war? Same as AFAM:2266.

**HIST:2267 African American History to 1877: From Slave Cabin to Senate Floor** 3 s.h.

Experiences of African and African American people in the American colonies and the states of the new nation; history of Africans and African Americans as early settlers, enslaved and free, in places such as Detroit, Chicago, New York, and New Orleans; interactions with Indigenous people; role in the war for American independence; long history of resistance to slavery and racial discrimination; exploration of the rich history of community building, creation of significant Black social and cultural institutions, and formation of Black political thought and political activism. GE: Diversity and Inclusion. Same as AFAM:2267.

**HIST:2268 African American History Since the Civil War** 3 s.h.

Exploration of racial oppression of African Americans and multiracial struggles against that oppression since the Civil War era; students examine the history of racism at individualized and systematic levels; historical efforts made by individuals and collective movements in service of the long Black freedom struggle; and the ways these twinned histories have shaped modern America. GE: Diversity and Inclusion. Same as AFAM:2268.

**HIST:2280 Introduction to Latina/o/x Studies** 3 s.h.

Introduction to field of Latina/o/x studies through interdisciplinary readings from literature, history, sociology, political science, urban studies, and anthropology; commonalities and differences among long-standing Latina/o/x populations (i.e., Mexican Americans, Puerto Ricans, Cuban Americans); challenges faced by newer arrivals (i.e., Dominican Americans, Salvadoran Americans, Guatemalan Americans, Central and South American immigrants). Taught in English. GE: Diversity and Inclusion. Same as LATS:2280, SPAN:2280.

**HIST:2288 Latina/o/x History from Conquest to the Present** 3 s.h.

Beginning with 16th century and stretching to the present, students map varied terrains of Latina/o/x history, exploring Mexican American, Puerto Rican, Cuban American, Dominican American, and Central American experiences in the United States; major themes include details of conquest and resistance, immigration, work, and creation of racial, gendered, and sexual differences within and between Latino/a/x communities; focus on shared Latina/o/x identity and changing images of Latina/o/x peoples within American popular culture; effects of current political issues on Latina/o/x community today.

**HIST:2292 Introduction to Native American Law and Policy** 3 s.h.

Survey of relationships among Native American tribes, the U.S. government, and the American settler society; consequences of contact and colonialism through study of an individual tribe, impacts of U.S. federal policy and settler colonialism on tribal communities, and how tribes responded variously to these challenges. Same as NAIS:2292.

**HIST:2294 Indigenous Art Activism and Social Justice** 3 s.h.

Examination of the Native and political aspects of Native arts in the 19th and 20th centuries, from drawings and material culture produced for tourists and collectors to works that explicitly address Native oppression through federal policies, popular cultural appropriations, and colonial representations of Indigenous peoples; emphasis on Indigenous interpretations of colonial and settler history and culture through various media and representations of Indigenous identity and politics. Same as NAIS:2294, SJUS:2294.

**HIST:2420 Germany in the World** 3-4 s.h.

The Federal Republic of Germany's increasing prominence in post-Cold War international affairs against backdrop of 20th-century history; Germany's role in the European Union and the changing relationship between Europe and the United States. Taught in English. GE: International and Global Issues. Same as GRMN:2720.

**HIST:2431 Roman Law, Order, and Crime** 3 s.h.

Case-based introduction to Roman law; principles of Roman law ranging from standards of evidence to trial procedures to various topics in civil and criminal law, including family law and the law of delict. Same as CLSA:2151.

**HIST:2444 Engineering and Technology in the Ancient World** 3 s.h.

Technologies developed and used in the ancient world—primarily in Greece and Rome, also in Egypt and the Ancient Near East; agriculture and food preparation; construction and architecture; technologies related to warfare. Same as CLSA:2144.

**HIST:2461 Middle East and Mediterranean: Alexander to Suleiman** 3 s.h.

GE: Historical Perspectives. Same as CLSA:2461, RELS:2361.

**HIST:2462 Middle East and Mediterranean: Saladin to Napoleon** 3 s.h.

Complement to HIST:2461; Mediterranean world from the age of Saladin (12th century) to Napoleon (early 19th century); history and imaginaries of the relationship between Europe and the Middle East.

**HIST:2465 Europe Since 1945** 3 s.h.

Europe since World War II: recovery, cold war, social and economic change, global perspectives.

**HIST:2483 History of Britain: Fall of Rome to the Norman Conquest** 3 s.h.

History of Britain from fall of Rome (after 410) and through Anglo-Saxon era, until Norman Conquest of 1066; Anglo-Saxon kings and kingdoms, church and society; poetry, historical writings, archaeology.

**HIST:2684 Korean War: Local and Global History** 3 s.h.

Examination of the Korean War as a local, regional, and global event; major topics of the war including its origins, methods of warfare, refugee question, war crimes, POWs, propaganda, memory, and commemoration from the perspective of multiple nations; discussion and analysis of scholarly works, textbooks, diplomatic documents, memoirs, fiction, visual sources, and film. Same as ASIA:2684.

**HIST:2687 Perspectives on Korea** 3 s.h.

History of Korea from earliest times to present; changing meanings of Korea and Koreans; relevant issues of politics, society, and culture; events that shaped ancient Korean kingdoms, the Choson dynasty (1392-1910), Japanese occupation, and divided Korean peninsula; how present perspectives on Korea have influenced understandings of its past; placement of Korea within a regional and global context to examine Korea's relationship with the world. Same as ASIA:2887.

**HIST:2802 Gender, Religion, and Social Identities in the Modern Middle East 3 s.h.**

Gender, religion, and social identities historically have served to articulate notions of modernity, community, and political ideologies; in the Middle East and North Africa, these categories have been used to assert European colonial and racial supremacy and patriarchal dominance as well as anti-colonial resistance and social revolution; examination of the formulations of gender, religion, and social identities with special emphasis on reformulation of individual and communitarian identities in the region after independence from European colonial powers.

**HIST:2810 The Modern Middle East: 1914 to Present 3 s.h.**

Fundamental questions that go beyond the boundaries of the Middle East and North Africa (e.g., legacy of colonialism, race/racism, identity, citizenship, violence); roots of present events.

**HIST:3101 History Internship 1-6 s.h.**

Internship involving historical work. Requirements: consent of director of undergraduate studies and Pomerantz Career Center.

**HIST:3106 History Behind the Headlines 1-3 s.h.**

Examination of selected national and international news stories and their historical background; a goal of creating informed world citizens.

**HIST:3126 History of Globalization 3 s.h.**

Broad overview of globalization in modern world history; focus on evolution of international business, world economy, interstate system, and cultural interchange in 19th and 20th centuries; long-distance trade and exchange; global economy under British Empire; globalization after 1945 following a 30-year period of nationalism, war, and depression; global market integration in late 20th century under American supremacy.

**HIST:3128 Topics in Global Environmental History 3 s.h.**

Examination of changing relationship over time between humans and nonhuman world in global and transregional contexts; environmental history from different angles; how humans have depended on, interacted with, and been shaped by natural world over time; how people have perceived and assigned meaning to natural world around them; how human attitudes and actions have altered or reshaped landscapes and their inhabitants; becoming sensitive to gendered, class, and racial aspects of environmental change; topics, scope, and time periods may vary.

**HIST:3131 Unnatural Disasters: A Global History 3 s.h.**

What is a natural disaster? How do we assess "naturalness" of these events within political, social, and historical contexts in which they occur? Are disasters specific moments of crisis, or rather, are they slow—unraveling across time and space years before and after the moment their pain is most acutely felt? Examination of these questions at a global scale.

**HIST:3133 Science, Technology, and Society in the Modern World 3 s.h.**

Origins and history of modern science and technology in cultural, social, political, and economic context from 1500s to present, with focus on Europe and the United States.

**HIST:3137 Politics of the Archaeological Past 3 s.h.**

How control over management of material remains of the ancient past, and representations of that past, intersect with the identity of diverse groups, including archaeologists, Indigenous peoples, national governments, collectors, ethnic minorities and majorities, museum curators; struggles for control of the archaeological past at different scales (artifacts, skeletal remains, sites, imagery, narratives) and in different regions of the world. Same as ANTH:3237, MUSM:3237.

**HIST:3143 International Politics: The History of the Present 3-4 s.h.**

Historical approach to international relations; comprehensive overview of key developments and concepts in history of international politics.

**HIST:3145 Europe and the United States in the Twentieth Century 3 s.h.**

Traveling in time and across the Atlantic, through movies and documentaries, propaganda and art, government documents and private letters, students explore the history of Europe and the United States in the 20th century and watch major events unfold: impact of the Great War and rise of fascism, World War Two and the Holocaust, origins of the European Union and NATO, major crises and resolution of the Cold War, transatlantic conflict and cooperation.

**HIST:3150 Feminist Readings of History 3 s.h.**

Feminist analysis has revolutionized the writing of history—not only on gender and sexuality, but also on topics as diverse as politics, economics, international relations, and social hierarchies (e.g., race, class, ability, religion); students examine feminist transformations of history with specific topics chosen by instructor. Same as GWSS:3150.

**HIST:3155 The World Since 1945 3 s.h.****HIST:3157 Gender, Sexuality, and Human Rights 3 s.h.**

History of gender and sexuality as components in international human rights activism and law; current debates, representative topics. Same as GWSS:3157.

**HIST:3160 Malcolm X, King, and Human Rights 3 s.h.**

Religion and politics of Malcolm X and Martin Luther King, Jr. in the context of U.S. civil rights and international human rights in West Africa and the Muslim world; emphasis on civil rights connections to Gandhi, the Nobel Peace prize, and other international experiences that have impacted Pan Africanists, such as Stokely Carmichael, who worked on human rights. Recommendations: international studies major or undergraduate standing. Same as AFAM:3500, RELS:3808.

**HIST:3162 History of Global Health 3 s.h.**

Foremost problems of health and disease in colonial and postcolonial societies; topical approach. Same as GHS:3162.

**HIST:3171 Slavery in World History 3 s.h.**

Introduction to study of slavery through the lens of world history; exposure to a range of societies where slavery was prevalent; identification of similarities and differences over different time periods and geographical distances; exploration of Roman slavery, slavery in non-Islamic Africa, trans-Atlantic slave trade in the United States and the Caribbean, and Native American slaveries, among others.

**HIST:3190 Medieval to Modern: The Birth of Protestantism 3 s.h.**

Same as RELS:3190.

**HIST:3191 Individual Study: Undergraduate arr.****HIST:3193 Undergraduate History Portfolio 0 s.h.**

Submission of required history portfolio. Requirements: history major and senior standing.

- HIST:3205 American Cultural History** 3 s.h.  
Nineteenth- and twentieth-century U.S. history from a cultural perspective; culture defined broadly to encompass paintings, sculpture, theater, novels, and newer forms of entertainment made available by lithography, photography, cinema, the phonograph, radio, and television; rather than assume Americans were passive consumers of commercial culture, students examine how Americans expressed themselves through foodways, home decor, clothing fashions, or slang; how Americans drew on these cultural forms in social/political struggles over race, gender, class, and sexuality. Same as AMST:3205.
- HIST:3217 Latina/o/x Immigration** 3 s.h.  
Immigration experiences of people arriving in the United States from other regions of the Americas (e.g., Mexico, Central America, the Caribbean, South America); what has fueled immigration—social, political, and economic developments in the United States and other nations; territorial conquest, colonialism, real and imagined borders, chain migration, formation of immigrant communities, acculturation, circular migration, social networks; how migration restructures gender relations; immigrant communities and pan-Latina/o/x identity in the United States. Same as LAS:3217, LATS:3217.
- HIST:3220 Pandemic Politics: The COVID-19 Crisis in Historical Perspective** 3 s.h.  
How the COVID-19 crisis marks an unprecedented public health and public policy moment in American history; challenges to public policies and governing institutions that have important parallels in earlier historical moments—particularly the Great Depression and the mobilization for World War II—and also mark important departures; examination of historical, political, and public policy implications of the COVID-19 crisis in the United States; placement of current moment in historical perspective; history of key public policies including public health, health insurance, employment security, and social assistance across the last century.
- HIST:3230 American Environmental History** 3 s.h.  
Introduction to environmental change in American history; human-nature interactions from colonial period to recent past; food and agriculture, industrial technologies and transportation, energy production and consumption, urbanization and sprawl, public lands and public works, environmental politics and law, toxic pollution and health, natural disasters, climate change.
- HIST:3232 History of American Inequality** 3 s.h.  
Survey of causes and consequences of inequality in modern American history.
- HIST:3234 Hard Times, Hard Luck: Social Policy in the United States** 3 s.h.  
Students examine the history of the American "safety net"; policies that provide state assistance to individuals and families; history of public role in addressing poverty, unemployment, health, and retirement security; how policies and policy makers determine who is deserving or undeserving of public assistance; historical background of current social policy debates.
- HIST:3240 U.S. Energy Policy in Global Context** 3 s.h.  
Historical and contemporary aspects of U.S. governmental planning and policy on a wide range of energy issues in global context. Same as GEOG:3780, GHS:3780, POLI:3431.
- HIST:3242 The United States in World Affairs** 3-4 s.h.  
America's emergence as leader in world affairs; imperialism, international collaboration, participation in world wars, the Cold War.
- HIST:3247 American Disasters** 3 s.h.  
Fault lines of American society and culture as exposed during catastrophe; history of American disaster investigated through methods from cultural history, visual theory, sociology, and media studies; varied disasters, 1800 to present, including those involving cities (Chicago fire, San Francisco earthquake, Chicago heat wave), transportation (Titanic, Challenger, Columbia), and environment (Union Carbide and Bhopal, Exxon Valdez); causes of catastrophes; how Americans react and are drawn to catastrophe (disaster films, jokes); related topics including technology, urbanism, race, class, apocalyptic religion, journalism, and popular culture.
- HIST:3249 History of Iowa and the Midwest** 3 s.h.  
People of Iowa and surrounding Midwestern states—a land where people work hard, are practical, down to earth, and honest; the idea of a place in the heartland as real or simply a myth; history of Midwestern states from Native American occupation to present; how reality, ideas, and images are portrayed. Same as AMST:3249.
- HIST:3250 American Stuff: Discovering History in Things** 3 s.h.  
Introduction to the historical study of material artifacts; how people have used objects to construct their memories, identities (e.g., class, race, sexuality, gender, nation), relationships, and status/power; how objects have inadvertently shaped us; finding artifacts in local collections; analyzing artifacts as historical sources; researching how objects were produced and sold and how they were used or misused; curating one's own exhibition; objects range from utilitarian (e.g., guns, farming tools, office gadgets, automobiles) to decorations, toys, souvenirs, and more.
- HIST:3251 The Office: Business Life in America** 3 s.h.  
History of business life in America from birth of Wall Street to rise of Silicon Valley; modes of managing and regulating office workers; changing designs of office buildings, furniture, gadgets; corporate response to rise of class inequalities and growing gender and racial diversity in workforce; portrayal of businessperson in novels, movies, television, art, photography. Same as AMST:3251.
- HIST:3252 Blacks and Jews: Race, Ethnicity, and Culture in America** 3 s.h.  
Examination of the historical relationship between Blacks and Jews from antebellum era to present. Same as GWSS:3130, SJUS:3130.
- HIST:3253 The Civil Rights Movement** 3 s.h.  
History of the American civil rights movement. Same as AFAM:3053, AMST:3053.
- HIST:3257 Civil Rights and Racial Justice: A Tour Through the South** 1-3 s.h.  
Exploration of the history of modern civil rights movement through lectures, shared readings, videos, and discussion; includes preparation and two-week tour of civil rights sites in the South. Prerequisites: SJUS:1001 or SJUS:2250 or GWSS:1002 or CCCC:2220 or AFAM:1030 or AFAM:2268 or HIST:2268 or AFAM:3053 or AMST:3053 or HIST:3253 or HIST:3232 or HIST:4260 or AFAM:3100 or HIST:3160 or HIST:3260 or AFAM:3260 or HIST:3282 or GWSS:3282 or HIST:4130 or HIST:4260. Same as AFAM:3257, GWSS:3257, SJUS:3257.

**HIST:3259 Making Change, Making History: Iowa's Black Activists and Digital History 3 s.h.**

From the 1830s through the end of the 19th century, African Americans formed local, state, and national meetings called "Colored Conventions," where they strategized about how to achieve social justice; students explore Iowa's connections to this history of political activism. Same as GWSS:3459, SJUS:3459.

**HIST:3260 Violence in Black America 3 s.h.**

Examination of violence—physical, structural, gendered, and psychological—and its impact of shaping Black American experience through resistance, cultural production, and community development. Same as AFAM:3260.

**HIST:3262 The Black Midwest: History, Literature, and Culture 3 s.h.**

Exploration of history, culture, and art of the Black Midwest using literature and scholarly readings, poems, music, and film; modern issues impacting Black Midwesterners; cultural, social, and political contributions of Black Midwesterners to the region and nation. Same as AFAM:3262.

**HIST:3263 American Ruins 3 s.h.**

Emergence and development of American fascination with ruins, from Indigenous to urban-industrial remains; actual ruins and depiction of imagined ruins in art, literature, cinema.

**HIST:3264 Technology in American Culture and Society 3 s.h.**

Social and cultural history of technology in the United States from cotton gin to smartphone; how technologies have shaped and been shaped by American culture, society, and politics—encompassing technologies of production, communication, transportation, entertainment, warfare, voting, surveillance, and more; economic forces spurring technological innovation and ways in which ordinary users re-appropriate technologies; cultural responses to new technologies (e.g., writers, artists, filmmakers, critics) ranging from fear to celebration; utopian and dystopian imaginings of future technologies.

**HIST:3265 American Monuments 3 s.h.**

History of public monuments in America from the inception of first major monuments in the 1820s to the latest incarnations (e.g., counter-monuments such as the 9/11 Memorial, spontaneous and temporary monuments, online memorials); how monuments have depicted Indians, Blacks, Southern confederates, women, and other groups; how monuments have commemorated wars, Indian massacres, lynchings, and political movements (e.g., civil rights, women's suffrage); how monuments have been reinterpreted through popular protests and depositing of artifacts; why monuments have attracted so much controversy, culminating in recent events at Charlottesville. Same as AMST:3265.

**HIST:3267 Apocalyptic Visions and Movements in U.S. History 3 s.h.**

The end of the world as imagined, feared, and in some cases, desired by Americans from 1700s to present; status of apocalypse in various religious communities and in American culture more generally (i.e., literature, art, popular culture); focus on political and social implications of apocalyptic visions; how they shaped historical events and periods (i.e., American Revolution, Civil War, Cold War); how they contributed to nationalism, racism, and imperialism as well as pacifism, anti-Americanism, utopian communities, and opposition to industry and technology; what role apocalypticism plays in the United States today.

**HIST:3270 Colonial North America, ca. 1600-1775 3 s.h.**

Introduction to major themes in colonial American history prior to the American Revolution; Native American history; colonialism and Native resistance; slavery; material culture; religion and spirituality; immigration; gender and sexuality in cross-cultural perspective. Same as NAIS:3270.

**HIST:3271 American Revolutionary Period 3 s.h.**

Political and military history of colonies 1754-1776; imperial upheaval; building a new nation; creation of federal system.

**HIST:3272 Native Americans in the Age of Empires, ca. 1500-1815 3 s.h.**

Overview of major issues in Native American history during the period of European Imperialism; colonialism, diplomacy and alliance building, warfare, captivity, religious and spiritual exchanges, revolution, and the disintegration of Native-European alliances in the early 19th century. Same as NAIS:3272.

**HIST:3273 War and Violence in Early American Societies and Culture 3 s.h.**

Introduction to role of warfare and violence in shaping early American society.

**HIST:3275 History of Slavery in the U.S.A. 3-4 s.h.**

Beginning, expansion, and ending of American slavery; how our national memory of slavery in popular culture (in high school history, in historical landmarks and museums) helps or hinders our understanding of history of slavery in the U.S. Same as AFAM:3275.

**HIST:3280 Women and Power in U.S. History Through the Civil War 3 s.h.**

Exploration of how women, as political actors, shaped the outcome of familiar events (the American Revolution, the Civil War); how they organized social movements around important issues of their lives such as the abolition of slavery and the right to consent to sexual intimacy; how women's inequality was established in law and social practice; how women thought about and challenged inequality, both as individuals and in social movements. Same as GWSS:3280.

**HIST:3282 Women and Power in U.S. History Since the Civil War 3 s.h.**

Major events and themes in U.S. women's history from late 19th century to present; how women's experiences have differed from men's; exploration of distinct, but interconnected histories of different groups of women; changing ideals of femininity; women's experience of industrialization, immigration, depression, war, and sexual revolution; women's activism for social reform, women's rights, labor, civil rights, peace, and the New Right. Same as GWSS:3282.

**HIST:3289 The Atlantic World c. 1450-1850 3 s.h.**

Interactions between peoples of Europe, Africa, and the Americas between the 15th and mid-19th centuries, interconnected system of exchange that defied national and imperial boundaries; encounters between Native Americans, Africans, and Europeans in different parts of the Americas; forced and voluntary resettlement of Africans and Europeans overseas; development of plantation slave societies; biological consequences of transatlantic contact; circulation of people, goods, and ideas; development of creole societies; era of revolutions; abolition of slavery. Same as NAIS:3289.



**HIST:3401 Ancient Egypt and the Ancient Near East****3 s.h.**

Survey of political, economic, religious, and social change in ancient Egypt from ca. 3000 B.C.E. until its conquest by Persia, and of the ancient Near East from ca. 3000 B.C.E. until Alexander the Great's conquests. Same as CLSA:3401.

**HIST:3403 City of Athens: Bronze Age to Roman World****3 s.h.**

Athens from Bronze Age to end of Roman period; topics include the city's role in development of political democracy and religion, as well as the art and archaeology of the city. Same as ANTH:3821, CLSA:3821.

**HIST:3404 The World of Ancient Greece****3 s.h.**

Survey of Greece history from ca. 2000 B.C. to 300 B.C.; Minoan, Mycenaean, and Greek society and culture; contact between Greek mainland and eastern Mediterranean cultures; development of the polis; political developments throughout the period; readings include a variety of sources in translation as well as modern interpretations; methodological problems in studying ancient Greece including interpretation of ancient historiography and using evidence from art, archaeology, and literature; knowledge of ancient Greek not required. Same as CLSA:3404.

**HIST:3409 Medieval Civilization I****3 s.h.**

Europe from the decline of Roman empire to the eleventh century; cultural, political, economic, artistic and architectural foundations of Western civilization. Same as MDVL:3409.

**HIST:3410 Medieval Civilization II****3 s.h.**

Europe from the eleventh century to the Italian Renaissance; cultural, political, economic, artistic, and architectural foundations of Western civilization. Same as MDVL:3410.

**HIST:3412 Medieval Philosophy****3 s.h.**

Introduction to St. Thomas Aquinas, William of Ockham, and Duns Scotus, three of the most brilliant philosophers of the high middle ages (11th through 13th centuries); their writing as Christians in (fascinated) reaction to philosophical systems of their pagan predecessors; how medieval philosophers wrestled with problems concerning possibility of free will and responsibility in face of divine omniscience and foreknowledge; existence of abstract universals in a world that is nonabstract and particular; nature and existence of God; skepticism and limits of human knowledge; nature of good and evil. Same as PHIL:3112.

**HIST:3413 Early Modern Britain: The Tudor and Stuart Era****3 s.h.**

History of Britain during the reigns of the Tudor and Stuart monarchs (1509-1714); focus on political institutions, economic development, civil conflict, religious change, origins of the British Empire, and everyday life.

**HIST:3415 Britain and Its Empire: Eighteenth and Nineteenth Centuries****3 s.h.**

Britain and its empire from the Revolution of 1688 to the outbreak of World War I; topics include the growth of the British Empire; trans-Atlantic slave trade and its abolition; Industrial Revolution; political union and ongoing conflict between England, Scotland, and Ireland; political reform, expansion of franchise, and rise of labor and feminist movements; science, art, and culture; religion in British life.

**HIST:3416 Modern Britain: War and Empire in the Twentieth Century****3 s.h.**

Great Britain from the First World War to Tony Blair's political triumph; World War I and the postwar settlement, expansion of the British Empire in the Middle East, rise of the Labour Party, the Depression, appeasement, World War II, Labour Party's triumph after the war, decolonization and emergence of postcolonial independent states around the world, 1960s cultural changes, Margaret Thatcher's political ascendancy, transformation of the Labour Party under Blair, and emergence of a new, multicultural and multiracial Britain.

**HIST:3420 Health and Healing in Early Modern Europe****3 s.h.**

Health, healing, and medicine (1200-1700); transmission of medical knowledge from medieval Islam and ancient Greece; healers including physicians, midwives, surgeons, apothecaries, and ordinary people; epidemic disease; diet and the body; sex and reproduction; health in the colonial Atlantic world; healing and religion including prayer, magic, and witchcraft. Same as GHS:3420.

**HIST:3423 Ireland in the Early Middle Ages****3 s.h.**

Ireland and the northern British islands 400-1000 C.E., a region of small kingdoms and thin population, lacking natural resources, far from Rome and ancient centers of Mediterranean culture; development of civilization, including monastic, legal, theological, and scholarly traditions that had a major impact on continental Europe; early medieval Irish history; introduction to the world of historical scholarship. Same as MDVL:3423.

**HIST:3427 Family, Gender, and Society in Early Modern Europe****3 s.h.**

Social and gender ideologies as inscribed in patterns of authority (household, church, state); ranges of human endeavor (intellectual, psychological, biological); community organization (social, economic, legal, sexual); their influence on concept of community. Same as GWSS:3427.

**HIST:3436 Food in Ancient Mediterranean Society****3 s.h.**

Practices and values influenced by consumption and production of food in ancient Mediterranean societies; varied topics, including methods of food production and distribution, hierarchies of status as associated with food, food and ethnic identity, food and health, food and religion; focus on classical Greek and Roman society, Egypt, the ancient Near East, and Persia. Recommendations: familiarity with Greek and Roman civilization and history. Same as ANTH:3204, CLSA:3836.

**HIST:3448 Barbarians and the Fall of Rome****3 s.h.**

Did barbarian hordes cause the decline and fall of the Roman Empire? In the span of just a few hundred years, the Roman Empire of the Mediterranean world was transformed in terms of culture, religion, and the peoples that inhabited it, but we can't place all the blame for the so-called fall of Rome on the Huns, Visigoths, Vandals, and other migrating peoples; students explore textual, visual, and archaeological evidence for the spread of these "barbarian" cultures, the sacking of Rome, and the late antique transition to the Middle Ages from 200-800 C.E. Same as CLSA:3148.

- HIST:3470 France from 1815 to Present** 3 s.h.  
History of France in the 19th century to present; major topics include the French Revolution, France and the European balance of power, Napoleon, the Bourbon Restoration, the Revolutions of 1830 and 1848, Napoleon III and the Second Empire, creation and survival of the Third French Republic, relations between the French state and the Catholic Church, the Dreyfus Affair, French colonial expansion, France and the origins of the First World War, France's role in World War I, and France and the origins of the Second World War.
- HIST:3473 German History 1648-1914** 3 s.h.  
Introduction to history of German-speaking lands from the devastation of the Thirty-Years War through the trauma of World War I, cutting across the French Revolution, the Revolutions of 1848, and German unification (1871); role of the German nation-state in European politics, not centered on the rise of that state and those politics, instead, an exploration of the vast diversity of German communities that emerged and persisted across this period; students are challenged to think about ways in which German history was part of a global history that extended into Iowa as well as many other places in the world.
- HIST:3475 Germany's Twentieth Century** 3-4 s.h.  
How did Germany come to play such a great role in 20th century history, and how does that legacy shape the 21st century? Students pick up the story with Germany as an upstart new nation-state in the late 19th century and explore cases and consequences of World War I; the promise and crises of the Weimar Republic; Nazism, the Holocaust, and World War II; divided Germany in the Cold War; reunification; what the larger power structures, economic developments, and geopolitics were that shaped this history; how ordinary people experienced and contributed to it, and what Germany's impact is on the larger world.
- HIST:3485 Early Modern Catholicism** 3 s.h.  
Same as RELS:3385.
- HIST:3492 Russian Literature in Translation 1860-1917** 3 s.h.  
Survey of major works, figures, and trends of 19th- and early 20th-century Russian literature; age of the Russian novel; works of Turgenev (*Fathers and Sons*), Tolstoy (*Confession*), Dostoevsky (*The Idiot*, *The Brothers Karamazov*), and Chekhov (plays). Taught in English. Same as RUSS:3202, TRNS:3203, WLLC:3202.
- HIST:3494 The Russian Revolutions and Their Legacies** 3 s.h.  
The Russian Revolutions of 1905 and 1917 unquestionably changed the fabric of Russian political and social life, transforming Russia from an autocratic imperial power to the first self-proclaimed socialist federation in Europe; students explore sources, nature, and consequences of the revolutions by intensively analyzing politics, society, and culture in late imperial and Bolshevik Russia; students review events and revolutionary movements of late 19th century, changes in political practices extending from late tsarist period, and development of Leninist and Stalinist ideology after the revolutions.
- HIST:3501 Rebel Island: A History of Cuba** 3 s.h.  
Cuban society and revolutionary movements since the late colonial period, including the years since 1959. Same as LAS:3501.
- HIST:3508 Disease and Health in Latin American History** 3 s.h.  
Survey of major topics in Latin American history in relation to development of medicine and public health. Same as GHS:3508, LAS:3508.
- HIST:3515 Introduction to Modern Latin America** 3 s.h.  
Introduction to modern history of Latin America from independence movements of the early 19th century to present; topics include race and ethnicity, slave emancipation, gender, labor relations, and foreign interventions; exploration of relationship between economic, social, and political structures over time to explain difference and commonality between Latin American people and societies; focus on topics pertaining to histories of Mexico, Central America, the Caribbean, and South America. Same as LAS:3515.
- HIST:3539 History of Environmental (In)Justice in Latin America** 3 s.h.  
Introduction to history of environmental change in Latin America; examination of pre-Hispanic cultures and spaces; reshaping of landscapes due to colonialism; commodification of nature in early republics; consolidation of 19th-century agro-economies; land-tenure changes and integration of regional markets due to neoliberalism in 20th century; relationship between environmental problems (e.g., biotic invasions, soil exhaustion, biodiversity loss, pesticide contamination) and imperial domination; scientific racism, state formation, and income inequality.
- HIST:3644 Gandhi and His Legacy** 0-1,3 s.h.  
In-depth introduction to the life, ideas, and ongoing impact of Mohandas Karamchand Gandhi (1869-1948); from his conservative upbringing to his early career as a lawyer, his transformative experiences, and self-transformation into a charismatic mahatma ("great soul"), the pursuit of political and social liberation through non-violent civil disobedience, the assertion of human rights, and the quest for sustainable lifestyles that uphold the common good and protect the natural environment; evolution of Gandhi's thought and activism and his legacy. Same as RELS:3644, SOAS:3644.
- HIST:3650 Chinese History from 1600 to 1911** 3 s.h.  
Chinese history from the 17th to early 20th century, history of the Qing dynasty (1644-1911); Qing's role in shaping aspects of today's politics in China and the mentality of Chinese people; foundation of Manchu state in early 17th century, Ming-Qing transition in 1644, politics and society during the high Qing era, decline of the empire under foreign invasion and inner rebellions in the 19th century, collapse of the dynasty in 1911. Same as ASIA:3650.
- HIST:3652 Twentieth-Century China** 3 s.h.  
Communist revolution from 1920s to founding of People's Republic of China in 1949; Mao Zedong's radical policies, Cultural Revolution; Deng Xiaoping's economic reforms; China today. Same as ASIA:3652.
- HIST:3655 Zen Buddhism** 3 s.h.  
Same as ASIA:3655, RELS:3655.

- HIST:3685 Modern Korean History** 3 s.h.  
Transformation of Choson Korea to North and South Koreas; local, regional, and global transformations in Korea from the late 19th century to present; severing of historic ties with China; encounters with the West and Japan; new ideas of civilization and political community; erasure of Choson as a country in 1910; colonial experience; civil war; industrialization; creation of North Korea; democratic movement in South Korea and spread of diasporic communities abroad; Korean peninsula as a laboratory for analyzing compressed communist and capitalist modernities of the 20th century. Same as ASIA:3685.
- HIST:3755 Understanding Health and Disease in Africa** 3 s.h.  
Cultural, historical, and political framework for the delivery of health care services in African nations. Recommendations: junior or higher standing. Same as GHS:3555, IS:3555.
- HIST:3758 The Ancient African Past** 3 s.h.  
Africa to 1880; oral tradition and other sources; political development, ecological change, slavery and slave trade. Same as AFAM:3758.
- HIST:3760 The Making of Modern Africa** 3 s.h.  
Africa in colonial and postcolonial period; economics, political structures of colonialism; social change, political life in the 20th century. Same as AFAM:3760.
- HIST:3808 Art, Power, and Resistance in the Modern Middle East and North Africa** 3 s.h.  
Contemporary history of the Middle East and North Africa through (auto)biographies (e.g., comics, films, literature); use of art and comics as sites of political power and resistance; sources delve into Middle Eastern experiences of conflict and political violence—how ordinary people survived during the Lebanese Civil War in the 1970s to 1980s; what has been the Palestinian Diasporic experience after 1948; how Israelis remember the 1982 military campaign in Lebanon; what comics bring to our knowledge of the Islamic Republic of Iran; how political institutions use visual arts as means of persuasion; and how sites of power then become sites of resistance.
- HIST:3810 History of the Modern Middle East** 3 s.h.  
Survey of major political, socioeconomic, and cultural changes in the Middle East and North Africa after 1900.
- HIST:3995 History Honors Research Seminar** 0-3 s.h.  
Research and method seminar; developing and writing an honors thesis in history. Corequisites: HIST:3996. Requirements: g.p.a. of 3.33.
- HIST:3996 Honors Thesis** 3 s.h.  
Individual research and writing under supervision of faculty member; occasional group sessions with other students in the course.
- HIST:4101 History of Human Rights** 3 s.h.  
Introduction to history of human rights in the 20th century; disjuncture between human rights in theory and in practice; provides an international approach to the history of human rights by situating U.S. human rights activism and policy in a global context; focus on human rights following World War II, contradictory impact of the Cold War; emergence of human rights politics in 1970s United States, challenges of post-Cold War human rights activism, and human rights rhetoric of the Global War on Terrorism.
- HIST:4115 Workshop for History Educators and Cultural Professionals** 1-3 s.h.  
Topics vary based on ongoing project work and instructors.
- HIST:4130 Museum Literacy and Historical Memory** 3 s.h.  
Concepts and methods for understanding the role of museums in shaping knowledge and collective memory of history; institutionally based exhibits and collections, historical markers and public monuments, public holidays and events, media and artistic works that interpret the past; how events, people, and civic ambitions are memorialized and how memories of them are shaped; appearance of museums and related practices in the non-Western world after 1850. Same as MUSM:4130.
- HIST:4131 Origins of Western Science** 3 s.h.  
Exploration of philosophical, cultural and religious factors behind birth and growth of natural philosophy (science) from prehistory to High Middle Ages. Recommendations: junior or senior standing.
- HIST:4132 Science, Medicine, and Race** 3 s.h.  
Examination of social construction of race in scientific and medical thought; focus on Atlantic world (Europe, Africa, the Americas); construction of race in other parts of world.
- HIST:4148 Global History as Local History: European Immigration in Iowa** 1,3-4 s.h.  
Opportunity to use skills developed in other courses to pursue global history locally; waves of immigration that flowed across Iowa during 19th century; ways in which national and international shifts in economics and geopolitics affected this population and state from mid-19th century through World War II; research project based on a local community of student's choice; capstone course. Recommendations: junior or senior standing.
- HIST:4201 History of the American Deaf Community** 3-4 s.h.  
Students discuss the roots of American Deaf community, exploring the development of a distinct language known today as ASL and the culture of Deaf people in America during 19th and 20th centuries. Taught in American Sign Language. Prerequisites: ASL:2002 with a minimum grade of C. Requirements: students who have not completed ASL:2002, but plan to take ASL:2002 concurrent to this course may enroll with consent of the instructor; please contact the ASL program for more information. Same as ASL:4201.
- HIST:4203 Disability in American History** 3 s.h.
- HIST:4216 Mexican American History** 3 s.h.  
Survey of Chicana/o (Mexican American) history from 18th century to present; Mexican American society's diverse nature, explored through class, ethnic, gender, and regional divisions. Same as LAS:4216.
- HIST:4228 Cold War America** 3 s.h.  
Key historical developments of the Cold War; examination of how the war shaped ideological, political, economic, and cultural aspects of American society.
- HIST:4229 The United States as Empire** 3 s.h.  
The U.S. rise to world power; continental empire-building in the 19th century; industrial, military and colonial power in the early 20th century; global hegemony from the mid-20th century to the present; white settler colonialism; overseas rule of Philippines and Puerto Rico; cultural Americanization; Cold War interventionism; post-9/11 unilateralism; meanings of American exceptionalism, intersections of U.S. nationalism with race and gender, remaking of domestic U.S. society within a changing global and imperial context.

**HIST:4260 The Sixties in America** 3 s.h.

The 1960s as a moment in American politics and culture, pivotal and romanticized; major events and conflicts, including the election and assassination of President Kennedy, Lyndon B. Johnson (LBJ) and the Great Society, civil rights movement and Black Power movement, counterculture and the urban crisis, sexual revolution and second wave feminism, anti-war protest and silent majority; changing conceptions of the sixties and development of a fresh interpretation.

**HIST:4264 The American Home Front During World War II** 3 s.h.

Examination of the significance and impact of World War II on the American home front; topics include labor relations, private lives, citizenship and civil rights, popular culture, and propaganda.

**HIST:4286 U.S. Legal History** 3 s.h.

History of the law in the United States, as it developed from era of the Revolution to present; interaction of courts and legislatures with social movements; readings on court decisions, social histories, fiction (film and prose).

**HIST:4334 Topics in American Borderlands History** 3 s.h.

Broad historical overview of the American Borderlands, a region that has been the site of conflict, cultural exchange, and economic interdependence.

**HIST:4400 The Roman Empire** 3 s.h.

History of Roman Empire from assassination of Julius Caesar through 5th century A.D.; political, economic, cultural, and social developments from the transition to imperial power to the shift of power from west to east. Same as CLSA:4400.

**HIST:4403 Alexander the Great** 3 s.h.

History of Alexander the Great and the generals who succeeded him in ruling the lands he conquered; military, political, and social history. Same as CLSA:4403.

**HIST:4406 Warfare in Ancient Mediterranean Society** 3 s.h.

Same as CLSA:4106.

**HIST:4407 The Hellenistic World and Rome** 3 s.h.

Social, economic, political, intellectual history of Graeco-Roman world, from fourth century B.C.E. to Justinian's reign.

**HIST:4412 History of the Medieval Church** 3 s.h.

Development of Christianity to end of great schism; rise of Roman primacy, development of monasticism, orthodox and heterodox groups. Same as MDVL:4412.

**HIST:4414 Christianity and Empire (35-450 AD)** 2-3 s.h.

Introduction to major topics in history of Europe and the church; relationship between Christian message and political power as evidenced in Christian writings from Paul to St. Augustine; examination of key historical moments.

**HIST:4415 European Intellectual History Medieval to Modern** 3 s.h.

Long view of European intellectual life from Middle Ages to modern times; students learn about key thinkers of the medieval period before expanding focus to include Renaissance and Early Modern thinkers (e.g., Cusanus, Giordano Bruno, Vico); exploration of modern European philosophical and historiographical tradition—intertwining patterns of sociology, philosophy, and history including Hans Jonas, Hannah Arendt, and Ernst Cassirer; understanding these thinkers within broader context of European cultural and political history. Same as MDVL:4415.

**HIST:4419 Ancient and Medieval Science** 3 s.h.

Greeks' initiation of scientific inquiry; developments in astronomy, cosmology, optics, mathematics, physics, medicine, psychology in ancient and medieval societies of Middle East, Europe. Same as MDVL:4419.

**HIST:4428 Nineteenth-Century Europe** 3 s.h.

Political, social, economic, and cultural factors.

**HIST:4430 Topics in Material Analysis** 3 s.h.

Analysis and description of physical book artifacts and their component parts (parchment, paper, bookbinding) and allied specialties (the lettering arts, printing and illustration techniques); reading, writing, presentations. Same as UICB:4930.

**HIST:4433 France Under Nazi Occupation, 1940-1944** 3-4 s.h.

Political, economic, social, and cultural conditions that prevailed following the Nazi conquest of France in 1940; examination of this period of upheaval through work of prominent historians of France; representations of occupied France in literary works, documentary, and fictional films produced during the war and in the politically fraught culture of collective memorialization that formed in aftermath of this national trauma. Taught in English. Requirements: for 4 s.h. option—prior enrollment in FREN:3060 and FREN:3300. Same as FREN:4433.

**HIST:4438 Modern European Imperialism** 3 s.h.

Introduction to the history of European imperialism since the 18th century; major shifts in the nature of European empire examined through the Haitian Revolution, India, Australia, Congo, Algeria.

**HIST:4440 Artists, Intellectuals, and Politics in 20th-Century Europe** 3 s.h.

Political engagement of European artists and intellectuals from 1870 to present; cultural and intellectual history, rise of social science, artistic avant-gardes, fascist and socialist aesthetics, world war, Cold War, existentialism, feminism, anti-colonialism.

**HIST:4455 Religious Conflict: Early Modern Period** 3 s.h.

Religious conflict among European Christians (Catholics, Lutherans, Calvinists, and Radicals), as well as between Christians and non-Christians from the Late Middle Ages through the Reformation of the 16th century and beyond. Same as RELS:4155.

**HIST:4465 Modern France 1870-Present** 3 s.h.**HIST:4478 Holocaust in History and Memory** 3 s.h.

Origins and implementation of Holocaust; perpetrators, victims, and bystanders; impact of Holocaust on post-World War II world.

**HIST:4499 First World War** 3-4 s.h.

Social, economic, political, technological, military aspects of causes, conduct, consequences of war of 1914-1918; fiction, contemporary documents, historical works, films.

**HIST:4502 History of Mexico** 3 s.h.

Mexican history since the eve of the Spanish invasion, with focus on the national period; may include ethnic groups, conquest and demographic disaster, Native survival, labor and migration, social protest and rebellions, nationhood, regional differences, religions, popular culture, economic growth and distribution, state building, international relations; survey. Same as LAS:4502, NAIS:4502.

- HIST:4504 Latin American Studies Seminar** 3-4 s.h.  
Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, LAS:4700, PORT:4700, SPAN:4900.
- HIST:4505 Topics in Latin American History** 3 s.h.
- HIST:4510 Colonial Latin America** 3 s.h.  
Cultural, institutional continuity from 16th century to independence.
- HIST:4610 Japan - Age of the Samurai** 3 s.h.  
Society, culture, and politics of feudal Japan; social class, gender, norms, and political and economic developments explored through cinema and literature. Taught in English. Same as JPNS:4610.
- HIST:4615 Modern Japan** 3 s.h.  
Political, social, and cultural developments of Japanese feudalism; feature films, fiction. Taught in English. Same as JPNS:4615.
- HIST:4616 Japanese History and Society: World War II to the Twenty-First Century** 3 s.h.  
Transformation of Japan from devastation and unconditional surrender in 1945 to peace and prosperity in late 20th century; defeat and occupation, 1945-1952; peace and high economic growth, mid-1950s to early 1990s; economic, social, and political challenges of 21st century; combination of historical analysis with discussion of contemporary political, cultural, social, economic, ecological, and geopolitical developments through reading of English-language media.
- HIST:4620 Japan-U.S. Relations** 3 s.h.  
Political, social, economic, and cultural developments in Japan mid-19th century to late 20th century. Taught in English. Same as JPNS:4620.
- HIST:4666 Topics in Asian History** 3 s.h.  
Same as ASIA:4166.
- HIST:4910 The Book in the Middle Ages** 3 s.h.  
Relation of text, decoration, function, creators, and audience in different genres of medieval manuscript books 400-1500 A.D. Same as SLIS:4910, UICB:4910.
- HIST:4920 The Transition from Manuscript to Print** 3 s.h.  
History of the book and communication in Europe 1400-1800; production, distribution, and use of texts in cultural context. Same as SLIS:4920, UICB:4920.
- HIST:5431 Roman Law, Order, and Crime** 3 s.h.  
Case-based introduction to Roman law; principles of Roman law ranging from standards of evidence to trial procedures to various topics in civil and criminal law, including family law and the law of delict. Recommendations: some background in Roman history. Same as CLSA:5151.
- HIST:6002 Introduction to Graduate Studies in History: Historiography and Methods** 3 s.h.  
Students gain a better understanding of the principal intellectual strengths of the history department, degree requirements (e.g., M.A. essay and comprehensive exams), various methodological approaches and audiences, fundamental analytical skills (e.g., how to write a historiographical essay, how to use databases, how to edit their own work), and professional issues (e.g., participation in conferences and academic associations); for students getting started on their M.A. essays or Ph.D. dissertations. Requirements: first-year history graduate standing.
- HIST:6003 History Theory and Interpretation** 3 s.h.  
Introduction to basic theoretical approaches to historical research.
- HIST:6004 Comprehensive Exams Seminar I** 3 s.h.  
Comprehensive exams seminar; for history graduate students in semester prior to comprehensive exams. Requirements: history graduate standing in third semester.
- HIST:6005 Comprehensive Exams Seminar II** 3 s.h.  
Comprehensive exams seminar; for history graduate students during the semester in which they take their comprehensive examinations. Requirements: history graduate standing.
- HIST:6135 Crossing Borders Seminar** 2-3 s.h.  
Taught in English. Same as AFAM:6635, ANTH:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, IWP:6635, POLI:6635, SPAN:6904.
- HIST:6140 Engaged Scholarship in the Humanities** 0,3 s.h.  
Survey of literature on community-engaged scholarship (CES) in the humanities; exploration of the pioneering work of engaged scholars in Native American, Latino, and African American studies; students write a research prospectus that is consistent with CES methodologies. Same as AMST:6140.
- HIST:6158 Approaches to Teaching Global History** arr.  
Approaching history from a global or international perspective; introduction to issues; preparation for teaching courses at college level; historiographies and methodologies, problems of periodization and area divisions, syllabi on world and global history.
- HIST:6250 American Religious Histories** 3 s.h.  
Focused examination of the variety and vagaries of religious experiences in the Americas, 16th to 21st centuries. Same as RELS:6150.
- HIST:6475 Seminar: Reformation Culture** arr.  
Culture and thought of 16th-century Europe. Same as RELS:6475.
- HIST:7101 Research Seminar** arr.  
Research for students in all areas of history.
- HIST:7122 Readings: History of Gender and Sexuality** arr.  
Topics in international and transnational history of gender and sexuality. Same as GWSS:7122.
- HIST:7126 Readings on the History of Human Rights** arr.  
Survey of recent literature on history of human rights; development of bibliographies; readings from individual areas of interest (e.g., transitional justice, migration, gender and sexuality, labor).
- HIST:7140 Climate Change in World History** 3 s.h.  
Readings on climate change and its impacts on planetary life across time.
- HIST:7146 Temporality in History: United States and Beyond** 1,3 s.h.  
Introduction to growing field of temporal history; how time has been measured, regulated, experienced, and imagined in the West and non-West from antiquity to present with emphasis on 19th- and 20th-century United States; topics include time discipline (e.g., factory, slave plantation, corporate office), standard time, and deep time; focus on changing technologies of time (e.g., clocks, calendars) and to temporal impact of other technologies (e.g., cinema); application of temporal perspective to political revolution, warfare, nation building, class formation, gender relations, slavery, and urbanization.

- HIST:7155 Theories of Diaspora, Immigration, and Migration** arr.  
Vexed notion of diaspora(s); challenge of understanding and writing histories of immigration and migration during modern era; exploration of central questions including difficulty of tracking things in motion—individuals, families, groups, and ever-elusive cultural traits as they flow through local, national, and international contexts that are themselves in flux.
- HIST:7160 Global History of Race, Science, and Medicine** 3 s.h.  
Examination of the history of social construction of race in scientific and medical thought; use of science and medicine to conceptualize race, as well as how race was used by scientists and physicians in their practice; primary focus is on the Atlantic World—Europe, Africa, and the Americas—and touches briefly on the construction of race in other parts of the world. Same as GHS:7160.
- HIST:7165 Global History of Incarceration** 3 s.h.  
History of incarceration across world regions from antiquity to present; particular emphasis on the Atlantic and trans-America between 16th and early 21st centuries; relevant historical literature on Middle East, Asia, Russia, and Australia; analytical focus on how epistemologies, structures, processes, and more recent debates (e.g., racial slavery, policing, science and medicine, war and revolution, migration, prison abolition, etc.) have shaped and transformed logics and practices associated with incarceration over time.
- HIST:7175 Theories of World History** arr.  
Macrohistorical theories of world history; can a prominent theory or combination of theories explain the social evolution of humankind over hundreds of thousands of years; how to periodize world history; does history have a direction, and if so, what direction; the future of humankind.
- HIST:7190 Individual Study: Graduate** arr.  
**HIST:7192 Pre-Dissertation Seminar** arr.  
Preparing for dissertation work for students in all areas of history; thesis topic, relevant literature in the topic field, potential sources, primary research strategy, sources of research funding, research proposal; preparation for submitting applications for dissertation research fellowships and beginning of completing the thesis prospectus.
- HIST:7193 Thesis** arr.  
**HIST:7202 Readings: 20th-Century Native American History** arr.  
Examination of the Indigenous 20th century through a series of themes including settler colonialism, sovereignty and self-determination, federal Indian policy, and Indigenous feminism; readings focus primarily on secondary sources, but attention is given to key primary sources; students are required to carry out specified research tasks. Same as NAIS:7202.
- HIST:7205 New Histories: U.S. Slavery** arr.  
Our approach to study of slavery and discipline of history have been upended by recent works by and about women; exploration of that scholarship and consideration of where it takes us in grappling with systems and subjectivity of slavery. Same as AFAM:7205, GWSS:7205.
- HIST:7210 The Long Civil Rights Movement** arr.  
Exploration of the history and historiography of the modern Black freedom struggle in the United States, with particular attention to how historians in recent years have reconsidered traditional framings of that struggle's chronology, geography, gender politics, political aspirations, and achievements. Same as AFAM:7210.
- HIST:7212 Seminar: Research in Race and Ethnicity** arr.
- HIST:7214 Readings: African American Women's History** arr.  
Same as AFAM:7214, GWSS:7214.
- HIST:7217 Social Movements in the United States from 1965 to Present** 3 s.h.  
Exploration of social movements in the United States and how they have shaped the country and its people since 1965; students study a range of historic movements that were diverse in their ideology and goals—from the fight for welfare rights to conservative tax revolts, LGBTQ+ rights to the White Power Movement—and examine more contemporary movements (e.g., Standing Rock and Black Lives Matter) and situate them historically in their respective protest lineages; interrogation of what constitutes a social movement and how and why they emerge, operate, and ultimately end; opportunity to work on a research project relevant to student's own interests.
- HIST:7220 Readings: History of Sexuality in the United States** arr.  
History of sexuality within the family, its move into the marketplace; social customs and taboos, methods of birth control and abortion, religion, medical and psychological writings, state policies. Same as GWSS:7220.
- HIST:7227 Readings in American Environmental History** arr.  
Introduction to historiography—classic texts and recent work—in American environmental history; topics from colonial period to recent past.
- HIST:7236 Readings in Borderlands History** arr.  
Comparative borderlands; articles on diverse topics from borderland regions worldwide (main focus on U.S.-Mexico borderlands, with inclusion of European, Asian, African, and Latin American borderlands); analysis of each article for its thesis, research questions, methodology, primary sources, and weaknesses; seminar.
- HIST:7241 Readings in U.S. Social Policy** arr.  
History and historiography of social welfare policy, chiefly in the United States; proceeds chronologically with analysis of private and public efforts to address problems including poverty, unemployment, sickness, homelessness, and family violence.
- HIST:7246 United States in the World** arr.  
Historiographies that situate modern U.S. history in a global context; how historians study the American past beyond traditional, nation-centered frames; transnational histories of migration, nativism and exclusion; social movements; colonial empire-building; commercial and cultural Americanization; transfer of policy ideas; military occupations; decolonization; Cold War's impact on social reform; post-9/11 moment.
- HIST:7261 Readings: Early American History** arr.  
**HIST:7263 Readings: Contemporary United States** arr.  
New work in American social, political, and economic history; readings tailored for students seeking background for research or preparing for comprehensive exams.
- HIST:7271 Transnational U.S. History: Theory and Practice** arr.  
Benefits of transnational U.S. history and comparative analysis; exploration of connections between theory and practice in the field of history.
- HIST:7275 Readings in the History of Women and Gender in the U.S.A.** arr.  
Same as GWSS:7275.

- HIST:7293 Graduate Readings in Public History** arr.  
Overview of public history with attention to ways in which historians have engaged various publics; major theoretical constructs (memory, heritage, commemoration); public history methodologies (oral history, material culture, archival documentation); legal ethics; how history is communicated to the public; how public history sites contribute to public memory; how and why controversies emerge in public history settings; relationship between academic history and public history.
- HIST:7414 Slavery and Social Death: 1200 B.C.E. to 1865 C.E.** 3 s.h.  
Exploration of various slave systems in antiquity, the middle ages, and modernity in terms of their motivations, utilization, and broader social, economic, and political implications; use of literary sources and archaeological remains to investigate slave cultures in ancient Near East and Egypt, Jewish exploitation of enslaved persons, and use of chattel slavery in Greek, Roman, early Christian, and Islamic societies; antebellum U.S. slavery. Same as ANTH:7414, CLSA:7114.
- HIST:7415 Graduate Readings: Monastic History** arr.  
History of Christian monasticism in the medieval west; the developing monastic and religious orders, nuns of those groups; tertiary, beguines, other orthodox penitent movements from the development of Christianity to the Reformation.
- HIST:7422 Medieval Latin Paleography** arr.
- HIST:7428 Seminar: Medieval Philosophy** arr.  
Investigation of theories of knowledge developed by medieval philosophers including Augustine, Boethius, Duns Scotus, Ockham, and Auriol.
- HIST:7435 Readings: Women, Men, and Gender in Modern Europe** arr.  
Same as GWSS:7435.
- HIST:7440 Readings in Modern German History** arr.  
Major problems in modern German history; historiographic debates organized thematically and proceeds chronologically from the French Revolution to the present; oral presentations and comparative essays.
- HIST:7445 Readings: Imperialism and Colonialism** 3-4 s.h.  
Engagement of Europeans in an immense outward expansion of people, goods, ideas, and more than a few germs since 1492; exploration of some of the implications of this expansion by focusing on a selection of different colonial encounters and some legacies of European empires.
- HIST:7456 Readings: Modern European History** arr.
- HIST:7458 Readings: War and Society in Modern Europe** arr.  
Preparation, conduct, and aftermath of war; social-historical examination; conflicts on European territory, colonial wars, and wars of decolonization, from French Revolution through late 20th century.
- HIST:7505 Readings: Latin American History** arr.  
Introduction to historiography in the field of Latin American history; students deepen their understanding of the region's history and become acquainted with trends in topical concerns, sources, and methods that are shaping historical research on Latin America's past. Taught in English. Same as SPAN:7505.
- HIST:7535 Readings in Latina/o/x History** arr.  
Introduction to major works and recent scholarship in Latina/o/x history.
- HIST:7551 Readings: Globalizing Latin American Science and Medicine** arr.  
Recent trends in Latin American history of science and medicine.
- HIST:7559 Race, Science, and Nature in Latin America** arr.  
Analysis of the history of United States and Latin America relations in the 20th century through the lens of scientific and agricultural change; how plant breeding, agrochemicals, heavy machinery, and irrigation systems set in motion trends that made the 20th century exceptional; possibility of feeding an unprecedented growing global population and transition of human species from being primarily rural to primarily urban in less than a hundred years; analysis of how a network of scientists, businesses, and governments made proliferation of agribusinesses possible to emphasize Indigenous and Mestizo peasants' role in that process.
- HIST:7606 Readings in Chinese History** arr.  
Same as ASIA:7606.
- HIST:7691 Topics in East Asian History** arr.  
Introduction to major works and recent scholarship on border-crossing topics in East Asian history, including transnational/regional exchange, empire, frontiers/borderlands, migration, ethnicity, and historiography.
- HIST:7706 Readings in African History** arr.
- HIST:7710 Seminar: Interpreting Oral Histories** arr.  
Interpretations and methods applied by historians in various world regions to different forms of oral history, from old oral traditions to contemporary autobiographical testimony. Same as AFAM:7710.
- HIST:7805 Readings in Middle East History** arr.  
Global perspective on major topics in modern history of the Middle East and North Africa including gender, sexuality, race, and empire. Same as GWSS:7805.

# History, B.A.

## Learning Outcomes

Historical knowledge gives insight into the depth and range of human experience and perspective on the increasingly interconnected world in which we live. Students of history learn how to locate, verify, and interpret many kinds of evidence in order to understand the causes and effects of changes over time. History courses strengthen skills in analyzing and explaining the major ideas and complex problems of the past and the present. The history major provides students with the tools and perspective for active citizenship in a democratic, pluralistic society, as well as for success in graduate studies and a wide range of careers.

The undergraduate program is organized around the intertwined skills of research and communication—whether digital, written, or oral. Students learn about significant events, places, and people of the past, but just as importantly, they learn how to engage in factual research about the past, how to understand the context of human actions, and how to identify the factors that brought about the world of the past and the world we know today.

- Students of history acquire a broad knowledge of history and historical change across multiple regions of the globe and a range of historical periods.
- Students gain an awareness of their own place in today's world and of the connections between past and present. This prepares the way for better understanding between individuals and across cultural boundaries.
- Students learn to value the role of evidence in their understanding of the world, and how to assess and verify different types of data, whether written, visual, oral, statistical, or cultural.
- Students learn how to distinguish between primary and secondary sources, and how each kind of source is used. They develop an understanding of the possible impact of authorial bias, social background, or ideology. Students learn to employ differing methods of analysis, and they explore diverse ways of thinking about the past and human society.
- Students develop skills in research, critical thinking, reading, and writing. History writing assignments sharpen students' skills in original research and analysis, while reading assignments develop their abilities to synthesize information and grapple with varying points of view.

## Requirements

The Bachelor of Arts with a major in history requires a minimum of 120 s.h., including 36 s.h. of work for the major. Of the 36 s.h., at least 24 s.h. must be numbered 2000 or above. No more than 3 s.h. in courses numbered HIST:1002-HIST:1099 may count toward the major. Courses that count toward the major may not be taken on a pass/nonpass basis. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

College Level Equivalency Program (CLEP) and Advanced Placement Program (APP) credit does not count toward the history major. Transfer work that is equivalent to University of Iowa coursework may be accepted toward the major, but at least 18 s.h. of work for the major, including HIST:2151

Introduction to the History Major, must be taken at the University of Iowa.

Major requirements include an introductory course and a history portfolio in addition to a range of coursework in history.

Undergraduate courses in history are divided into four areas: American history, European history, non-Western history, and courses that have no specific area designation. Students must earn at least 6 s.h. in each of the designated areas (American, European, non-Western), with at least 3 s.h. in each of those areas taken in courses numbered 3000 or above. Courses numbered 1100-1199, 2100-2199 (including HIST:2151 Introduction to the History Major), 3100-3199, 3995-3996, or 4100-4199 do not fulfill a specific geographical area or the pre-1700 requirement.

Students may count a maximum of 18 s.h. earned in American history courses (numbered 1200-1299, 2200-2299, 3200-3299, and 4200-4299) toward the major.

History majors are encouraged to take courses in other fields that illuminate and expand the meaning of history courses and that introduce information and a variety of approaches to understanding how societies and cultures work.

Students majoring in history are encouraged to complete the College of Liberal Arts and Sciences GE CLAS Core World Languages requirement by choosing a language that fits their interests in history. The department also encourages study abroad programs that complement students' foreign area interests.

The B.A. with a major in history requires the following coursework.

Code	Title	Hours
<b>Introductory Course</b>		
HIST:2151	Introduction to the History Major	3
<b>American History Courses</b>		
Two American history courses (numbered 1200-1299, 2200-2299, 3200-3299, or 4200-4299), including at least one numbered 3000 or above		6
<b>European History Courses</b>		
Two European history courses (numbered 1400-1499, 2400-2499, 3400-3499, or 4400-4499), including at least one numbered 3000 or above		6
<b>Non-Western History Courses</b>		
Two non-Western history courses (numbered 1500-1999, 2500-2899, 3500-3899, 4500-4999), including at least one numbered 3000 or above		6
<b>Pre-1700 History Course</b>		
One pre-1700 history course (select from the list below)		3
<b>History Electives</b>		
Additional history courses selected by the student		12
<b>Portfolio Course</b>		
HIST:3193	Undergraduate History Portfolio	0
<b>Total Hours</b>		<b>36</b>



## Introductory Course

Students enroll in HIST:2151 Introduction to the History Major as soon as possible after declaring the major in history. Topics vary, but all sections of HIST:2151 instruct students in the skills they need to succeed in upper-level history courses. Students explore the diverse kinds of sources historians use, including both primary (original) sources and secondary (scholarly) sources. They learn how to frame a historical question, find and interpret relevant sources (in libraries, online, and in archives), and then integrate them into a historical argument, expressed clearly and in accordance with appropriate scholarly conventions. By the end of the semester, students have produced a substantial research paper or project and have a clearer understanding of the historian's craft. Students must include at least one graded paper or project from the course HIST:2151 in their history portfolio (see "Portfolio" below). Introduction to the History Major (HIST:2151) does not count toward the area (American, European, non-Western) or pre-1700 era requirements.

## Pre-1700 History Courses

A course taken to fulfill the pre-1700 history course requirement also may be counted toward the requirement in American, European, or non-Western history. These courses fulfill the pre-1700 history requirement.

Code	Title	Hours
HIST:1401	The West and the World: Ancient	3
HIST:1402	The West and the World: Medieval	3
HIST:1601	Civilizations of Asia: China from Origins to the 17th Century	3
HIST:1602	Civilizations of Asia: China from the 17th Century to the Present	3
HIST:1604	Civilizations of Asia: Japan	3
HIST:1606	Civilizations of Asia: South Asia	3
HIST:2444	Engineering and Technology in the Ancient World	3
HIST:2461	Middle East and Mediterranean: Alexander to Suleiman	3
HIST:2483	History of Britain: Fall of Rome to the Norman Conquest	3
HIST:3270	Colonial North America, ca. 1600-1775	3
HIST:3289	The Atlantic World c. 1450-1850	3
HIST:3401	Ancient Egypt and the Ancient Near East	3
HIST:3404	The World of Ancient Greece	3
HIST:3409	Medieval Civilization I	3
HIST:3410	Medieval Civilization II	3
HIST:3413	Early Modern Britain: The Tudor and Stuart Era	3
HIST:3423	Ireland in the Early Middle Ages	3
HIST:3427	Family, Gender, and Society in Early Modern Europe	3

HIST:3448	Barbarians and the Fall of Rome	3
HIST:3758	The Ancient African Past	3
HIST:4400	The Roman Empire	3
HIST:4406	Warfare in Ancient Mediterranean Society	3
HIST:4407	The Hellenistic World and Rome	3
HIST:4412	History of the Medieval Church	3
HIST:4419	Ancient and Medieval Science	3
HIST:4510	Colonial Latin America	3
HIST:4610	Japan - Age of the Samurai	3
HIST:4910	The Book in the Middle Ages	3
HIST:4920	The Transition from Manuscript to Print	3

## Portfolio

All history majors must complete a portfolio, enrolling in the portfolio course during the semester in which they plan to graduate. The portfolio includes three papers or projects completed in history courses and submitted electronically (preferably a student submits graded papers/projects, and one paper/project should be from HIST:2151 Introduction to the History Major. A history honors thesis may replace the other two papers/projects. The portfolio does not affect a student's grade-point average; timely submission fulfills the requirement on a nongraded basis with an assignment of S (satisfactory).

Students should submit their portfolios on the University of Iowa ICON website for HIST:3193 Undergraduate History Portfolio early during the semester in which they plan to graduate.

Code	Title	Hours
This course:		
HIST:3193	Undergraduate History Portfolio	0

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Honors in the major gives students the opportunity to conduct independent research on a topic of their choosing, and write an original piece of scholarship based on that research. The product is a 30-35 page thesis written under the supervision of a faculty member who specializes in the field. To graduate with honors in history, students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, as required by the College of Liberal Arts and Sciences, and a 3.33 g.p.a. in

the major as set by the Department of History. Students register for 3 s.h. in HIST:3995 History Honors Research Seminar, usually during the spring of their junior year, and HIST:3996 Honors Thesis, usually during the fall of their senior year. The 6 s.h. of credit counts toward the semester hours required for the history major.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the history major.

### Career Advancement

Students of history develop an understanding of change that enables them to function as active, well-informed citizens. Because of the geographical breadth required for the degree, history students develop a global consciousness that helps them to understand developments worldwide.

University of Iowa's history graduates win admission to the best graduate and professional schools in the country. Employers value history students' ability to analyze human and social behavior, to research pressing problems, and to express themselves clearly. Graduates of the department occupy prominent positions in government, business, journalism, law, entertainment, education, the nonprofit sector, library science, social work, and philanthropy, among others. A recent study showed that history graduates with a B.A. earn more than graduates in any other humanities field.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** three courses in the major, including HIST:2151 Introduction to the History Major.

**Before the seventh semester begins:** four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** three more courses in the major.

**During the eighth semester:** submission of the portfolio of written work (three history papers/projects, preferably graded) to the director of undergraduate studies through the HIST:3193 Undergraduate History Portfolio ICON website (a student must be enrolled in HIST:3193 in order to submit the portfolio), enrollment in all remaining coursework in the major (two courses), all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can

complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### History, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Major: history elective course <sup>b, c, d, e</sup>		3 - 4
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Social Sciences <sup>f</sup>		3
Elective course <sup>g</sup>		3
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>14-16</b>
<b>Spring</b>		
Major: history elective course <sup>b, c, e, h</sup>		3 - 4
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>		4
Elective course <sup>g</sup>		2
	<b>Hours</b>	<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
HIST:2151	Introduction to the History Major <sup>b</sup>	3
Major: American history course <sup>b, i</sup>		3
GE CLAS Core: International and Global Issues <sup>f</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>f</sup>		3
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course <sup>j</sup>		
	<b>Hours</b>	<b>16-17</b>
<b>Spring</b>		
Major: European history course <sup>b</sup>		3
Major: non-Western history course <sup>b</sup>		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course <sup>j</sup>		
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
	<b>Hours</b>	<b>16-17</b>

**Third Year****Fall**

Major: 3000+ American history course <sup>b, i</sup>	3
Major: 3000+ European history course <sup>b</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>f</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>j</sup>	4 - 5
Elective course <sup>g</sup>	3

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<b>Hours</b>	<b>16-17</b>
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**Spring**

Major: pre-1700 history course <sup>b</sup>	3
Major: 3000+ non-Western history course <sup>b</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>j</sup>	4 - 5
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3

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<b>Hours</b>	<b>16-17</b>
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**Fourth Year****Fall**

Major: history elective course <sup>b, c, e</sup>	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3

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<b>Hours</b>	<b>15-16</b>
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**Spring**

HIST:3193 Undergraduate History Portfolio	0
Major: history elective course <sup>b, c, e</sup>	3 - 4
GE CLAS Core: Values and Culture <sup>f</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

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<b>Hours</b>	<b>15-16</b>
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<b>Total Hours</b>	<b>123-133</b>
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- i Students may count a maximum of 18 s.h. earned in American history courses toward the major.
- j Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.
- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students must complete 24 s.h. from courses in prefix HIST numbered 2000 or above.
- c Students may count a maximum of 3 s.h. numbered HIST:1002-1099 toward the major.
- d Consider choosing a course that also fulfills the GE CLAS Core: International and Global Issues requirement.
- e Students complete at least 12 s.h. in history electives.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- h Fulfills a major requirement and may fulfill a GE requirement.

# History, Minor

Students majoring in another discipline—whether in the STEM field, social sciences, or the humanities—may want to round out their studies and sharpen their skills by adding an undergraduate minor in history. For the current semester's offerings, view Department of History courses (prefix HIST) on MyUI.

## Requirements

To earn the undergraduate minor in history, students must maintain a g.p.a. of at least 2.00 in all courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The following coursework is required:

- a minimum of 15 s.h. in history courses (prefix HIST), including 12 s.h. earned in courses numbered 2000 or above; and
- at least 12 s.h. earned in courses taken at the University of Iowa,

## History, M.A.

The Department of History offers a master's degree program in history. Individuals may pursue the degree for a variety of reasons, from professional enhancement to personal enrichment. Students interested in graduate work may obtain a copy of the current Guide to Graduate Study in history from the Department of History website. The guide is revised periodically to include detailed regulations on study toward advanced degrees and other information for students.

### Learning Outcomes

The M.A. is for students who wish to acquire a broad knowledge of history and an introduction to the field's theoretical and historical foundations. It is intended to prepare students to continue work for a Ph.D. in history or for careers outside of the academy.

Students are expected to demonstrate:

- basic understanding of the development of historiography and historical methodologies;
- basic understanding of primary source material in one subfield of history; and
- sustained critical thinking, writing, and speaking abilities.

### Requirements

The Master of Arts program in history requires a minimum of 30 s.h. of graduate credit, including at least 24 s.h. in history coursework numbered 3000 or above. Students must maintain a cumulative UI g.p.a. of at least 3.33.

The M.A. is offered with two options: one that stresses breadth of learning through coursework; and with approval of a faculty advisor, one that emphasizes the development of research capabilities culminating in a research essay designed to prepare students for doctoral studies.

Students are required to take HIST:6002 Introduction to Graduate Studies in History: Historiography and Methods during their first semester in the program. They must take 12 s.h. of coursework (one course numbered 6000 or above) in one major division of history; and 6 s.h. each in two other divisions (with at least one course numbered 6000 or above in one of the two divisions), either in history or a related field. Students work with their primary faculty advisor to determine appropriate coursework.

Students take a written exam in their major division of history and defend to a committee of three faculty members.

Students who choose a research option instead of a written exam must complete and defend a research essay to a committee of three faculty members. The essay must be based on original research and completed under the guidance of a faculty advisor. The finished essay should emulate the character of articles in learned journals, just as the Ph.D. dissertation takes the form of a full-length scholarly monograph.

### Combined Programs

#### M.A./J.D.

The Department of History and the College of Law offer a combined Master of Arts/Juris Doctor. The combined degree

program allows students to count a limited amount of credit toward both degrees.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the J.D., see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants submit their application online. Along with the official application, they submit academic transcripts; examples of original writing, such as a term paper, a seminar paper, or an honors thesis; letters of recommendation from three persons familiar with the student's past academic work; and a one- or two-page personal statement of the applicant's purpose for doing graduate work. See History (M.A. or Ph.D.) on the University of Iowa Graduate Admissions website for more information.

All application materials are due by January 15 for entry the following August.

### Career Advancement

Graduate study in history prepares students for occupations such as high school or college teaching, publishing, commercial research, foundations and nongovernmental organizations, and government or other public service. With additional specialized training, students may become qualified for careers in historical site preparation and display, and archival, library, or museum work.

Some students choose to pursue the combined Master of Arts/Juris Doctor program which leads to degrees in both law and history; see Combined Programs [p. 709] in this section of the Catalog.

The University of Iowa's history graduates who earn an M.A. experience remarkable job placement rates, depending on their area of study. Graduate and postdoctoral career services offers multiple resources to assist students in locating opportunities and preparing for jobs upon completion of the program.

### Academic Plans

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### History, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.<sup>a</sup>

Hours

0

**First Year****Fall**

HIST:6002	Introduction to Graduate Studies in History: Historiography and Methods <sup>b</sup>	3
Major Division course	<sup>c, d</sup>	3
Major Division course	<sup>c, d</sup>	3
<b>Hours</b>		<b>9</b>

**Spring**

Major Division course	<sup>c, d</sup>	3
Second Division course	<sup>c, d</sup>	3
HIST:6003	History Theory and Interpretation <sup>c, d</sup>	3
<b>Hours</b>		<b>9</b>

**Second Year****Fall**

Major Division course	<sup>c, d</sup>	3
Second Division course	<sup>c, d</sup>	3
Third Division course	<sup>c, d</sup>	3
<b>Hours</b>		<b>9</b>

**Spring**

Elective course	<sup>c, d</sup>	3
Final Exam <sup>e</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>30</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Required during first semester in the program.
- c Work with faculty advisor to determine appropriate coursework; refer to the General Catalog and department website for courses and specifics.
- d Students must take 12 s.h. of coursework (one course numbered 6000 or above) in one major division of history, and 6 s.h. each in two other divisions (with at least one course numbered 6000 or above in one of the two divisions) either in history or a related field.
- e Written and oral examination in the student's major division of history.

## History, Ph.D.

The Department of History offers a doctoral program for students interested in earning a Ph.D. in history. Students interested in graduate work may obtain a copy of the current Guide to Graduate Study in history from the Department of History website. The guide is revised periodically to include the latest detailed regulations on study toward advanced degrees and other information for students.

### Learning Outcomes

The Ph.D. program is intended for students who wish to pursue original research in history. The end goal is a first-rate dissertation based on that research. Students should acquire a deep knowledge of two fields of history and understand the field's historical and theoretical foundations. They are prepared to pursue careers in and outside of academia, and they fashion their plans of study together with their advisors.

Students are expected to demonstrate:

- understanding of the development of the historiography and historical methodologies;
- skill analyzing primary source material;
- skill in contextual analysis and secondary source interpretations;
- an ability to engage in the broad and ever-shifting philosophical, scholarly, and institutional debates animating the practice of history;
- ability to engage in sustained critical thinking;
- ability to write clearly and compellingly;
- a deep knowledge of their two research fields;
- reading knowledge of a second language of particular relevance to their field of study;
- ability to conduct independent research;
- knowledge and skills necessary to be effective teachers;
- public speaking skills necessary to present research in professional academic settings; and
- develop the critical research and writing skills necessary to publish peer-reviewed articles.

### Requirements

The Doctor of Philosophy program in history requires at least 72 s.h. of graduate credit. Students must maintain a cumulative UI g.p.a. of at least 3.33. Those who have earned M.A. degrees can apply up to 30 s.h. of credit toward the Ph.D. degree.

Students must complete at least seven graduate-level history or related field courses numbered 6000 or above, earning 3 or 4 s.h. of credit for each course. Courses taken at the M.A. level may be counted toward this requirement.

Students must complete a required course sequence their first year: HIST:6002 Introduction to Graduate Studies in History: Historiography and Methods and HIST:6003 History Theory and Interpretation. These courses develop an understanding of the philosophy of history, historiography, and methods of historical research. Students also must complete the comprehensive exam sequence in the second or third year depending on their degree at admission: HIST:6004 Comprehensive Exams Seminar I (the semester before the comprehensive exam) and HIST:6005 Comprehensive Exams Seminar II (the semester of the comprehensive exam).

Students who enter the program without an M.A. must write two research papers that are the length of a standard journal article (7,000-9,000 words) before taking comprehensive exams. One of these research papers is the qualifying research paper. For students who enter the program with an M.A., only the qualifying research essay must be completed before taking comprehensive exams. The essay must be based on original research and should be sufficient quality to submit for publication in learned journals, just as the Ph.D. dissertation takes the form of a full-length scholarly monograph. The qualifying essay must be approved by the faculty advisor and a second faculty member in order for a student to continue in the program.

The department has a basic world language requirement for the Ph.D.; however, the supervising faculty member may require a student to demonstrate a reading knowledge of one or more languages and proficiency in the use of other study tools. Students may not complete the comprehensive exam until these requirements have been met.

The comprehensive written and oral exams cover three distinct fields. The primary field is defined thematically and geographically in consultation with the advisor. The secondary field is defined with a field supervisor; it must have a different thematic and/or geographic focus than the primary field. Both of these fields are based on core sets of readings created together with advisors. There are two options for the third field—a teaching option and a non-teaching option. In either case, the parameters are set by the student's advisor, and the required work must be completed prior to the written examinations. The written portion of the comprehensive exams consists of two questions for each field, each answered over two days during the comprehensive exam period. The oral portion of the comprehensive examination focuses on the submitted written examination.

In most cases, the candidate submits a written prospectus for the dissertation to the faculty advisor before the comprehensive exams, and the student defends the prospectus within two weeks of passing the oral portion of the examination. The examination committee considers the prospectus and may approve it, reject it, or require its revision. At this point, all that remains is researching and writing the dissertation, in regular consultation with the faculty advisor. When the dissertation is completed in final form, a dissertation committee composed of up of five faculty members administers the final examination. A formal oral defense of the dissertation typically lasts two hours.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants submit their application online. Along with the official application, they submit academic transcripts; examples of original writing, such as a term paper, a seminar paper, or a master's essay; letters of recommendation from three persons familiar with the student's past academic work; and a one- or two-page personal statement of the applicant's purpose for doing graduate work. See History (M.A. or Ph.D.) on the University of Iowa Graduate Admissions website for more information.

All application materials are due by January 15 for entry the following August.

## Career Advancement

Graduate study in history prepares students for occupations such as secondary or college teaching, publishing, commercial research, foundations and nongovernmental organizations, and government or other public service. With additional specialized training, students may become qualified for careers in historical site preparation and display, or archival, library, or museum work.

The University of Iowa's history graduates who earn a Ph.D. have an excellent history of job placement, depending on their area of study. Graduate and postdoctoral career services offers multiple resources to assist students in preparing for job opportunities upon completion of the program.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### History, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; typically 30 s.h. of graduate transfer credits taken for the master's from an accredited institution allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Language Requirement <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
HIST:6002	Introduction to Graduate Studies in History; Historiography and Methods <sup>d</sup>	3
History course <sup>e</sup>		3
History course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
HIST:6003	History Theory and Interpretation <sup>d</sup>	3
History course <sup>e</sup>		3
History course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Qualifying Research Essay <sup>f</sup>		
HIST:6004	Comprehensive Exams Seminar I	3
History course <sup>e</sup>		3
History course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Comprehensive Exam <sup>g</sup>		
Dissertation Prospectus <sup>h</sup>		

HIST:6005	Comprehensive Exams Seminar II	3
History course <sup>e</sup>		3
Elective course <sup>i</sup>		3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Fall</b>		
Elective or Independent Study <sup>i</sup>		
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
Elective or Independent Study <sup>i</sup>		
<b>Hours</b>		<b>1</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Elective or HIST:7193 Thesis <sup>i</sup>		
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
HIST:7193	Thesis	1
<b>Hours</b>		<b>1</b>
<b>Fifth Year</b>		
<b>Fall</b>		
HIST:7193	Thesis	1
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
HIST:7193	Thesis	1
Final Exam <sup>j</sup>		
<b>Hours</b>		<b>1</b>
<b>Total Hours</b>		<b>42</b>

- a Students entering with fewer than 30 s.h. of coursework from the master's degree must work with their faculty advisor to complete the needed appropriate graduate coursework.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c The department has a basic world language requirement for the PhD. However, the faculty advisor may require a student to demonstrate a reading knowledge of one or more languages and proficiency in the use of other study tools. Students may not complete the comprehensive examination until these requirements have been met.
- d Students must complete HIST:6002 and HIST:6003 during their first year.
- e Students must complete at least seven graduate level history (or related field) courses numbered 6000 or above; work with faculty advisor to determine appropriate coursework and sequence.
- f Must be completed prior to the end of second year fall semester.
- g Written and oral examination typically completed during the second year; more information is included in the General Catalog and on department website.
- h Typically completed during the second year, written prospectus for the dissertation is submitted to the faculty advisor before the comprehensive exams; the student defends the prospectus within two weeks of passing the oral portion of the comprehensive examination.
- i Work with faculty advisor to determine appropriate elective coursework and sequence.
- j Dissertation defense.



# Interdepartmental Studies

## Director, Division of Interdisciplinary Programs

- Cornelia C. Lang (Physics and Astronomy)

## Director, Interdepartmental Studies

- Cornelia C. Lang

**Undergraduate major:** interdepartmental studies (B.A.)

**Faculty:** <https://interdepartmentalstudies.uiowa.edu/people>

**Website:** <https://interdepartmentalstudies.uiowa.edu/>

The Interdepartmental Studies Program (ISP) provides an alternative to traditional undergraduate majors. It gives students the opportunity to design an individualized plan of study or to choose a preapproved plan in applied human services, business studies, or health science. Each track includes coursework from a variety of departments.

Since the major in interdepartmental studies affords opportunities outside the traditional degree pattern, students must create or choose study programs that meet their individual educational and career objectives. Those who plan to seek employment immediately after graduation should familiarize themselves with the educational background and qualifications required by employers and should include appropriate courses in their study programs.

Students preparing for advanced study should become familiar with the admissions requirements of graduate or professional schools that interest them. The earlier students decide to pursue graduate or professional study, the easier it is to complete necessary prerequisites.

The Interdepartmental Studies Program is one of the academic units in the Division of Interdisciplinary Programs [p. 392].

## Programs

### Undergraduate Program of Study

#### Major

- Major in Interdepartmental Studies (Bachelor of Arts) [p. 714]

## Courses

### Interdepartmental Studies Courses

#### **INTD:3005 Professional and Creative Business Communication** 3 s.h.

Solid foundation for creative and professional communication in today's modern work world; exploration of techniques, strategies, and craft of writing résumés, letters of interest, email and its related etiquette, and organization of ideas into presentable form; semester-long creative project that builds a bridge between office and the world using modern technology and social media; readings and discussions of literature to better understand issues of ethics, leadership, conflict, moral judgment, decision making, and human nature; how to navigate and succeed in business or any professional field. GE: Engineering Be Creative. Same as CW:3005, WRIT:3005.

#### **INTD:3027 Nutrition in Health and Performance** 3 s.h.

Effects of exercise and nutrition on health- and sports-related fitness; for professionals in health and physical education. Same as SRM:3020.

#### **INTD:3107 Creative Writing for the Health Professions** 3 s.h.

GE: Engineering Be Creative. Same as CW:3107.

#### **INTD:3200 Creative Writing for New Media** 3 s.h.

Prepares creative writers for evolving marketplace of electronic text and media; experience writing in varied media (e.g., internet, e-books, video games, mobile devices, emergent social narratives). GE: Engineering Be Creative. Same as CW:3218.

#### **INTD:3300 Creative Writing and Popular Culture** 3 s.h.

Creative writing through the lens of popular culture; topics include television, film writing, adaptations, commercials, advertising, magazines, newspapers, comic books, song lyrics, billboards, and backs of cereal boxes. GE: Engineering Be Creative. Same as CW:3215.

#### **INTD:3510 Introduction to Arts Management** 3 s.h.

Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as DPA:3510, THTR:3510.

#### **INTD:4098 Independent Study** arr.

Individual study of issues or topics related to a specific interdepartmental focus chosen by the student.

#### **INTD:4099 Interdepartmental Studies Practicum** arr.

Opportunity to relate a student's chosen area of study to practical application. Requirements: interdepartmental studies student.

#### **INTD:4510 Arts Leadership Seminar** 3 s.h.

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Prerequisites: THTR:3510 or ENTR:2000. Same as DPA:4510, ENTR:4510, THTR:4510.

# Interdepartmental Studies, B.A.

## Learning Outcomes

After completing any of the three tracks—applied human services, business studies, or health science—in the interdepartmental studies major, students will:

- possess the mathematical skills to present and understand data and to create probability models, or to design, analyze, and interpret research using a correlational design;
- understand how social and/or political issues shape economic behavior, or how key anthropological concepts assist in comprehending global or societal problems; and
- synthesize key concepts or techniques related to the track they are pursuing.

## Requirements

The Bachelor of Arts with a major in interdepartmental studies requires a minimum of 120 s.h., including at least 36 s.h. of work for the major (total semester hours required depends on the track). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students choose one of four tracks for the major: applied human services, business studies, health science, or an individualized plan of study. The individualized plan of study track is selective; students must apply and be admitted before they may declare it. The other three tracks are open; students may declare them without an application.

Students who choose the individualized plan of study track design their own major. Those who choose the applied human services track, business studies track, or health science track follow a preapproved study plan, which includes foundation courses and a selection of emphasis areas. The applied human services track offers three emphasis areas: aging services, community-based services, and corrections services. The business studies track offers four emphasis areas: organizational practice and perspectives, values and ethics, arts management, and technology and inquiry. The health science track offers four emphasis areas: aging, entrepreneurial, global health, and multidisciplinary science.

Interdepartmental studies students who earn a second major may count a maximum of two courses from the second major toward the interdepartmental studies major. Students who earn the major in interdepartmental studies may earn the major in global health studies as long as they select an emphasis in interdepartmental studies other than the global health emphasis in the health science track.

Students majoring in interdepartmental studies may earn certificates in other programs, departments, or colleges.

Interdepartmental studies students who earn minors in other departments or programs may not count courses from the minors toward the interdepartmental studies major.

The B.A. with a major in interdepartmental studies requires the following coursework.

- Applied Human Services Track [p. 714]
- Business Studies Track [p. 717]

- Health Science Track [p. 724]
- Individualized Plan of Study Track [p. 728]

## Applied Human Services Track

Students in the applied human services track may not earn a minor in human relations. Students in this track may count courses that reside in another college outside the College of Liberal Arts and Sciences (CLAS) toward their residence requirement. For example, Department of Counselor Education courses (prefix CSED) offered through the College of Education will be accepted toward the CLAS residence requirement for students in the applied human services track.

The applied human services track requires 37-42 s.h. of work for the major. It provides a preapproved plan of study that combines a generalized psychology background with a choice of three emphasis areas: aging services, community-based services, and corrections services. Students who choose this track also have the option of proposing their own human services-related emphasis area to the faculty advisory committee.

Applied human services track students must complete foundation coursework (24-26 s.h.), one emphasis area (at least 12 s.h.), and a career preparation component (at least 1 s.h.). They must complete a minimum of 15 s.h. of work for the major at the University of Iowa. The Academic Advising Center advises applied human services track students; contact the center for more information about requirements.

Code	Title	Hours
Foundation Courses		24-26
Emphasis Area		12-13
Career Preparation Component		1-3
<b>Total Hours</b>		<b>37-42</b>

## Applied Human Services Track: Foundation Courses

### Psychology Core

Code	Title	Hours
This course:		
PSY:1001	Elementary Psychology	3
One of these:		
PSY:2811	Research Methods and Data Analysis in Psychology I	3
STAT:1010	Statistics and Society	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4

### Human Relations Core

Code	Title	Hours
One of these:		
CCCC:2220	Foundations of Critical Cultural Competence	3
CSED:4197	Citizenship in a Multicultural Society	3
Both of these:		
CSED:4195	Ethics in Human Relations and Counseling	3
CSED:4199	Counseling for Related Professions	3

## Psychology Electives

Code	Title	Hours
Three of these:		
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4

## Aging Services Emphasis

Students who choose the aging services emphasis area may not earn the Certificate in Aging and Longevity Studies.

Students who choose the aging services emphasis must complete the foundation component (3 s.h.), the elective component (9 s.h.), and the career preparation component (at least 1 s.h.).

### Aging Services Emphasis: Foundation Component

Code	Title	Hours
This course:		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3

### Aging Services Emphasis: Elective Component

Code	Title	Hours
9 s.h. from these:		
ASP:2000/ ARTS:2000/ EDTL:2000/ RHET:2000	Big Ideas: Creativity for a Lifetime	3
ASP:2181/ ANTH:2181/ GHS:2181	The Anthropology of Aging	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
ASP:3150	Psychology of Aging	3
ASP:3151/ ANTH:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ASP:3152/ ANTH:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ASP:3160	Biology of Aging	3
ASP:3170	Health and Aging	3
ASP:3300	Mapping the Creative Legacy	3
ASP:3400	Film, Media, and Aging	3
ASP:3519/ POLI:3519	Politics of Aging	3

ASP:3740/ MED:3740/ NURS:3740	End-of-Life Care for Adults and Families	3
ASP:3786/ SSW:3786	Death/Dying: Issues Across the Life Span	3-4
ASP:4165/CSD:4165	Communication Disorders and Aging	2
ASP:4470/HHP:4470	Physiology of Aging	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
PSY:2930	Abnormal Psychology: Health Professions	3

### Aging Services Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

## Community-Based Services Emphasis

Students who choose the community-based services emphasis complete the elective component (12 s.h.) and the career preparation component (at least 1 s.h.).

### Community-Based Services Emphasis: Elective Component

Code	Title	Hours
12 s.h. from these:		
CSED:4130	Human Sexuality	3
CSED:4132	Introduction to Addictions and Impulse Control Disorders	3
CSED:4140	Foundations of Leadership for Community Agencies	3
CSED:4145/ PSQF:4145	Marriage and Family Interaction	3

CSED:4162/ PSQF:4162	Introduction to Couple and Family Therapy	3
CSED:4173	Trauma Across the Lifespan	3
CSED:4174	Positive Psychology	3
CSED:4175	Motivational Interviewing	3
CSED:4178	Microcounseling	3
CSED:4179	Sexuality Within the Helping Professions	3
CSED:4180	Topical Seminar for Helping Professionals	arr.
CSED:4185	Introduction to Substance Abuse	3
CSED:4187/ EDTL:4987	Introduction to Assistive Technology	3
CSED:4191	Advocacy: Awareness, Assertiveness, and Activism	arr.
CSED:4193	Individual Instruction - Undergraduate	arr.
CSED:4194	Interpersonal Effectiveness	3
PSQF:1027	Mindfulness Foundations in the Helping Professions	3
PSY:2930	Abnormal Psychology: Health Professions	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	1-3
SSW:3729	Substance Use and Abuse	2-3
SSW:3797	Child Welfare Policy and Practice	3

### Community-Based Services Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

### Corrections Services Emphasis

Students in the correction services emphasis area may not earn a major or a minor in sociology or in criminology, law and justice.

Students who choose the corrections services emphasis must complete the foundation component (3-4 s.h.), the elective component (9 s.h.), and the career preparation component (at least 1 s.h.). The elective component must include 6 s.h. earned in courses numbered 3000 or above.

#### Corrections Services Emphasis: Foundation Component

Code	Title	Hours
One of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:1030	Contemporary Social Problems	3-4

#### Corrections Services Emphasis: Elective Component

Students select 9 s.h. of electives from the following lists of lower-level and advanced courses, with a minimum of 6 s.h. from the advanced courses list.

Code	Title	Hours
<b>Lower-Level Courses</b>		
Maximum of 3 s.h. from these:		
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:2100	Anthropology and Contemporary World Problems	3
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
CRIM:2210/ CSI:2210	Iowa Criminal Justice Policy and Reform	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3
MGMT:2000	Introduction to Law	3
PSY:2930	Abnormal Psychology: Health Professions	3
SOC:1022/ SSW:1022	Social Justice and Social Welfare in the United States	3
SOC:2810	Social Inequality	3
<b>Advanced Courses</b>		
At least 6 s.h. from these:		
ANTH:3101/ GWSS:3101	Anthropology of Sexuality	3
CRIM:3110	Communities and Crime	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:3350	Life Course Criminology	3
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3425/ GWSS:3425	Women, Crime, and Justice	3
CRIM:3437	American Crime	3

CRIM:3450	Criminal Legal System	3
CRIM:3600	Crime and Public Policy	3
CRIM:4300	Gender and Violence	3
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4410	Treatment Interventions in Corrections	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
CRIM:4901	Advanced Topics in Criminology, Law, and Justice	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
GWSS:3005/ SJUS:3005	Practicum	3-4
SOC:3171	Drugs and Society	3
SOC:3220	Sociology of Mental Illness	3
SSW:3796	Family Violence	2-3

### Corrections Services Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

### Business Studies Track

Students in the business studies track may not earn a business administration minor.

The business studies track requires 37-50 s.h. of work for the major. It provides a preapproved plan of study that combines a generalized business background with a choice of four emphasis areas: organizational practice and perspectives, values and ethics, arts management, and technology and inquiry. Students who choose this track also have the option of proposing their own business-related emphasis area to the faculty advisory committee.

Business studies track students must complete foundation coursework (at least 11 s.h.), business electives (at least 10 s.h.), one emphasis area (at least 15 s.h.), and the career preparation component (at least 1 s.h.). They must complete a minimum of 15 s.h. of work for the major at the University of Iowa. The Academic Advising Center advises business studies track students; contact the center for more information about requirements.

Code	Title	Hours
Foundation Courses		11-15
Business Electives		10-12
Emphasis Area		15-20
Career Preparation Component		1-3
<b>Total Hours</b>		<b>37-50</b>

### Business Studies Track: Foundation Courses

#### Foundational Math

Code	Title	Hours
Both of these:		
MATH:1005	College Algebra	4
MATH:1010	Trigonometry	3
Or one of these:		
MATH:1020	Elementary Functions	4
MATH:1340	Mathematics for Business	4
MATH:1350	Quantitative Reasoning for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

#### Foundational Statistics

Code	Title	Hours
One of these:		
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Foundational Economics

Code	Title	Hours
One of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4

## Business Studies Track: Business Electives

Students complete four electives (at least 10 s.h.) from the following list.

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
BAIS:3000	Operations Management	2
CS:2420	Analyzing Data for Informatics	3
CS:4400	Database Systems	3
ENTR:1350	Foundations in Entrepreneurship	3
FIN:3000	Introductory Financial Management	3
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
MKTG:3000	Introduction to Marketing Strategy	3
May include one of these:		
BAIS:1500	Business Computing Essentials	2
CS:1020	Principles of Computing	3

## Organizational Practice and Perspectives Emphasis

Students who choose the organizational practice and perspectives emphasis must complete at least one course from each of the four components (speaking and writing, communication and media, cultural diversity, and entrepreneurship) for a total of 15 s.h. and one course from the career preparation component (at least 1 s.h.). The required 15 s.h. must include 9 s.h. earned in advanced courses. Advanced courses for each component are listed below.

### Organizational Practice and Perspectives Emphasis: Speaking and Writing Component

Code	Title	Hours
At least one course from these or from the advanced courses:		
CNW:1620	Introduction to Creative Nonfiction	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
COMM:1112	Interpersonal Communication	3
COMM:1117	Advocacy and Argument	3
COMM:1130	The Art of Persuading Others	3
COMM:1816	Business and Professional Communication	3

COMM:2821/ EDTL:2821	Oral Interpretation	3
CW:1800	Creative Writing Studio Workshop	3
CW:2100	Creative Writing	3
CW:2870	Fiction Writing	3
LING:1030/ WRIT:1030	English Words	3
RHET:2055	Persuasion and Advocacy	3
RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2070	Persuasive Stories	3
RHET:2085	Speaking Skills	3
RHET:2095	Fundamental Strategies of Persuasion	3
RHET:2350	Forensic Rhetoric	3
RHET:2620	Body Language: Study of Movement and Gesture in Speaking	3
THTR:1140	Basic Acting	3
THTR:2610/ RHET:2610	Acting for Success	3

### Advanced Courses

INTD:3005/ CW:3005/ WRIT:3005	Professional and Creative Business Communication	3
BUS:3800	Business Writing	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CNW:3600	Issues in Creative Nonfiction	3
CNW:3630	Advanced Nonfiction Writing	3
CNW:3632/ WRIT:3632	Prose Style	3
CNW:3633	Personal Writing	3
CNW:3640	Writing for Business	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3
CW:3218/ INTD:3200	Creative Writing for New Media	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3
CW:4760/ WRIT:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3
GWSS:3138/ SJUS:3138	Writing to Change the World	3
LING:3001	Introduction to Linguistics	3
RHET:3085	Advanced Speaking Skills	3

### Organizational Practice and Perspectives Emphasis: Communication and Media Component

Code	Title	Hours
At least one course from these or from the advanced courses:		
ANTH:1040/ LING:1040	Language Rights	3
ANTH:1401	Language, Culture, and Communication	3

COMM:1170	Communication Theory in Everyday Life	3	ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America	3
COMM:1174	Media and Society	3	CCCC:2220	Foundations of Critical Cultural Competence	3
COMM:1305	Understanding Communication: Social Scientific Approaches	3	COMM:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3
COMM:1306	Understanding Communication: Humanistic Approaches	3	DST:1101	Introduction to Disability Studies	3
COMM:1818	Communication Skills for Leadership	3	ENGL:1350	Literature and Sexualities	3
COMM:1819	Organizational Leadership	3	GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
JMC:1100	Introduction to Media Effects	3	GWSS:1002	Diversity and Power in the U.S.	3
JMC:1200	Introduction to Media and Culture	3	HIST:1040	Diversity in History	3
JMC:1300	Introduction to Journalism and Strategic Communication	3	HIST:2267/ AFAM:2267	African American History to 1877: From Slave Cabin to Senate Floor	3
JMC:1500	Introduction to Social Media	3	HIST:2280/ LATS:2280/ SPAN:2280	Introduction to Latina/o/x Studies	3
JMC:2500	Community Media	3	JMC:2600	Freedom of Expression	3
LS:1020	Introduction to Leadership	3	LING:2900	Language, Gender, and Sexuality	3
<b>Advanced Courses</b>			MUS:1009	Jazz Cultures in America and Abroad	3
CSED:4111	Building Leadership and Success at Work	3	MUS:1720	History of Jazz	3
CSED:4140	Foundations of Leadership for Community Agencies	3	NAIS:1049/ AMST:1049/ HIST:1049	Introduction to Native American and Indigenous Studies	3
ENGL:3182	Digital Cultures and Literacies	3	POLI:1601	Introduction to Social Media and Politics	3
EVNT:3154	Foundations of Event Management	3	POLI:1800	Introduction to the Politics of Class and Inequality	3
EVNT:3260	Event Management Workshop	3	RELS:1350/ AFAM:1250	Introduction to African American Religions	3
JMC:3530	Social Media Marketing	3	RELS:1810	Happiness in a Difficult World	3
JMC:3540/ SPST:3181	The Business of Sport Communication	3	RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3
JMC:3710	Fundraising Fundamentals	3	SOC:1310/ GWSS:1310	Gender and Society	3
RHET:3009/ PBAF:3217/ URP:3217	Negotiation and Conflict Resolution	3	SOC:2810	Social Inequality	3
SOC:4225	The Social Psychology of Leadership	3	SOC:2830	Race and Ethnicity	3

### Organizational Practice and Perspectives Emphasis: Cultural Diversity Component

Code	Title	Hours			
At least one course from these or from the advanced courses:					
AFAM:1020/ AMST:1030	Introduction to African American Culture	3	SPAN:1700/ LATS:1700	Latina/o/x Literature in the United States	3
AFAM:1030	Introduction to African American Society	3	SPAN:2700/ COMM:2800/ IS:2700/LAS:2700/ PORT:2700	Introduction to Latin American Studies	3
AFAM:1250/ RELS:1350	Introduction to African American Religions	3	<b>Advanced Courses</b>		
AFAM:2070/ COMM:2069	Black Television Culture	3	ENGL:3455	Jewish American Literature	3
AFAM:2500	Black Culture and Experience: Contemporary Issues	3	HIST:4201/ ASL:4201	History of the American Deaf Community	3-4
AMST:1010	Understanding American Cultures	3	HIST:4203	Disability in American History	3
			HIST:4216/ LAS:4216	Mexican American History	3
			JMC:3165/ AFAM:3925	African Americans and the Media	3

RELS:3745/ AFAM:3245	Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	1-3

### Organizational Practice and Perspectives Emphasis: Entrepreneurship Component

Code	Title	Hours
At least one of these (all are advanced courses):		
ECON:3650	Policy Analysis	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:4000	Topics in Entrepreneurship	2-3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4400	Managing the Growth Business	3
ENTR:4460	Entrepreneurship and Global Trade	3
MGMT:3500/ ENTR:3595/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II	3

### Organizational Practice and Perspectives Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2

CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

### Values and Ethics Emphasis

Students who choose the values and ethics emphasis must complete at least two courses from each of the two components (values and theories, institutions and policies) for a total of 15 s.h. and one course from the career preparation component (at least 1 s.h.).

### Values and Ethics Emphasis: Values and Theories Component

Code	Title	Hours
At least two of these:		
JMC:2600	Freedom of Expression	3
PHIL:1033	The Meaning of Life	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:2402	Introduction to Ethics	3
PHIL:2435	Philosophy of Law	3
POLI:1200	Introduction to Political Behavior	3
POLI:1300	Introduction to Political Thought and Action	3
POLI:3400	Political Economy	3

### Values and Ethics Emphasis: Institutions and Policies Component

Code	Title	Hours
At least two of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:3450	Criminal Legal System	3
PHIL:1401	Matters of Life and Death	3
PHIL:2432	Introduction to Political Philosophy	3
POLI:3101	American Constitutional Law and Politics	3
POLI:3102	The U.S. Congress	3
POLI:3111	American Public Policy	3
POLI:3116	The Presidency	3
POLI:3117/ PBAF:3117	Bureaucratic Politics and Public Administration	3
POLI:3120	The Criminal Justice System	3
POLI:3121	The Judicial Process	3
POLI:3202	Political Psychology	3
SOC:2810	Social Inequality	3



## Values and Ethics Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

## Arts Management Emphasis

Students who choose the arts management emphasis must complete the administration component (6 s.h.), the history component (3 s.h.), the production component (3 s.h.), the elective component (3 s.h.), and one course from the career preparation component (at least 1 s.h.).

### Arts Management Emphasis: Administrative Component

Code	Title	Hours
Two of these:		
ENTR:2000	Entrepreneurship and Innovation	3
THTR:3510/ DPA:3510/ INTD:3510	Introduction to Arts Management	3
THTR:4510/ DPA:4510/ ENTR:4510/ INTD:4510	Arts Leadership Seminar	3

### Arts Management Emphasis: History Component

Code	Title	Hours
One of these:		
AMST:1075	American Popular Music: Rock and Roll to 1980	3
ARTH:1010	Art and Visual Culture	3

ARTH:1020	Masterpieces: Art in Historical and Cultural Perspectives	3
ARTH:1030	Themes in Global Art	3
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1090	Earthly Paradises: A Global History of Gardens	3
ARTH:1095/ NAIS:1095	Native American Art	3
COMM:1168	Music and Social Change	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3
DANC:3060	Western Concert Dance History: Romantic to Contemporary	3
DPA:1412/ DANC:1412/ THTR:1412	The Arts in Performance	3
ENGL:2160	Introduction to Drama	3
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1066	Introduction to Film Music	3
MUS:1302	Great Musicians	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:1800/ DPA:1800	World of the Beatles	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
MUSM:3120	Museum Origins	3
THTR:1400	Theatre and Society: Ancients and Moderns	3
THTR:1401	Theatre and Society: Romantics and Rebels	3
THTR:1411	Comedy and Society	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3
THTR:3440/ ENGL:3440	American Drama Since 1900	3

### Arts Management Emphasis: Production Component

Code	Title	Hours
3 s.h. from these:		
ARTS:1010	Elements of Art	3
ARTS:1020	Elements of 3D Design	3

ARTS:1030	Elements of Jewelry and Metal Arts	3
ARTS:1050	Elements of Printmaking	3
ARTS:1060	Elements of Digital Photography	3
ARTS:1080	Elements of Sculpture	3
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
DANC:1010	Beginning Tap	2
DANC:1020	Beginning Jazz	2
DANC:1030	Beginning Ballet	2
DANC:1040	Beginning Modern Dance	2
DANC:1090	Dance Production	3
DANC:1120	Continuing Jazz	2
DANC:1130	Continuing Ballet	2
DANC:1140	Continuing Modern Dance	2
DANC:2020	Intermediate Jazz	2
DANC:2030	Majors Intermediate Ballet	3
DANC:2040	Majors Intermediate Contemporary Movement Practices	3
DANC:2085	Introduction to African Caribbean Dance Practices	3
DANC:3030	Major Ballet I	3
DANC:3040	Major Contemporary Movement Practices I	1-3
DANC:3080	Music Essentials for Dance	3
DANC:3530	Major Ballet II	1-2
DANC:3540	Major Contemporary Movement Practices II	1-2
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1020	Performance Instruction for Nonmajors	1
MUS:1160	University Band	1
MUS:1165	Hawkeye Marching Band	1
MUS:1166	Large Pep Band	1
MUS:1176	Voxman Chorale	1
MUS:1180	Campus Symphony Orchestra	1
MUS:2020	Lower Level Voice	arr.
MUS:2021	Lower Level Piano	arr.
MUS:2022	Lower Level Organ	arr.
MUS:2023	Lower Level Violin	arr.
MUS:2024	Lower Level Viola	arr.
MUS:2025	Lower Level Cello	arr.
MUS:2026	Lower Level String Bass	arr.
MUS:2027	Lower Level Flute	arr.
MUS:2028	Lower Level Oboe	arr.
MUS:2029	Lower Level Clarinet	arr.
MUS:2030	Lower Level Bassoon	arr.
MUS:2031	Lower Level Saxophone	arr.
MUS:2032	Lower Level Horn	arr.
MUS:2033	Lower Level Trumpet	arr.
MUS:2034	Lower Level Trombone	arr.
MUS:2035	Lower Level Euphonium	arr.
MUS:2036	Lower Level Tuba	arr.
MUS:2037	Lower Level Percussion	arr.

MUS:2038	Lower Level Jazz	2
MUS:3160	Symphony Band/Concert Band	1
MUS:3163	Intermediate Steel Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1
MUS:3182	Chamber Orchestra	1
MUS:3730	Jazz Band	1
MUSM:3004	Exhibition Planning	3
THTR:1120	Basic Acting for Language Learners	3
THTR:1140	Basic Acting	3
THTR:2140	Acting I	3
THTR:2215	Theatre Technology	3
THTR:2301	Playwriting I	3

### Arts Management Emphasis: Elective Component

Code	Title	Hours
One of these:		
ARTH:4081/ MUSM:4081	The American Art Museum: Theory and Practice	3
ARTS:3400	Grant Writing in the Arts	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
INTD:3005/ CW:3005/ WRIT:3005	Professional and Creative Business Communication	3
JMC:2600	Freedom of Expression	3
MGMT:2100	Introduction to Management (if not already used to fulfill foundation coursework requirement)	3
MGMT:3500/ ENTR:3595/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
MUSM:3200/ EES:3200	Collection Care and Management	3
THTR:2610/ RHET:2610	Acting for Success	3

### Arts Management Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3

CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

## Technology and Inquiry Emphasis

Students who choose the technology and inquiry emphasis must complete the applied technology component (6 s.h.), the analytics and research component (3 s.h.), the organizational communication component (6 s.h.), and one course from the career preparation component (at least 1 s.h.).

### Technology and Inquiry Emphasis: Applied Technology Component

Code	Title	Hours
Two of these:		
ARTS:1020	Elements of 3D Design	3
ARTS:1060	Elements of Digital Photography	3
ARTS:1070	Elements of Graphic Design	3
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4
CS:2230	Computer Science II: Data Structures	4
DSGN:2500	Graphic Design I	3
DSGN:2600/ UICB:2600	Graphic Design II	3
GEOG:1050	Foundations of GIS	4
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GHS:3037	Technology to Improve Global Health	3
JMC:1500	Introduction to Social Media	3
JMC:3610	Graphic Design	3-4

### Technology and Inquiry Emphasis: Analytics and Research Component

Code	Title	Hours
One of these:		
CS:2210	Discrete Structures	3
POLI:1050/ RELS:1050	Big Ideas: Introduction to Information, Society, and Culture	3
PSQF:1075	Educational Psychology and Measurement	3
SOC:2160	Applied Statistics for Social Scientists	3
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3

### Technology and Inquiry Emphasis: Organizational Communication Component

Code	Title	Hours
Two of these:		
INTD:3005/ CW:3005/ WRIT:3005	Professional and Creative Business Communication	3
INTD:3107/ CW:3107	Creative Writing for the Health Professions	3
INTD:3200/ CW:3218	Creative Writing for New Media	3
ARTS:3400	Grant Writing in the Arts	3
BAIS:3400	Cloud Computing	3
CNW:2730	The Art and Craft of Science Writing	3
CNW:3640	Writing for Business	3
COMM:1816	Business and Professional Communication	3
COMM:2011	Group Communication	3
COMM:2057	Introduction to Computer-Mediated Communication	3
RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2610/ THTR:2610	Acting for Success	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3
WRIT:1500	Writing Commons: A Community of Writers	1-3

### Technology and Inquiry Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1

CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

## Health Science Track

The health science track requires 38-43 s.h. of work for the major. It provides a preapproved plan of study that combines a generalized health background with a varied choice of emphasis areas: multidisciplinary science, entrepreneurial, aging, and global health. Students who choose this track also have the option of proposing their own health science-related emphasis area to the faculty advisory committee.

Health science track students must complete foundation coursework (at least 22 s.h.), one emphasis area (at least 15 s.h.), and the career preparation component (at least 1 s.h.). They must complete a minimum of 15 s.h. for the major at the University of Iowa. The Academic Advising Center advises health science track students; contact the center for more information about requirements.

Code	Title	Hours
Foundation Courses		22-25
Emphasis Area		15
Career Preparation Component		1-3
<b>Total Hours</b>		<b>38-43</b>

## Health Science Track: Foundation Courses

Students must complete at least 22 s.h. of foundation courses from the following.

### Foundational Chemistry

Code	Title	Hours
One of these:		
CHEM:1070	General Chemistry I	3
CHEM:1110	Principles of Chemistry I	4
One of these:		
CHEM:1080	General Chemistry II	3
CHEM:1120	Principles of Chemistry II	4

### Foundational Biology

Code	Title	Hours
One of these:		
BIOL:1140	Human Biology: Nonmajors	4

BIOL:1141	Human Biology: Health Professions	4
BIOL:1411	Foundations of Biology	4

## Foundational Math and Statistics

Code	Title	Hours
One of these:		
MATH:1020	Elementary Functions	4
MATH:1350	Quantitative Reasoning for Business	4
MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Foundational Social Science

Code	Title	Hours
One of these:		
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:2100	Anthropology and Contemporary World Problems	3
PSY:1001	Elementary Psychology	3
SOC:1010	Introduction to Sociology	3-4
SOC:1030	Contemporary Social Problems	3-4
SOC:1220	Principles of Social Psychology	3-4

## Foundational Science Elective

Code	Title	Hours
One of these:		
ACB:3110	Principles of Human Anatomy	3
BIOL:1412	Diversity of Form and Function	4
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:3105	Anatomy for Human Physiology	3
MICR:2157	General Microbiology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:2975	Introduction to Cognitive Neuroscience	3

## Foundational Elective

Code	Title	Hours
One of these:		
HHP:1045	Diversity and Inclusion in Healthy Living	3
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3
HHP:3400	Applied Exercise Physiology	3
HHP:3500	Human Physiology	3
HHP:3550	Human Physiology with Laboratory	5
HHP:4440	Physiology of Nutrition	3
NURS:1030	Human Development and Behavior	3
PSY:2401	Introduction to Developmental Science	3
PSY:2701	Introduction to Behavioral Neuroscience	4

## Multidisciplinary Science Emphasis

Students who choose the multidisciplinary science emphasis must complete 15 s.h. from the following list and the career preparation component (at least 1 s.h.).

Code	Title	Hours
ANTH:2164/ GHS:2164	Culture and Healing: An Introduction to Medical Anthropology	3
ANTH:2320/ GHS:2320	Origins of Human Infectious Disease	3
BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOL:2254	Endocrinology	3
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
BIOL:2753	Introduction to Neurobiology	3
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3
CPH:1400	Fundamentals of Public Health	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
MED:1100	Introduction to Health Care Professions	3
MICR:2157	General Microbiology (if not taken as foundational science elective)	3
MICR:3164	Microbiology and Human Health	4
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3
SOC:3510	Medical Sociology	3

SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
May include one of these:		
CHEM:2210	Organic Chemistry I	3
CHEM:2230	Organic Chemistry I for Majors	3
May include one of these:		
CHEM:2220	Organic Chemistry II	3
CHEM:2240	Organic Chemistry II for Majors	3
May include one of these:		
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:2420	Organic Chemistry Laboratory for Majors	3
May include one of these:		
HHP:2310	Nutrition and Health (if not used to fulfill foundation requirement)	3
HHP:4440	Physiology of Nutrition (if not used to fulfill foundation requirement)	3
May include one of these:		
PHYS:1511	College Physics I	4
PHYS:1611	Introductory Physics I	4
May include one of these:		
PHYS:1512	College Physics II	4
PHYS:1612	Introductory Physics II	3-4

## Multidisciplinary Science Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

## Entrepreneurial Emphasis

Students who chose the entrepreneurial emphasis area may not earn the Certificate in Entrepreneurial Management.

Students who choose the entrepreneurial emphasis must complete 15 s.h. from the following list and the career preparation component (at least 1 s.h.).

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting	3
BUS:3800	Business Writing	3
CNW:3640	Writing for Business	3
ECON:3650	Policy Analysis	3
ECON:3760	Health Economics	3
ENTR:1350	Foundations in Entrepreneurship	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:3700	Sustainable Product Innovation and Management	3
ENTR:4000	Topics in Entrepreneurship	2-3
ENTR:4100	International Entrepreneurship, Culture, and Social Impact	1-3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4400	Managing the Growth Business	3
ENTR:4460	Entrepreneurship and Global Trade	3
ENTR:4510/ DPA:4510/ INTD:4510/ THTR:4510	Arts Leadership Seminar	3
MGMT:2100	Introduction to Management	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II	3
MKTG:3000	Introduction to Marketing Strategy	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3

## Entrepreneurial Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

## Aging Emphasis

Students who choose the aging emphasis area may not earn the Certificate in Aging and Longevity Studies or the minor in aging and longevity studies.

Students who choose the aging emphasis must complete 15 s.h. from the following list and the career preparation component (at least 1 s.h.).

Code	Title	Hours
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
ASP:2181/ ANTH:2181/ GHS:2181	The Anthropology of Aging	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
ASP:3150	Psychology of Aging	3
ASP:3151/ ANTH:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3
ASP:3152/ ANTH:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ASP:3160	Biology of Aging	3
ASP:3170	Health and Aging	3
ASP:3300	Mapping the Creative Legacy	3

ASP:3519/ POLI:3519	Politics of Aging	3	GHS:1200/ DST:1200/ GRMN:1200/ WLLC:1200	Disabilities and Inclusion in Writing and Film Around the World	3
ASP:3740/ MED:3740/ NURS:3740	End-of-Life Care for Adults and Families	3	GHS:1290/ AMST:1290/ HIST:1290/ NAIS:1290	Native American Foods and Foodways	3
ASP:3786/ SSW:3786	Death/Dying: Issues Across the Life Span	3	GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
ASP:5750/ HMP:5750	Medicare and Medicaid Policy	3	GHS:2080/ GWSS:2080	The Cultural Politics of HIV-AIDS	3
BIOL:3603	Mechanisms of Aging	3	GHS:2110/ GEOG:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3	GHS:2164/ ANTH:2164	Culture and Healing: An Introduction to Medical Anthropology	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3	GHS:2181/ ANTH:2181/ ASP:2181	The Anthropology of Aging	3

### Aging Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

### Global Health Emphasis

Students who choose the global health emphasis area may not earn the Certificate in Global Health Studies or the minor in global health studies.

Students who choose the global health emphasis must complete 15 s.h. from the following list and the career preparation component (at least 1 s.h.).

Code	Title	Hours
ANTH:1046/ GEOG:1046/ GWSS:1046/ SJUS:1046	Environmental Politics in India	3
GHS:1181/ CLSA:1181	Ancient Medicine	3
GHS:1200/ DST:1200/ GRMN:1200/ WLLC:1200	Disabilities and Inclusion in Writing and Film Around the World	3
GHS:1290/ AMST:1290/ HIST:1290/ NAIS:1290	Native American Foods and Foodways	3
GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
GHS:2080/ GWSS:2080	The Cultural Politics of HIV-AIDS	3
GHS:2110/ GEOG:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GHS:2164/ ANTH:2164	Culture and Healing: An Introduction to Medical Anthropology	3
GHS:2181/ ANTH:2181/ ASP:2181	The Anthropology of Aging	3
GHS:2182/ ANTH:2182	Africa: Health and Society	3
GHS:2265/ ASP:2265/ RELS:2265	Hard Cases in Healthcare at the End of Life	3
GHS:2260/ RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3
GHS:2320/ ANTH:2320	Origins of Human Infectious Disease	3
GHS:2415/ PHIL:2415	Bioethics	3
GHS:2650/ GWSS:2650	Global Reproduction	3
GHS:3010/ IGPI:3011	Identifying and Developing a Global Health Project	3
GHS:3015/ GWSS:3010	Transnational Sexualities	3
GHS:3030/ CPH:3240	Global Health Today (only one enrollment may count toward major)	1
GHS:3035	Engaging in Global Health	1
GHS:3036	Ethics, Politics, and Global Health	3
GHS:3050/ ASP:3135/ SSW:3135	Global Aging	3
GHS:3060	Studies in Complementary and Alternative Medicine	3
GHS:3070/ GEOG:3070	Hungry Planet: Global Geographies of Food	3
GHS:3105/ CLSA:3105/ GRMN:3105/ GWSS:3105/ WLLC:3105	Contraception Across Time and Cultures	3
GHS:3110/ ANTH:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
GHS:3111/ GEOG:3110	Geography of Health	3

GHS:3113/ ANTH:3113/ ASIA:3561/ RELS:3580	Religion and Healing	3
GHS:3120	Global Maternal and Child Health	3
GHS:3150/ CBH:3150/JMC:3150	Media and Health	3
GHS:3151/ ANTH:3151/ ASP:3151	The Anthropology of the Beginnings and Ends of Life	3
GHS:3152/ ANTH:3152/ ASP:3152	Anthropology of Caregiving and Health	3
GHS:3162/ HIST:3162	History of Global Health	3
GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3
GHS:3180	Climate Change and Health	3
GHS:3191	Sustainable Development: India and the Global Context	3
GHS:3192	Environment and Health in Modern India	3
GHS:3230	Health Experience of Immigrants, Migrants, and Refugees	3
GHS:3327/ GWSS:3326	The Politics of Progress: NGOs, Development, and Sexuality	3
GHS:3500/ CPH:3500	Global Public Health	3
GHS:3508/ HIST:3508/ LAS:3508	Disease and Health in Latin American History	3
GHS:3555/ HIST:3755/IS:3555	Understanding Health and Disease in Africa	3
GHS:3560	Global Garbage and Global Health	3
GHS:3600	Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment	2
GHS:3620	Global Health and Human Rights	2-3
GHS:3700	Development in a Global Context II: Reflections on Real World Interventions	1
GHS:3720	Contemporary Issues in Global Health (only one enrollment may count toward major)	3
GHS:3760/ GEOG:3760	Hazards and Society	3
GHS:3780/ GEOG:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GHS:3850/ HHP:3850	Promoting Health Globally	3
GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4

GHS:4001	Social Entrepreneurship and Global Health	3
GHS:4100	Topics in Global Health	1-3
GHS:4140/ ANTH:4140/ CBH:4140/ GWSS:4140	Feminist Activism and Global Health	3
GHS:4150/ GEOG:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GHS:4260/ OEH:4260	Global Water and Health	3
GHS:4530/ CPH:4220/ OEH:4530	Global Road Safety	3
GHS:4770/ AFAM:4770/ GEOG:4770	Environmental Justice	3
GHS:4990	Independent Project in Global Health (only one enrollment may count toward major)	arr.
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3

### Global Health Emphasis: Career Preparation Component

Code	Title	Hours
One of these (at least 1 s.h.):		
INTD:4099	Interdepartmental Studies Practicum	arr.
CCP:1201	Academic Internship	1-3
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1
CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:2001	Graduate Admissions 101	1
CCP:2004	Internships: Search, Secure, and Succeed	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3107	Social Media for Your Job Search	1
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2013	Strengths-Based Leadership	1
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

### Individualized Plan of Study Track

The individualized plan of study track requires a minimum of 36 s.h. of work for the major, all taken at the University of



Iowa. Students who choose this track build their own study plan, creating a unique major that speaks to interests across departments and that integrates varied approaches to a particular topic (e.g., aging studies, international business, children's studies, environmental issues, health issues).

Students must submit their study plan for approval. The plan must include an essay that provides a clear statement of the area of intellectual focus; the reasons for preferring the Interdepartmental Studies Program (ISP) to any departmental program; a concrete discussion of how the advanced courses relate to each other, to personal interests, and to the central focus of the study plan; a description of academic goals for the bachelor's degree; a list of advanced-level coursework already completed; and a list of advanced-level coursework planned for all remaining semesters.

Each study plan is approved by a faculty advisory committee. If the advisory committee does not grant approval, the study plan may be returned to a student for revisions and resubmitted. In some cases, a student may be referred to an appropriate departmental major.

Once the study plan is approved, a student is required to follow the plan, taking the courses approved for it. A limited number of substitutions may be allowed, but only if they are clearly consistent with the area of intellectual focus in the approved study plan, and only if they are approved in advance by the ISP advisor. Unauthorized substitutions may be designated as elective coursework.

Significant changes in the focus of a student's study plan require the submission and approval of a revised study plan. A student's academic advisor determines whether changes warrant a revised plan.

See the Interdepartmental Studies Program website for up-to-date information on the individualized plan of study track and rules for submission of study plans.

Students who choose the individualized plan of study track are advised by the ISP coordinator; they work closely with the Interdepartmental Studies Program office while designing the study plan. Students who intend to submit a study plan should contact the ISP coordinator as early as possible.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major; they usually complete the honors requirements of a particular department or program appropriate to their area of study. Students should initiate inquiries about graduating with honors in the interdepartmental studies major by contacting the Interdepartmental Studies Program (ISP) coordinator; they should inquire early in their junior year to allow time for foundation coursework. Students must submit an honors project approval form to the ISP coordinator.

The College of Liberal Arts and Sciences requires that students who earn honors in the major maintain a minimum University of Iowa cumulative g.p.a. of at least 3.33 and a minimum major g.p.a. of at least 3.33. Additional g.p.a. standards and requirements are set by each department or program.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the interdepartmental studies major.

### Career Advancement

Graduates in the applied human services, business studies, and health science tracks have career options in a variety of settings, including retirement homes, hospitals, health clubs, government agencies, insurance companies, and performing arts companies.

Students who create individualized plans of study stand out when they apply for jobs because their major emphasizes a unique set of strengths and interests. In addition, employers often are impressed by their enthusiasm and self-directed nature.

Many interdepartmental studies majors go on to graduate school.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The Four-Year Graduation Plan is available only to Interdepartmental Studies Program (ISP) students in the individualized plan of study track. Students in the other ISP tracks work with their advisors to develop individual graduation plans.

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major.

**Before the seventh semester begins:** an approved individualized plan of study, at least six courses in the plan of study, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** a total of at least nine courses in the plan of study.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

#### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Interdepartmental Studies, B.A.

- Applied Human Services Track [p. 730]
- Business Studies Track [p. 731]
- Health Science Track [p. 732]

## Applied Human Services Track Community-Based Services Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSY:1001	Elementary Psychology <sup>b</sup>	3
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: lower-level psychology course		3
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: psychology core statistics course <sup>f</sup>		3 - 4
Major: lower-level psychology course		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		2 - 3
<b>Hours</b>		<b>15-18</b>
<b>Spring</b>		
Major: emphasis area course		3
Major: lower-level psychology course		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
CSED:4199	Counseling for Related Professions	3
Major: emphasis area course		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CSED:4197	Citizenship in a Multicultural Society	3
	or CCCC:2220 or Foundations of Critical Cultural Competence	

Major: emphasis area course	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>	4
Elective course <sup>e</sup>	2 - 3
<b>Hours</b>	<b>15-16</b>

### Fourth Year

#### Fall

CSED:4195	Ethics in Human Relations and Counseling	3
Major: emphasis area course		3
GE CLAS Core: Quantitative or Formal Reasoning (if not met by core course) <sup>c</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

#### Spring

Major: career preparation component		1 - 3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course (if needed) <sup>e</sup>		3
Elective course (if needed) <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)		

<b>Hours</b>	<b>13-15</b>
<b>Total Hours</b>	<b>120-131</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Choose from PSY:2811, STAT:1010, STAT:1020, STAT:1030.  
g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Business Studies Track

### Organizational Practice and Perspectives Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>b</sup>		3
GE CLAS Core: Values and Culture <sup>b</sup>		3
CSI:1600	Success at Iowa	2
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
ECON:1200 or ECON:1100	Principles of Macroeconomics <sup>d</sup> or Principles of Microeconomics	4
Major: mathematics requirement <sup>e, f</sup>		4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>b</sup>		4
Elective course <sup>c</sup>		1
<b>Hours</b>		<b>16-17</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: business elective course		3
Major: statistics requirement <sup>e</sup>		3 - 4
GE CLAS Core: Historical Perspectives <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: business elective course		3
Major: business elective course		3
GE CLAS Core: International and Global Issues <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: business elective course		3
Major: emphasis area course <sup>h</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: emphasis area course <sup>h</sup>		3
Major: emphasis area course <sup>h</sup>		3
Major: career preparation component <sup>h</sup>		1 - 3

GE CLAS Core: Literary, Visual, and Performing Arts<sup>b</sup> 3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>g</sup> 4 - 5

**Hours** **14-17**

#### Fourth Year

##### Fall

Major: emphasis area course<sup>h</sup> 3

Major: elective course (recommended) 3

Elective course<sup>c</sup> 3

Elective course<sup>c</sup> 3

Elective course<sup>c</sup> 3

**Hours** **15**

##### Spring

Major: emphasis area course<sup>h</sup> 3

Major: elective course (recommended) 3

Elective course<sup>c</sup> 3

Elective course<sup>c</sup> 3

Elective course (if needed)<sup>c</sup> 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

**Hours** **15**

**Total Hours** **120-129**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d Fulfills a major requirement and may fulfill a GE requirement.

e Students should choose a mathematics or statistics course that will also complete the GE: Quantitative or Formal Reasoning requirement.

f Enrollment in math courses requires completion of a placement exam.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h The required 16 s.h. of emphasis area courses must include 9 s.h. earned in advanced courses. See General Catalog for lists of approved courses.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Health Science Track

### Multidisciplinary Science Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110 or CHEM:1070	Principles of Chemistry I <sup>b, c</sup> or General Chemistry I	3 - 4
Major: foundational social science course		3 - 4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-17</b>
<b>Spring</b>		
CHEM:1080 or CHEM:1120	General Chemistry II <sup>e</sup> or Principles of Chemistry II	3 - 4
Major: foundational math/statistics course <sup>f</sup>		3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>15-18</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:1141 or BIOL:1411 or BIOL:1140	Human Biology: Health Professions <sup>e</sup> or Foundations of Biology or Human Biology: Nonmajors	4
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
Major: foundational science course		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>g</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: foundational elective course		3 - 4
Major: emphasis area course <sup>i</sup>		3 - 4
GE CLAS Core: Quantitative or Formal Reasoning (if not met by foundational course) <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>16-19</b>

### Spring

Major: emphasis area course <sup>i</sup>	3 - 4	
GE CLAS Core: Social Sciences (if not met by foundational course) <sup>d</sup>	3	
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>h</sup>	4 - 5	
Elective course <sup>g</sup>	3	
Elective course <sup>g</sup>	3	
<b>Hours</b>		<b>16-18</b>

### Fourth Year

<b>Fall</b>		
Major: emphasis area course <sup>i</sup>	3 - 4	
Major: emphasis area course <sup>i</sup>	3 - 4	
Elective course <sup>g</sup>	3	
Elective course <sup>g</sup>	3	
Elective course <sup>g</sup>	3	
<b>Hours</b>		<b>15-17</b>

### Spring

Major: emphasis area course <sup>i</sup>	3 - 4	
Major: career preparation component <sup>i</sup>	1 - 3	
Elective course <sup>g</sup>	3	
Elective course <sup>g</sup>	3	
Elective course <sup>g</sup>	3	
Elective course <sup>g</sup>	2	
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		
<b>Hours</b>		<b>15-18</b>

<b>Hours</b>		<b>15-18</b>
<b>Total Hours</b>		<b>120-139</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b CHEM:1070 not required before CHEM:1080 if student has completed high school chemistry.

c Enrollment in chemistry courses requires completion of a placement exam.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Fulfills a major requirement and may fulfill a GE requirement.

f Enrollment in math courses requires completion of a placement exam.

g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

i Students must complete 15 s.h. in their chosen emphasis area and at least 1 s.h. for the career preparation component. See General Catalog for list of approved courses.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

timing, contact your academic advisor or Graduation Services.

# International Relations

## Chair, Department of Political Science

- Brian H. Lai

**Undergraduate major:** international relations (B.A., B.S.)

**Undergraduate minor:** international relations

**Faculty:** <https://clas.uiowa.edu/polisci/people/faculty>

**Website:** <https://clas.uiowa.edu/polisci/>

The undergraduate programs of study in international relations are administered by the Department of Political Science [p. 966], which offers related B.A. and B.S. programs of study in political science. The department also offers the Certificate in Political Risk Analysis [p. 964], and it collaborates with other departments to offer the Certificate in Social Science Analytics [p. 1047]. The department additionally provides a number of courses that undergraduate students in all majors may use to fulfill GE CLAS Core [p. 20] requirements.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in International Relations (Bachelor of Arts) [p. 735]
- Major in International Relations (Bachelor of Science) [p. 741]

#### Minor

- Minor in International Relations [p. 748]

# International Relations, B.A.

A major in international relations focuses on economic relations between states, a crucial area of study in today's globalized world. Students are introduced to the politics of foreign countries. They develop an understanding of how countries interact and acquire a deep appreciation for the root causes of problems that transcend national boundaries.

Requirements for the major are the same for B.A. and B.S. students, except that the major for the B.S. requires a set of mathematics/statistics courses, while the major for the B.A. does not.

## Learning Outcomes

Graduates will:

- possess a broad understanding of international relations,
- be able to apply a theoretical approach in international relations to understand a specific area of international relations,
- have effective written and oral communication skills, and
- be able to conceptualize problems and apply analytical tools to solve them.

## Requirements

The Bachelor of Arts with a major in international relations requires a minimum of 120 s.h., including at least 37 s.h. of work for the major. At least 18 s.h. of coursework for the major must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students choose one of five tracks: conflict and foreign policy, international business and economic relations, regional politics and relationships, transnational issues, or a self-defined track.

The B.A. with a major in international relations requires the following coursework.

Code	Title	Hours
International Relations Core		12-13
Methods Course		3
Senior Seminar Courses		4
Track Courses		18-19
<b>Total Hours</b>		<b>37-39</b>

## International Relations Core

Code	Title	Hours
All of these:		
POLI:1500	Introduction to International Relations	3
POLI:3512	International Conflict	3
POLI:3516	The Politics of International Economics	3
One of these:		
HIST:1101	The Modern World	3
HIST:1403	The West and the World: Modern	3

HIST:3143	International Politics: The History of the Present	3-4
HIST:3155	The World Since 1945	3

## Methods Course

Code	Title	Hours
One of these:		
POLI:2000	Designing Political Research	3
POLI:3000	Analyzing Political Data	3

## Senior Seminar Courses

Code	Title	Hours
This course:		
POLI:4802	International Relations Senior Seminar Preparation	1
One of these:		
POLI:4800	Senior Seminar in International Relations	3
POLI:4801	Honors Senior Seminar in International Relations	3

## Tracks

International relations students complete one of the following five tracks, each of which requires 18 s.h. of coursework. Students who would like to declare the major in international relations before deciding on a track may declare the open track for advising purposes. They should talk with an advisor and decide on a track as soon as possible.

- Conflict and Foreign Policy Track [p. 735]
- International Business and Economic Relations Track [p. 736]
- Regional Politics and Relationships Track [p. 736]
- Transnational Issues Track [p. 737]
- Self-Defined Track [p. 738]

## Conflict and Foreign Policy Track

The conflict and foreign policy track requires the following coursework (minimum of 18 s.h.).

Code	Title	Hours
This course:		
POLI:1501	Introduction to American Foreign Policy	3
Five of these, including at least 6 s.h. in courses from each of two departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:3035	Careers in Political Science and International Relations	3
POLI:3126	Environmental Policy	3
POLI:3405	Authoritarian Politics	3
POLI:3410	Russian Foreign Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3

POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3428	Statecraft, Diplomacy, and World Order	3
POLI:3503	Politics of Terrorism	3
POLI:3505	Civil Wars	3
POLI:3506	Consequences of War	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3518	Water Wars: Conflict and Cooperation	3
POLI:3522	Ending Wars and Keeping Peace	3
POLI:3530	Diplomacy Lab	arr.
POLI:3550	Problems of International Politics	3
POLI:3603	War and Film	3
HIST:2420/ GRMN:2720	Germany in the World	3-4
HIST:3106	History Behind the Headlines	3
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3242	The United States in World Affairs	3-4
HIST:4228	Cold War America	3
HIST:4264	The American Home Front During World War II	3
HIST:4478	Holocaust in History and Memory	3
HIST:4499	First World War	3-4
HIST:4620/ JPNS:4620	Japan-U.S. Relations	3

## International Business and Economic Relations Track

The international business and economic relations track requires the following coursework (minimum of 19 s.h.).

Code	Title	Hours
Two of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
GEOG:2910	The Global Economy	3
Four of these, including courses from at least two departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:3035	Careers in Political Science and International Relations	3
POLI:3126	Environmental Policy	3
POLI:3400	Political Economy	3
POLI:3424	Global Development	3
POLI:3432	Agriculture Politics and Policy	3
POLI:3504	Globalization	3
POLI:3524	Politics and Multinational Enterprises	3

ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ECON:3750/ GEOG:3940/ URP:3350	Transportation Economics	3
ECON:4110	International Economics	3
ENTR:4460	Entrepreneurship and Global Trade	3
FIN:4240	International Finance (prerequisite required)	3
GEOG:2410	Environment and Development	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3800	Environmental Economics and Policy	3
HIST:3240/ GEOG:3780/ GHS:3780	U.S. Energy Policy in Global Context	3
IS:3200	Sustainable Development	3
MGMT:3450	International Business Environment	3
MKTG:4300	International Marketing (prerequisite required)	3

## Regional Politics and Relationships Track

The regional politics and relationships track requires the following coursework (minimum of 18 s.h.).

Code	Title	Hours
This course:		
POLI:1400	Introduction to Comparative Politics	3
Five of these, including at least 6 s.h. in courses from each of two departments:		
POLI:1401	Introduction to Russian Politics	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:2415	Latin American Politics	3
POLI:2500	Politics of Natural Disasters	3
POLI:3035	Careers in Political Science and International Relations	3
POLI:3405	Authoritarian Politics	3
POLI:3408	Chinese Politics and Society	3
POLI:3410	Russian Foreign Policy	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3424	Global Development	3



POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3426	Outliers: Comparing Odd Countries	3
POLI:3428	Statecraft, Diplomacy, and World Order	3
POLI:3432	Agriculture Politics and Policy	3
POLI:3450	Problems in Comparative Politics	3
POLI:3514	Regional Peace and Security	3
POLI:3522	Ending Wars and Keeping Peace	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China from the 17th Century to the Present	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1606/ ASIA:1606/ RELS:1606	Civilizations of Asia: South Asia	3-4
HIST:1607/ ASIA:1607	Civilizations of Asia: Korea	3-4
HIST:1609/ ASIA:1609	India Now! Surveying the World's Largest Democracy	3-4
HIST:1708	Civilizations of Africa	3
HIST:2420/ GRMN:2720	Germany in the World	3-4
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3
HIST:3416	Modern Britain: War and Empire in the Twentieth Century	3
HIST:3470	France from 1815 to Present	3
HIST:3475	Germany's Twentieth Century	3-4
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:3652/ ASIA:3652	Twentieth-Century China	3
HIST:3685/ ASIA:3685	Modern Korean History	3
HIST:3760/ AFAM:3760	The Making of Modern Africa	3
HIST:3810	History of the Modern Middle East	3
HIST:4433/ FREN:4433	France Under Nazi Occupation, 1940-1944	3-4
HIST:4438	Modern European Imperialism	3
HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4615/ JPNS:4615	Modern Japan	3

HIST:4666/ ASIA:4166	Topics in Asian History	3
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## Transnational Issues Track

The transnational issues track requires the following coursework (minimum of 18 s.h.).

Code	Title	Hours
Six of these, including at least 3 s.h. in courses from each of three departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:2500	Politics of Natural Disasters	3
POLI:3035	Careers in Political Science and International Relations	3
POLI:3126	Environmental Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3424	Global Development	3
POLI:3428	Statecraft, Diplomacy, and World Order	3
POLI:3432	Agriculture Politics and Policy	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3522	Ending Wars and Keeping Peace	3
CRIM:3415	Global Criminology	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ECON:3750/ GEOG:3940/ URP:3350	Transportation Economics	3
ECON:3760	Health Economics	3
GEOG:1020	The Global Environment	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2410	Environment and Development	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3110/ GHS:3111	Geography of Health	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:3800	Environmental Economics and Policy	3

GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
GHS:3015/ GWSS:3010	Transnational Sexualities	3
GHS:3030/ CPH:3240	Global Health Today	1
GHS:3036	Ethics, Politics, and Global Health	3
GHS:3037	Technology to Improve Global Health	3
GHS:3050/ ASP:3135/ SSW:3135	Global Aging	3
GHS:3110/ ANTH:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
GHS:3120	Global Maternal and Child Health	3
GHS:3150/ CBH:3150/JMC:3150	Media and Health	3
GHS:3162/ HIST:3162	History of Global Health	3
GHS:3180	Climate Change and Health	3
GHS:3230	Health Experience of Immigrants, Migrants, and Refugees	3
GHS:3325	Global Epidemics	3
GHS:3500/ CPH:3500	Global Public Health	3
GHS:3560	Global Garbage and Global Health	3
GHS:3620	Global Health and Human Rights	2-3
GHS:3720	Contemporary Issues in Global Health	3
GHS:3850/ HHP:3850	Promoting Health Globally	3
GHS:4003	Case Studies in Global Health Inequities	3
GWSS:1046/ ANTH:1046/ GEOG:1046/ SJUS:1046	Environmental Politics in India	3
GWSS:2151/ ANTH:2151/IS:2151	Global Migration in the Contemporary World	3
GWSS:2190/ ANTH:2190/IS:2190	Love Rules: Law and the Family Across Cultures	3
GWSS:2650/ GHS:2650	Global Reproduction	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
HIST:3240/ GEOG:3780/ GHS:3780	U.S. Energy Policy in Global Context	3
HIST:3508/ GHS:3508/LAS:3508	Disease and Health in Latin American History	3
HIST:4101	History of Human Rights	3

HIST:4438	Modern European Imperialism	3
HRTS:3905/IS:3905	Topics in Human Rights	1-3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
IS:2151/ ANTH:2151/ GWSS:2151	Global Migration in the Contemporary World	3
IS:3116/JMC:3116	Media and Global Cultures	3
IS:3200	Sustainable Development	3
IS:4131/ COMM:4131	Globalization and Culture	3

## Self-Defined Track

Students may create their own track with permission from the director of undergraduate studies. A self-defined track may not duplicate an existing track or another academic program of study at the University of Iowa. It must consist of at least 18 s.h. of coursework, which must include 3 s.h. of credit earned in courses from each of three departments.

## Honors

### Honors in the Major

Students majoring in international relations have the opportunity to graduate with honors in the major. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, as required by the College of Liberal Arts and Sciences, and a major g.p.a. of at least 3.50. They must complete POLI:4000 Honors Seminar on the Study of Politics in addition to the minimum major requirements. Honors students complete an honors thesis through their enrollment in POLI:4801 Honors Senior Seminar in International Relations.

### National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of coursework in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the international relations major.

## Career Advancement

A major in international relations is an excellent choice for any student considering a career in either the public or private sector, including the diplomatic service, intelligence organizations, multinational corporations, nongovernmental organizations, international organizations, think tanks, public health agencies, the media, and numerous other professions. The international relations major also prepares students to

pursue postbaccalaureate degrees such as the J.D., M.A., or Ph.D.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** POLI:1500 Introduction to International Relations.

**Before the fifth semester begins:** all core courses and the methods course.

**Before the seventh semester begins:** at least 12 s.h. in the track and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** all track requirements.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### International Relations, B.A.

#### International Business and Economic Relations Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
POLI:1500	Introduction to International Relations <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: history core course <sup>e</sup>		3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3

GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>	4 - 5
Elective course <sup>d</sup>	2
<b>Hours</b>	
<b>15-17</b>	

#### Second Year

<b>Fall</b>		
POLI:2000 or POLI:3000	Designing Political Research or Analyzing Political Data	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>f, g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-16</b>

#### Spring

ECON:1100	Principles of Microeconomics <sup>b</sup>	4
POLI:3512	International Conflict	3
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>

#### Third Year

<b>Fall</b>		
ECON:1200 or GEOG:2910	Principles of Macroeconomics or The Global Economy	3 - 4
POLI:3516	The Politics of International Economics	3
GE CLAS Core: Values and Culture <sup>f</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>f</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-16</b>

#### Spring

Major: international business and economic relations track course <sup>h</sup>		3
Major: international business and economic relations track course <sup>h</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

#### Fourth Year

<b>Fall</b>		
POLI:4802	International Relations Senior Seminar Preparation	1
Major: international business and economic relations track course <sup>h</sup>		3
Major: international business and economic relations track course <sup>h</sup>		3
GE CLAS Core: Historical Perspectives <sup>f</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15</b>

#### Spring

POLI:4801 or POLI:4800	Honors Senior Seminar in International Relations or Senior Seminar in International Relations	3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>120-127</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Refer to the General Catalog for list of approved courses.

f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g STAT:1010 or STAT:1020 recommended.

h Students complete four approved international business and economic relations track elective courses, including courses from at least two different departments.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# International Relations, B.S.

A major in international relations focuses on economic relations between states, a crucial area of study in today's globalized world. Students are introduced to the politics of foreign countries. They develop an understanding of how countries interact and acquire a deep appreciation for the root causes of problems that transcend national boundaries.

Requirements for the major are the same for B.S. and B.A. students, except that the major for the B.S. requires a set of mathematics/statistics courses, while the major for the B.A. does not.

## Learning Outcomes

Graduates will:

- possess a broad understanding of international relations,
- be able to apply a theoretical approach in international relations to understand a specific area of international relations,
- have effective written and oral communication skills, and
- be able to conceptualize problems and apply analytical tools to solve them.

## Requirements

The Bachelor of Science with a major in international relations requires a minimum of 120 s.h., including at least 47 s.h. of work for the major. At least 18 s.h. of coursework for the major must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students choose one of five tracks: conflict and foreign policy, international business and economic relations, regional politics and relationships, transnational issues, or a self-defined track.

The B.S. with a major in international relations requires the following coursework.

Code	Title	Hours
International Relations Core		12-13
Methods Course		3
Senior Seminar Courses		4
Mathematics/Statistics Courses		10-11
Track Courses		18-19
<b>Total Hours</b>		<b>47-50</b>

## International Relations Core

Code	Title	Hours
All of these:		
POLI:1500	Introduction to International Relations	3
POLI:3512	International Conflict	3
POLI:3516	The Politics of International Economics	3
One of these:		
HIST:1101	The Modern World	3

HIST:1403	The West and the World: Modern	3
HIST:3143	International Politics: The History of the Present	3-4
HIST:3155	The World Since 1945	3

## Methods Course

Code	Title	Hours
One of these:		
POLI:2000	Designing Political Research	3
POLI:3000	Analyzing Political Data	3

## Senior Seminar Courses

Code	Title	Hours
This course:		
POLI:4802	International Relations Senior Seminar Preparation	1
One of these:		
POLI:4800	Senior Seminar in International Relations	3
POLI:4801	Honors Senior Seminar in International Relations	3

## Mathematics/Statistics Courses

Students must complete one of the following approved sets of mathematics/statistics courses (10-11 s.h.) with a g.p.a. of at least 2.00. Substitutions must be approved by the director of undergraduate studies.

### Set 1

Code	Title	Hours
MATH:1380	Calculus and Matrix Algebra for Business (or equivalent or higher-level calculus course)	4
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	3

### Set 2

Code	Title	Hours
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Tracks

International relations students complete one of the following five tracks, each of which requires 18 s.h. of coursework. Students who would like to declare the major in international relations before deciding on a track may declare the open track for advising purposes. They should talk with an advisor and decide on a track as soon as possible.

- Conflict and Foreign Policy Track [p. 742]
- International Business and Economic Relations Track [p. 742]
- Regional Politics and Relationships Track [p. 742]
- Transnational Issues Track [p. 743]
- Self-Defined Track [p. 744]

## Conflict and Foreign Policy Track

The conflict and foreign policy track requires the following coursework (minimum of 18 s.h.).

Code	Title	Hours
This course:		
POLI:1501	Introduction to American Foreign Policy	3
Five of these, including at least 6 s.h. in courses from each of two departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:3035	Careers in Political Science and International Relations	3
POLI:3126	Environmental Policy	3
POLI:3405	Authoritarian Politics	3
POLI:3410	Russian Foreign Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3428	Statecraft, Diplomacy, and World Order	3
POLI:3503	Politics of Terrorism	3
POLI:3505	Civil Wars	3
POLI:3506	Consequences of War	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3518	Water Wars: Conflict and Cooperation	3
POLI:3522	Ending Wars and Keeping Peace	3
POLI:3530	Diplomacy Lab	arr.
POLI:3550	Problems of International Politics	3
POLI:3603	War and Film	3
HIST:2420/ GRMN:2720	Germany in the World	3-4
HIST:3106	History Behind the Headlines	3
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3242	The United States in World Affairs	3-4
HIST:4228	Cold War America	3
HIST:4264	The American Home Front During World War II	3
HIST:4478	Holocaust in History and Memory	3
HIST:4499	First World War	3-4
HIST:4620/ JPNS:4620	Japan-U.S. Relations	3

## International Business and Economic Relations Track

The international business and economic relations track requires the following coursework (minimum of 19 s.h.).

Code	Title	Hours
Two of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
GEOG:2910	The Global Economy	3
Four of these, including courses from at least two departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:3035	Careers in Political Science and International Relations	3
POLI:3126	Environmental Policy	3
POLI:3400	Political Economy	3
POLI:3424	Global Development	3
POLI:3432	Agriculture Politics and Policy	3
POLI:3504	Globalization	3
POLI:3524	Politics and Multinational Enterprises	3
ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ECON:3750/ GEOG:3940/ URP:3350	Transportation Economics	3
ECON:4110	International Economics	3
ENTR:4460	Entrepreneurship and Global Trade	3
FIN:4240	International Finance (prerequisite required)	3
GEOG:2410	Environment and Development	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3800	Environmental Economics and Policy	3
HIST:3240/ GEOG:3780/ GHS:3780	U.S. Energy Policy in Global Context	3
IS:3200	Sustainable Development	3
MGMT:3450	International Business Environment	3
MKTG:4300	International Marketing (prerequisite required)	3

## Regional Politics and Relationships Track

The regional politics and relationships track requires the following coursework (minimum of 18 s.h.).

Code	Title	Hours
This course:		
POLI:1400	Introduction to Comparative Politics	3
Five of these, including at least 6 s.h. in courses from each of two departments:		
POLI:1401	Introduction to Russian Politics	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:2415	Latin American Politics	3
POLI:2500	Politics of Natural Disasters	3
POLI:3035	Careers in Political Science and International Relations	3
POLI:3405	Authoritarian Politics	3
POLI:3408	Chinese Politics and Society	3
POLI:3410	Russian Foreign Policy	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3424	Global Development	3
POLI:3425	South Asia: Politics, Identity, and Conflict	3
POLI:3426	Outliers: Comparing Odd Countries	3
POLI:3428	Statecraft, Diplomacy, and World Order	3
POLI:3432	Agriculture Politics and Policy	3
POLI:3450	Problems in Comparative Politics	3
POLI:3514	Regional Peace and Security	3
POLI:3522	Ending Wars and Keeping Peace	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China from the 17th Century to the Present	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4
HIST:1606/ ASIA:1606/ RELS:1606	Civilizations of Asia: South Asia	3-4
HIST:1607/ ASIA:1607	Civilizations of Asia: Korea	3-4
HIST:1609/ ASIA:1609	India Now! Surveying the World's Largest Democracy	3-4
HIST:1708	Civilizations of Africa	3
HIST:2420/ GRMN:2720	Germany in the World	3-4
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3
HIST:3416	Modern Britain: War and Empire in the Twentieth Century	3
HIST:3470	France from 1815 to Present	3
HIST:3475	Germany's Twentieth Century	3-4
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:3652/ ASIA:3652	Twentieth-Century China	3
HIST:3685/ ASIA:3685	Modern Korean History	3
HIST:3760/ AFAM:3760	The Making of Modern Africa	3
HIST:3810	History of the Modern Middle East	3
HIST:4433/ FREN:4433	France Under Nazi Occupation, 1940-1944	3-4
HIST:4438	Modern European Imperialism	3
HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4615/ JPNS:4615	Modern Japan	3
HIST:4666/ ASIA:4166	Topics in Asian History	3

  

### Transnational Issues Track

The transnational issues track requires the following coursework (minimum of 18 s.h.).

Code	Title	Hours
Six of these, including at least 3 s.h. in courses from each of three departments:		
POLI:2417	Comparative Environmental Policy	3
POLI:2500	Politics of Natural Disasters	3
POLI:3035	Careers in Political Science and International Relations	3
POLI:3126	Environmental Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3424	Global Development	3
POLI:3428	Statecraft, Diplomacy, and World Order	3
POLI:3432	Agriculture Politics and Policy	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3522	Ending Wars and Keeping Peace	3
CRIM:3415	Global Criminology	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3

ECON:3750/ GEOG:3940/ URP:3350	Transportation Economics	3
ECON:3760	Health Economics	3
GEOG:1020	The Global Environment	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:1090	Globalization and Geographic Diversity	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3
GEOG:2410	Environment and Development	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3110/ GHS:3111	Geography of Health	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:3800	Environmental Economics and Policy	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
GHS:3015/ GWSS:3010	Transnational Sexualities	3
GHS:3030/ CPH:3240	Global Health Today	1
GHS:3036	Ethics, Politics, and Global Health	3
GHS:3037	Technology to Improve Global Health	3
GHS:3050/ ASP:3135/ SSW:3135	Global Aging	3
GHS:3110/ ANTH:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
GHS:3120	Global Maternal and Child Health	3
GHS:3150/ CBH:3150/JMC:3150	Media and Health	3
GHS:3162/ HIST:3162	History of Global Health	3
GHS:3180	Climate Change and Health	3
GHS:3230	Health Experience of Immigrants, Migrants, and Refugees	3
GHS:3325	Global Epidemics	3
GHS:3500/ CPH:3500	Global Public Health	3
GHS:3560	Global Garbage and Global Health	3
GHS:3620	Global Health and Human Rights	2-3

GHS:3720	Contemporary Issues in Global Health	3
GHS:3850/ HHP:3850	Promoting Health Globally	3
GHS:4003	Case Studies in Global Health Inequities	3
GWSS:1046/ ANTH:1046/ GEOG:1046/ SJUS:1046	Environmental Politics in India	3
GWSS:2151/ ANTH:2151/IS:2151	Global Migration in the Contemporary World	3
GWSS:2190/ ANTH:2190/IS:2190	Love Rules: Law and the Family Across Cultures	3
GWSS:2650/ GHS:2650	Global Reproduction	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
HIST:3240/ GEOG:3780/ GHS:3780	U.S. Energy Policy in Global Context	3
HIST:3508/ GHS:3508/LAS:3508	Disease and Health in Latin American History	3
HIST:4101	History of Human Rights	3
HIST:4438	Modern European Imperialism	3
HRTS:3905/IS:3905	Topics in Human Rights	1-3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3910/IS:3910	Human Rights Advocacy	3
IS:2151/ ANTH:2151/ GWSS:2151	Global Migration in the Contemporary World	3
IS:3116/JMC:3116	Media and Global Cultures	3
IS:3200	Sustainable Development	3
IS:4131/ COMM:4131	Globalization and Culture	3

## Self-Defined Track

Students may create their own track with permission from the director of undergraduate studies. A self-defined track may not duplicate an existing track or another academic program of study at the University of Iowa. It must consist of at least 18 s.h. of coursework, which must include 3 s.h. of credit earned in courses from each of three departments.

## Honors

### Honors in the Major

Students majoring in international relations have the opportunity to graduate with honors in the major. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, as required by the College of Liberal Arts and Sciences, and a major g.p.a. of at least 3.50. Students also must complete POLI:4000 Honors Seminar on the Study of Politics in addition to the minimum major requirements. Honors students complete an honors thesis



through their enrollment in POLI:4801 Honors Senior Seminar in International Relations.

## National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of coursework in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the international relations major.

### Career Advancement

Because international relations and the international community are so important, a major in international relations is an excellent choice for any student considering a career in either the public or private sector, including the diplomatic service, intelligence organizations, multinational corporations, nongovernmental organizations, international organizations, think tanks, public health agencies, the media, and numerous other professions. The international relations major also prepares students to pursue postbaccalaureate degrees such as the J.D., M.A., or Ph.D.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** POLI:1500 Introduction to International Relations.

**Before the fifth semester begins:** all core courses and the methods course.

**Before the seventh semester begins:** at least two of the mathematics/statistics courses, at least 12 s.h. in the track, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** all core courses, the methods course, the remaining mathematics/statistics course, and all track requirements.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## International Relations, B.S.

- Conflict and Foreign Policy Track [p. 745]
- Transnational Issues Track [p. 746]

## Conflict and Foreign Policy Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
POLI:1500	Introduction to International Relations <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		3
	<b>Hours</b>	<b>15-17</b>
<b>Spring</b>		
Major: history core course <sup>e</sup>		3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
	<b>Hours</b>	<b>15-18</b>
<b>Second Year</b>		
<b>Fall</b>		
POLI:1501	Introduction to American Foreign Policy <sup>b, g</sup>	3
POLI:3000 or POLI:2000	Analyzing Political Data or Designing Political Research	3
Major: calculus course <sup>b, h, i</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		1
	<b>Hours</b>	<b>15-16</b>
<b>Spring</b>		
POLI:3512	International Conflict	3
Major: calculus or statistics course <sup>h</sup>		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
	<b>Hours</b>	<b>15-17</b>
<b>Third Year</b>		
<b>Fall</b>		
POLI:3516	The Politics of International Economics	3
Major: conflict and foreign policy track course numbered POLI:XXXX <sup>g</sup>		3

Major: statistics course <sup>h</sup>	3
GE CLAS Core: Values and Culture <sup>f</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

**Spring**

Major: conflict and foreign policy track course numbered HIST:XXXX <sup>g</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

**Fourth Year**

**Fall**

POLI:4802 International Relations Senior Seminar Preparation	1
Major: conflict and foreign policy track course numbered POLI:XXXX <sup>g</sup>	3
Major: conflict and foreign policy track course numbered POLI:XXXX or HIST:XXXX <sup>g</sup>	3
GE CLAS Core: Historical Perspectives <sup>f</sup>	3
GE CLAS Core: Natural Sciences without Lab	3
Elective course <sup>d</sup>	2

**Hours 15**

**Spring**

POLI:4801 Honors Senior Seminar in International Relations or POLI:4800 International Relations or Senior Seminar in International Relations	3
Major: conflict and foreign policy track course numbered HIST:XXXX <sup>g</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>	4
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	2 - 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

**Hours 15-16**

**Total Hours 120-129**

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Refer to the General Catalog for list of approved courses.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g The conflict and foreign policy track requires POLI:1501 and at least five additional approved courses (18 s.h. total).

This must include at least 6 s.h. in courses from each of two departments.

h Students must complete one of the approved sets of mathematics/statistics courses (10-11 s.h.).

i Enrollment in math courses requires completion of a placement exam.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Transnational Issues Track**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
POLI:1500	Introduction to International Relations <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: history core course <sup>e</sup>		3 - 4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-18</b>
<b>Second Year</b>		
<b>Fall</b>		
POLI:2000 or POLI:3000	Designing Political Research or Analyzing Political Data	3
Major: transnational issues track course <sup>g</sup>		3
Major: calculus course <sup>b, h, i</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
POLI:3512	International Conflict	3
Major: calculus or statistics course <sup>h</sup>		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>14-16</b>

**Third Year****Fall**

Major: transnational issues track course <sup>g</sup>	3
Major: statistics course <sup>h</sup>	3
GE CLAS Core: Values and Culture <sup>c</sup>	3
GE CLAS Core: Social Sciences <sup>c</sup>	3
Elective course <sup>f</sup>	3

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**Hours** **15**

**Spring**

Major: transnational issues track course <sup>g</sup>	3
Major: transnational issues track course <sup>g</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3

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**Hours** **15**

**Fourth Year****Fall**

POLI:3516	The Politics of International Economics	3
POLI:4802	International Relations Senior Seminar Preparation	1
Major: transnational issues track course <sup>g</sup>		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>f</sup>		2

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**Hours** **15**

**Spring**

POLI:4801 or POLI:4800	Honors Senior Seminar in International Relations or Senior Seminar in International Relations	3
Major: transnational issues track course <sup>g</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		

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**Hours** **15**

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**Total Hours** **120-128**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Refer to the General Catalog for list of approved courses.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g The transnational issues track requires at least six approved track courses (18 s.h. total). This must include at least 3 s.h. in courses from each of three departments.

h Students must complete one of the approved sets of mathematics/statistics courses (10-11 s.h.).

i Enrollment in math courses requires completion of a placement exam.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# International Relations, Minor

## Requirements

The undergraduate minor in international relations requires a minimum of 15 s.h. in coursework approved for the international relations major, including at least 9 s.h. in courses numbered 3000 or above and at least 12 s.h. taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students may count a maximum of 9 s.h. earned in coursework from one department toward the minor. To view the selection of courses available, see the B.A. in international relations [p. 735] or the B.S. in international relations [p. 741] in the Catalog.

Courses for the minor in international relations must include the following.

Code	Title	Hours
This course:		
POLI:1500	Introduction to International Relations	3
One of these:		
POLI:3512	International Conflict	3
POLI:3516	The Politics of International Economics	3

# International Studies

## Director, Division of World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Director, International Studies

- Ari Ariel

**Undergraduate major:** international studies (B.A.)

**Undergraduate minor:** international studies

**Faculty:** <https://internationalstudies.uiowa.edu/people>

**Website:** <https://internationalstudies.uiowa.edu/>

The International Studies Program offers a multidisciplinary approach to international issues and global connections.

International Studies is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 395].

## Programs

### Undergraduate Programs of Study

#### Major

- Major in International Studies (Bachelor of Arts) [p. 752]

#### Minor

- Minor in International Studies [p. 766]

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC) and five All-In-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignALL lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

## Courses

### International Studies Courses

#### IS:1000 Designing Your International Studies

**Major** **1 s.h.**

Importance of interdisciplinarity, global perspectives, and world language study for 21st-century liberal education; intentional planning of courses and other out-of-class experiences to prepare students for life and career after college.

#### IS:1030 International Events Attendance

**1 s.h.**

Attendance at internationally oriented academic, artistic, or cultural events taking place in Iowa City.

#### IS:1101 Cultural Anthropology

**3 s.h.**

Comparative study of culture, social organization. GE: Social Sciences; Values and Culture. Same as ANTH:1101.

#### IS:2000 Introduction to International Studies

**3 s.h.**

Introduction to the interdisciplinary field of international studies; globalization, migration, and inequality. GE: International and Global Issues.

#### IS:2009 World Travel: Cross-Cultural Skills for International Business, Education, and Service

**3 s.h.**

Cross-cultural skills and ethics for international business, education, and service.

#### IS:2012 Issues in International Studies

**1 s.h.**

Modules focusing on varied topics, taught by international studies faculty members.

#### IS:2013 Issues in International Studies

**1-3 s.h.**

Modules focusing on varied topics, taught by international studies faculty members.

#### IS:2020 World Events Today!

**3 s.h.**

Current events that introduce students to political and cultural developments throughout the world. GE: Diversity and Inclusion.

#### IS:2041 Understanding "The Muslim World"

**3 s.h.**

Exploration of expressions and experiences of Muslims in increasingly diverse societies around the world. Same as ASIA:2041, RELS:2041.

#### IS:2042 Intercultural Communication

**3 s.h.**

Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Same as COMM:2042, SSW:2042.

#### IS:2115 Introduction to Human Rights

**3 s.h.**

Analysis and evaluation of the international human rights program; relationship between human rights and international law. Same as HRTS:2115.

#### IS:2120 World History: Stone Age to Feudal Age

**3 s.h.**

World history from human origins, through classical antiquity, to the 16th century; political, economic, and environmental forces contributing to social transformations. Same as HIST:2120.

#### IS:2122 World History: Feudal Age to Nuclear Age

**3 s.h.**

World history from the late 1400s to 1945; colonialism, imperialism, capitalism, and industrialization as forces of global social and cultural transformation. Same as HIST:2122.

**IS:2151 Global Migration in the Contemporary World** 3 s.h.

Examination of social, economic, and cultural dimensions of global migration in the contemporary world from a transnational and anthropological perspective; primary focus is on Asian migration to the United States, but in comparison to other migration trajectories. Recommendations: an introductory course in cultural anthropology is useful, but not required. GE: Diversity and Inclusion. Same as ANTH:2151, GWSS:2151.

**IS:2190 Love Rules: Law and the Family Across Cultures** 3 s.h.

Recent debates over legalizing gay marriage remind us that the law is not an abstract concept, it is a social creation that emphasizes certain cultural norms over others, both powerful and changeable; family law outlines what one cultural vision of relationships—those between lovers, parent and child, and between kin—supposedly should look like in a given society, a vision always marked by gendered, racial, and sexual divisions of power; students consider what happens when legal norms intersect with diverse ways that people make families through topics including marriage, divorce, custody, and surrogacy across the world. Same as ANTH:2190, GWSS:2190.

**IS:2248 The Invention of Writing: From Cuneiform to Computers** 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, LING:2248, TRNS:2248, WLLC:2248.

**IS:2500 Working Internationally** 1 s.h.

Information on international job sectors; presentations by experts in the field; advice on what is required to work internationally.

**IS:2560 Global Food Migrations** 3 s.h.

Understanding how food influences and is influenced by social, political, and cultural factors.

**IS:2600 Muslim Minorities in the West** 3-4 s.h.

Introduction to lives of Muslim immigrants in the USA, France, Germany, and England; examination of various theories on multiculturalism. Taught in English. GE: Values and Culture. Same as GRMN:2655.

**IS:2700 Introduction to Latin American Studies** 3 s.h.

Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Taught in English. Same as COMM:2800, LAS:2700, PORT:2700, SPAN:2700.

**IS:3009 International Perspectives: Xicotepec** 2-3 s.h.

Introduction to provision of service to a community in a less-developed country; development of discipline-specific projects aimed at improving community life in Xicotepec, Mexico in collaboration with Rotary International; cultural and professional preparation for teamwork in an international environment; service-learning course requiring travel to Xicotepec, Mexico during spring break.

**IS:3010 Writing and Research for the World** 3 s.h.

How to research and write on international and global topics in various genres; preparation for a local or international project which addresses international issues in a systematic way. Requirements: junior or higher standing.

**IS:3011 Global Research: Strategies and Skills** 1 s.h.

Skill development in international research; academic projects; work with research librarian; activity-based introduction to article, statistical, and governmental databases; research and popular materials; information discovery process (tools and search strategies); enhancement of critical thinking skills. Same as GHS:3011, ULIB:3011.

**IS:3012 Service Learning in International Studies** 3 s.h.

Internationally focused service learning in local communities.

**IS:3020 Writing Projects in International Studies** 0-3 s.h.

Writing project completed with the supervision of an approved faculty mentor.

**IS:3116 Media and Global Cultures** 3 s.h.

Communication as a vital component for any effort to create social change; necessary communication to reach out to target audiences—people and communities in need—from campaigns persuading communities to change knowledge, attitudes, and practices to aiding other development efforts in areas of health, education, rural development, or sustainable agricultural practices; importance of communication as an integral part to any effort aimed at creating large-scale social change. Same as JMC:3116.

**IS:3142 Social Media for Social Change** 3 s.h.

Individuals and groups use social media to organize, collaborate, and spread their messages to local and global audiences; students explore the myriad ways that people and organizations use social media as tools for civic engagement, activism, and political participation; drawing on a broad range of international and national cases, students examine unfolding social movements from early internet activism to the present. Same as JMC:3142.

**IS:3190 Global Debt** 3 s.h.

Economies as cultural systems that emphasize the role of worldviews and "meaning-making" in organizing economies; debt as a key mechanism in creation and maintenance of relationships; focus on how exchange, distribution, and obligation serve to shore up or sever various social institutions and links between debt, inequality, and power; debt in various forms, from a round of drinks to student loans, and from the U.S. mortgage crisis to development aid; diverse array of economies—from gift exchange to ceremonial destruction of wealth, and from Melanesia to Wall Street—to evaluate assumptions that undergird different systems of debt and credit. Requirements: introductory course in anthropology or international studies or gender, women's, and sexuality studies. Same as ANTH:3190, SJUS:3190.

**IS:3198 Anthropology and Global Health Policy** 3 s.h.

Global health has grown as an area of practice and study, with well-being and livelihoods of increasing numbers of people now deeply influenced by these ideas, practices, and policies; students engage with ways that global health programs have influenced experiences of health and illness by those who participate in these programs, critically analyzing how global health interacts with local dynamics of inequality, race, gender, and power. Same as ANTH:3199, GHS:3199.

- IS:3199 Global Environmental Politics** 3 s.h.  
Survey of major environmental crises and conflict between environmental groups and their detractors; climate change, global warming, loss of biodiversity, pollution, toxins, nuclear power, deforestation.
- IS:3200 Sustainable Development** 3 s.h.  
Overview of development theory and debate; increasing role of China and other new players in development funding and projects; development-oriented projects, career paths.
- IS:3350 Transnational Feminism** 3 s.h.  
Exploration of feminist perspectives from the United States and outside of the United States; how geopolitics shapes understanding of familiar feminist issues (e.g., reproduction, cultural practices, sexualities, poverty); emphasis on global south regions and populations. Same as ANTH:3125, GWSS:3350.
- IS:3550 Special Topics in International Studies** 1-3 s.h.  
Special topics related to international studies.
- IS:3555 Understanding Health and Disease in Africa** 3 s.h.  
Cultural, historical, and political framework for the delivery of health care services in African nations. Recommendations: junior or higher standing. Same as GHS:3555, HIST:3755.
- IS:3565 Global Perspectives on Negotiation, Persuasion, and Communication** 3 s.h.  
Cross-cultural approach to preparation for negotiation; exploration of how culture simultaneously enhances and complicates persuasive interactions at the individual, organizational, and global levels; evaluation and improvement of negotiation and cross-cultural communication skills through experiential in-class exercises.
- IS:3600 Development in a Global Context I: Preparing for an Internship in Health, Gender, and Environment** 2 s.h.  
Students work with a UI faculty mentor to articulate an international development project and apply to an international development organization for an internship; students are matched to an organization/project and begin preparation for their internship by communicating with onsite mentor/supervisor.
- IS:3700 Development in a Global Context II: Reflections on Real World Interventions** 1 s.h.  
Students produce a research paper analyzing their personal internship in an international development program.
- IS:3855 Human Rights and Islam** 3 s.h.  
Exploration of social forces, legal regimes, and cultural norms that have shaped discourse on human rights in a global context with reliance on a systems thinking framework; examination of intersections of rights, culture, society, and law in the last 2,000 years; consideration of interplay between institutional (formal) and societal (informal) powers that shape human rights norms; origins and evolution of discourse on rights across cultures and throughout history. GE: International and Global Issues. Same as RELS:3855.
- IS:3903 Technology and Human Rights** 1-3 s.h.  
Examination of emerging human rights issues in technology from an interdisciplinary and international perspective. Same as HRTS:3903.
- IS:3904 Business, Labor, and Human Rights** 1-3 s.h.  
Examination of emerging human rights issues in labor and business from an interdisciplinary and international perspective. Same as HRTS:3904.
- IS:3905 Topics in Human Rights** 1-3 s.h.  
Examination of emerging human rights issues from an interdisciplinary and international perspective. Same as HRTS:3905.
- IS:3907 Literature and Human Rights** 1-3 s.h.  
Examination in human rights in literature from an interdisciplinary and international perspective. Same as HRTS:3907.
- IS:3908 Governance and Human Rights** 1-3 s.h.  
Examination of emerging human rights related to governance issues from an interdisciplinary and international perspective. Same as HRTS:3908.
- IS:3909 Human Rights Lab** 1-3 s.h.  
Discussion-based examination of emerging human rights issues from an interdisciplinary and international perspective. Same as HRTS:3909.
- IS:3910 Human Rights Advocacy** 3 s.h.  
Theoretical foundations and critical issues for international human rights advocacy and international humanitarian movements. Same as HRTS:3910.
- IS:3990 Independent Study in International Studies arr.**  
Research on a topic of international significance. Requirements: international studies major.
- IS:4131 Globalization and Culture** 3 s.h.  
How context for everyday experience has increasingly become globally determined (e.g., ever-increasing transnational migration of people, spread of American culture, growth of international corporations and trade, rise of international conflict and transnational activism); range of theoretical and critical readings on globalization; various phenomena and perspectives regarding topic; themes directly relevant to lives of modern youth; how globalization affects opportunities and risks, identities and relationships. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:2020, COMM:2030, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2078, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248). Same as COMM:4131.
- IS:4990 International Studies Senior Project** 3 s.h.  
Prerequisites: IS:3010. Requirements: international studies major.
- IS:4991 Honors Thesis in International Studies** 3 s.h.  
Prerequisites: IS:3010. Requirements: international studies major.
- IS:4999 International Experience** 0 s.h.  
Engagement in international experiences. Same as GHS:4999.

# International Studies, B.A.

International studies students learn that the complexity of current world conditions requires a multidisciplinary approach to problem solving. They take core international studies courses to learn key concepts and practical skills, and extend their education by choosing from an array of internationally focused courses from the social sciences, humanities, and the arts.

Students also are encouraged to develop real-world intercultural skills by studying abroad, engaging locally with international communities, service learning, internships, and conducting research. Through academic and cocurricular experiences, students become prepared to positively contribute to the world.

As a second major, international studies can add cross-cultural skills and perspectives to degrees in business, health sciences, journalism, and the arts.

## Learning Outcomes

Students will be able to:

- recognize that the complexity of current world conditions requires a multidisciplinary approach to problem solving,
- analyze and synthesize information about key topics in international studies,
- demonstrate intellectual open-mindedness when addressing global issues, and
- apply cross-cultural skills when engaging respectfully with people from other countries and diverse communities in the United States.

## Requirements

The Bachelor of Arts with a major in international studies requires a minimum of 120 s.h., including at least 43 s.h. of work for the major. Students must complete at least 15 s.h. of work for the major at the University of Iowa. They must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The international studies major is flexible, combining core international studies coursework with those drawn from across the humanities, social sciences, and the arts. Students work closely with an academic advisor to plan their program of study.

Students are encouraged to study or intern abroad and should work with their academic advisor to determine how credits earned from approved study abroad or international internships can fulfill the global perspectives, world cultures and societies, and/or language requirements for the major.

To benefit from the interdisciplinary nature of international studies, students choose from a wide range of courses. To ensure that students take courses from varied disciplines, they may count a maximum of 12 s.h. from any department or program toward the global perspectives [p. 753] and the world cultures and societies [p. 756] requirements as well as the language [p. 752] requirement.

Students may apply up to 12 s.h. of coursework from each additional major, minor, or certificate they earn toward the

international studies major. Transfer credit approved by the International Studies Program may be applied to the major.

Students have the option to complete a 15 s.h. concentration. They choose global perspectives courses and world cultures and societies courses approved in one of the three concentrations: global business and communication [p. 761], international human rights and public service [p. 761], or international sustainable development [p. 762].

The B.A. with a major in international studies requires the following coursework.

Code	Title	Hours
Foundation Courses		10
Language Requirement		6
Capstone Course		3
Global Perspectives Courses		12
World Cultures and Societies Courses		12
<b>Total Hours</b>		<b>43</b>

## Foundation Courses

Students learn the core, multidisciplinary intellectual and interpersonal international studies skill set, and its applications for travel, employment, and understanding global issues.

Code	Title	Hours
All of these:		
IS:2000	Introduction to International Studies	3
IS:2009	World Travel: Cross-Cultural Skills for International Business, Education, and Service	3
IS:2020	World Events Today!	3
One of these:		
IS:1000	Designing Your International Studies Major	1
IS:2500	Working Internationally	1

## Language Requirement

By fulfilling the language requirement, students gain language competence needed for work and life in the increasingly globalized world.

Students must complete a minimum of two world language courses beyond that required by the GE CLAS Core program. This additional language requirement may be met either by completing two fifth-semester-level courses in the same language used to fulfill the GE CLAS Core World Languages requirement or by completing two courses (or the equivalent) of a second world language at any level.

In satisfying this requirement, most students are eligible to receive an additional 4 s.h. of ungraded credit under the Furthering Language Incentive Program (FLIP). This credit may be applied to the minimum 120 s.h. required for graduation, but it does not count toward requirements for the international studies major.

## Capstone Course

Students apply their knowledge in internationally focused experiences. They typically complete the capstone course in their third or fourth year.



Code	Title	Hours
One of these:		
IS:3010	Writing and Research for the World	3
IS:3012	Service Learning in International Studies	3

## Global Perspectives Courses

Students learn about global trends, comparisons, and interactions.

Code	Title	Hours
12 s.h. from these, including 6 s.h. numbered 2000 or above:		
IS:2560	Global Food Migrations	3
IS:3199	Global Environmental Politics	3
IS:3200	Sustainable Development	3
IS:3565	Global Perspectives on Negotiation, Persuasion, and Communication	3
AFAM:2770/ GHS:2770/ SOC:2770	Black and White Community Politics	3
ANTH:1101/IS:1101	Cultural Anthropology	3
ANTH:1401	Language, Culture, and Communication	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2136	Race, Place, and Power: Urban Anthropology	3
ANTH:2140	Food, Drink, and Culture	3
ANTH:3199/ GHS:3199/IS:3198	Anthropology and Global Health Policy	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:2164/ GHS:2164	Culture and Healing: An Introduction to Medical Anthropology	3
ANTH:2181/ ASP:2181/ GHS:2181	The Anthropology of Aging	3
ANTH:2191/ GWSS:2900	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:2320/ GHS:2320	Origins of Human Infectious Disease	3
ANTH:3103	Environment and Culture	3
ANTH:3110/ GHS:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3151/ ASP:3151/ GHS:3151	The Anthropology of the Beginnings and Ends of Life	3

ANTH:3152/ ASP:3152/ GHS:3152	Anthropology of Caregiving and Health	3
ANTH:3190/ IS:3190/SJUS:3190	Global Debt	3
ANTH:3237/ HIST:3137/ MUSM:3237	Politics of the Archaeological Past	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
ANTH:4140/ CBH:4140/ GHS:4140/ GWSS:4140	Feminist Activism and Global Health	3
ARAB:2006/ WLLC:2006	Transnational Solidarities	3-4
ARTH:1030	Themes in Global Art	3
ARTH:1075	Contemporary Art: A Global Perspective	3
ARTH:1090	Earthly Paradises: A Global History of Gardens	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
CL:2248/ ANTH:2248/ ASIA:2248/ CLSA:2048/ COMM:2248/ GRMN:2248/ HIST:2148/IS:2248/ LING:2248/ TRNS:2248/ WLLC:2248	The Invention of Writing: From Cuneiform to Computers	3
CL:3222	City as Text/Text as City	3
CLSA:2127/ ASIA:2127/ JPNS:2127	Global Manuscript Cultures	3
CLSA:3020/ GHS:3021	Mental Health in the Ancient World	3
COMM:2042/ IS:2042/SSW:2042	Intercultural Communication	3
COMM:4131/ IS:4131	Globalization and Culture	3
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
CPH:2400	The U.S. Health System in a Global Context	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:3500/ GHS:3500	Global Public Health	3
CPH:4200	Agriculture, Food Systems, and Sustainability	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:3260	Immigration and Crime	3

CRIM:3415	Global Criminology	3	GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3	GEOG:3331	Human Dimensions of Climate	3
ECON:3345	Global Economics and Business	3	GEOG:3760/ GHS:3760	Hazards and Society	3
ECON:3620	Economic Growth and Development	3	GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3	GEOG:4000/ SDG:4000	The United Nations Sustainable Development Goals: A Blueprint for a Sustainable Future	3
ECON:3760	Health Economics	3	GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
ECON:4110	International Economics	3	GEOG:4750/ URP:4750	Environmental Impact Analysis	3
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3	GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
ENGL:1510	Introduction to Environmental Literature	3	GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
ENGL:2505	Introduction to Postcolonial Studies	3	GHS:3010/ IGPI:3011	Identifying and Developing a Global Health Project	3
ENGL:2510	Selected Transnational Authors	3	GHS:3030/ CPH:3240	Global Health Today	1
ENGL:3510	Topics in Transnational Literature	3	GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1
ENGL:3515	Topics in Postcolonial Studies	3	GHS:3035	Engaging in Global Health	1
ENGL:3570/ GWSS:3570	Transnational and Postcolonial Writing by Women	3	GHS:3036	Ethics, Politics, and Global Health	3
ENTR:4100	International Entrepreneurship, Culture, and Social Impact	1-3	GHS:3037	Technology to Improve Global Health	3
ENTR:4460	Entrepreneurship and Global Trade	3	GHS:3060	Studies in Complementary and Alternative Medicine	3
FIN:4240	International Finance	3	GHS:3120	Global Maternal and Child Health	3
FREN:1006	Global Sports and National Cultures	3	GHS:3170	Visualizing Global Health Through Popular Fiction and Film	3
FREN:4017	Global Comics	3-4	GHS:3180	Climate Change and Health	3
FREN:4210/ MUSM:4310/ WLLC:4210	Slavery Museums, Memorials, and Statues in the United States, Europe, and the Global South	3-4	GHS:3230	Health Experience of Immigrants, Migrants, and Refugees	3
GEOG:1020	The Global Environment	3	GHS:3325	Global Epidemics	3
GEOG:1070	Contemporary Environmental Issues	3	GHS:3560	Global Garbage and Global Health	3
GEOG:1090	Globalization and Geographic Diversity	3	GHS:3620	Global Health and Human Rights	2-3
GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3	GHS:3720	Contemporary Issues in Global Health	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3	GHS:3850/ HHP:3850	Promoting Health Globally	3
GEOG:2410	Environment and Development	3	GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4
GEOG:2910	The Global Economy	3	GHS:4001	Social Entrepreneurship and Global Health	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3			
GEOG:3110/ GHS:3111	Geography of Health	3			

GHS:4002	Working in Global Health	3	JMC:3150/ CBH:3150/ GHS:3150	Media and Health	3
GHS:4003	Case Studies in Global Health Inequities	3	LING:1010	Language and Society	3
GHS:4100	Topics in Global Health	1-3	LING:1040/ ANTH:1040	Language Rights	3
GWSS:2080/ GHS:2080	The Cultural Politics of HIV-AIDS	3	LING:1060	Languages of the World	3
GWSS:2190/ ANTH:2190/IS:2190	Love Rules: Law and the Family Across Cultures	3	LING:2900	Language, Gender, and Sexuality	3
GWSS:2500/ ENGL:2570/ SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3	LING:3190/ SPAN:3190	Psycholinguistic Aspects of Bilingualism	3-4
GWSS:2571/ ENGL:2571/ SJUS:2571	Visualizing Human Rights	3	LING:3410	Exploring TESL for Fulbright Students	1
GWSS:2650/ GHS:2650	Global Reproduction	3	MGMT:3450	International Business Environment	3
GWSS:3010/ GHS:3015	Transnational Sexualities	3	MGMT:4500	Strategy, Innovation and Global Competition	3
GWSS:3118/ ANTH:3118	Politics of Reproduction	3	MKTG:4300	International Marketing	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3	MUS:1310	World Music	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3	OEH:4240	Global Environmental Health	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3	OEH:4260/ GHS:4260	Global Water and Health	3
HIST:1016	The History That Made Our World	3	OEH:4530/ CPH:4220/ GHS:4530	Global Road Safety	3
HIST:1101	The Modern World	3	PHIL:2429	War, Terrorism, and Torture	3
HIST:3106	History Behind the Headlines	1-3	PHIL:3430	Philosophy of Human Rights	3
HIST:3126	History of Globalization	3	POLI:1400	Introduction to Comparative Politics	3
HIST:3128	Topics in Global Environmental History	3	POLI:1510	International Relations of Environmental Issues	3
HIST:3143	International Politics: The History of the Present	3-4	POLI:1600	Introduction to Political Communication	3
HIST:3155	The World Since 1945	3	POLI:2417	Comparative Environmental Policy	3
HIST:3162/ GHS:3162	History of Global Health	3	POLI:3104/ LATS:3104/ LAS:3104	Immigration Politics	3
HIST:3242	The United States in World Affairs	3-4	POLI:3405	Authoritarian Politics	3
HIST:4101	History of Human Rights	3	POLI:3411	Democracy: Global Trends and Struggles	3
HRTS:2115/IS:2115	Introduction to Human Rights	3	POLI:3424	Global Development	3
HRTS:3903/IS:3903	Technology and Human Rights	1-3	POLI:3426	Outliers: Comparing Odd Countries	3
HRTS:3904/IS:3904	Business, Labor, and Human Rights	1-3	POLI:3450	Problems in Comparative Politics	3
HRTS:3905/IS:3905	Topics in Human Rights	1-3	POLI:3504	Globalization	3
HRTS:3906	Global Crises and Human Rights	3	POLI:3505	Civil Wars	3
HRTS:3907/IS:3907	Literature and Human Rights	1-3	POLI:3509	International Courts: The Intersection of Law and Politics	3
HRTS:3908/IS:3908	Governance and Human Rights	1-3	POLI:3516	The Politics of International Economics	3
HRTS:3909/IS:3909	Human Rights Lab	1-3	POLI:3518	Water Wars: Conflict and Cooperation	3
HRTS:3910/IS:3910	Human Rights Advocacy	3	POLI:3524	Politics and Multinational Enterprises	3
IWP:3191/ ENGL:3595/ TRNS:3191/ WLLC:3191	International Literature Today	1,3	RELS:1015	Global Religious Conflict and Diversity	3
JMC:3116/IS:3116	Media and Global Cultures	3	RELS:1060	Journey Through World Religions	3

RELS:2041/ ASIA:2041/IS:2041	Understanding "The Muslim World"	3	ANTH:2182/ GHS:2182	Africa: Health and Society	3
RELS:2674/ GHS:2674/ GWSS:2674	Food, Body, and Belief: A Global Perspective	3	ANTH:3121/ GWSS:3121	Love, Marriage, and Family in India	3
RELS:3580/ ANTH:3113/ ASIA:3561/ GHS:3113	Religion and Healing	3	ANTH:3171	Voices of Islam in Southeast Asia	3
RHET:2090	Conversation Practicum	0-3	ANTH:3172/ ASIA:3172	Chinese Marriage and Family in Comparative Perspective	3
RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3	ARAB:2025	Study Abroad: Culture and Society	1
RHET:3140	Nature and Society: Controversies and Images	3	ARAB:2050	Topics in Middle East/Muslim World Studies	3
SPAN:4205/ GHS:4205	Culture, Language, and Health	3	ARAB:3005	Culture and Resistance: The Modern Middle East	3-4
SPST:2170	Sport and Globalization	3	ARAB:3030	Media Arabic	3
SPST:3176	Sport and Nationalism	3	ARAB:3050	Arab Culture Through Dialects	3
SPST:3500	The Olympics	3	ARTH:1020	Masterpieces: Art in Historical and Cultural Perspectives	3
SRM:1085	Introduction to Travel and Tourism	3	ARTH:1040	Arts of Africa	3
THTR:2320	Playwriting in a Global World	3	ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
TRNS:2000	Translation and Global Society	3	ARTH:1070	Asian Art and Culture	3
TRNS:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3	ARTH:2020	Western Architecture from Prehistory to the Present	3
TRNS:4480	Literature and Translation	3	ARTH:2120	Art and Architecture of the Islamic World	3
URP:4170	Megacities Seminar	1-3	ARTH:2220/ ASIA:2231	Introduction to the Art of China	3
URP:4752	Eight Generation Planning: Envisioning Regenerative Cities	3	ARTH:2250/ JPNS:2250	Introduction to the Art of Japan	3
URP:6253/ PBAF:6253	Designing Sustainable and Healthy Cities	1-3	ARTH:3020	Paris and the Art of Urban Life	3
WLLC:1200/ DST:1200/ GHS:1200/ GRMN:1200	Disabilities and Inclusion in Writing and Film Around the World	3	ARTH:3160	Themes in African Art	3
WLLC:2001/ ASIA:2001/ FREN:2010/ RUSS:2001/ SPAN:2001/ TRNS:2001	Global Science Fiction	3	ARTH:3225	Contemporary Art and Culture in China	3
			ARTH:3230/ ASIA:3220	Chinese Painting I: Pagodas and Palaces	3
			ARTH:3270/ ASIA:3270	Themes in Asian Art History	3
			ARTH:3375/ RELS:3375	The Great Collision	3
			ASIA:1016/ WLLC:1016	Classical Chinese Short Fiction	1
			ASIA:2222/ GWSS:2222/ WLLC:2222	Women in Premodern East Asian Literature	3
			ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3
			ASIA:2684/ HIST:2684	Korean War: Local and Global History	3
			ASIA:3208/ TRNS:3208/ WLLC:3208	Classical Chinese Literature Through Translation	3
			ASIA:3431/ GWSS:3131/ RELS:3431	Gender and Sexuality in East Asia	3
			BUS:2350	Introduction to Global Business: Asia Pacific	3

## World Cultures and Societies Courses

Students gain place-based knowledge.

Code	Title	Hours
12 s.h. from these:		
ANTH:1046/ GEOG:1046/ GWSS:1046/ SJUS:1046	Environmental Politics in India	3
ANTH:2108/ GWSS:2108	Gendering India	3
ANTH:2160/ GHS:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2175/ JPNS:2175	Japanese Society and Culture	3

CHIN:1030	Introduction to Chinese Ethnic Folk Dance	1	ENGL:3535/ LAS:3535	Topics in Literature and Culture of the Americas	3
CHIN:1504	Asian Humanities: China	3	ENGL:3540	Literature of the Indian Subcontinent	3
CHIN:1702	Chinese Popular Culture	3	ENGL:3550/ AFAM:3550	African Literature	3
CHIN:3103	Business Chinese I	3	ENGL:3555/ AFAM:3555	Topics in African Cinema	3
CHIN:3104	Business Chinese II	3	FREN:1005	Texts and Contexts: French-Speaking World	3
CHIN:3341	Chinese Literature: Poetry	3	FREN:1007	Nature/Ecology French Philosophy and Fiction	3
CHIN:4203	Modern Chinese Writers	3	FREN:1510	Cultural Misunderstandings: France and U.S.A.	3
CHIN:4206	Transnational Chinese Cinemas	3	FREN:3120	French Civilization	3
CL:1241/TRNS:1241	World Literature: 1700 to Present	3	FREN:3130	French-Speaking Cultures	3
CLSA:2127/ ASIA:2127/ JPNS:2127	Global Manuscript Cultures	3	FREN:3225	Studies in Modern France	3
COMM:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3	FREN:3232/ TRNS:3232	French Literary Translation Workshop	3
COMM:2086	Global Media Studies	3	FREN:3240	Media French	3
COMM:4131/ IS:4131	Globalization and Culture	3	FREN:3250	Topics in French Studies I	3
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3	FREN:3410	Business French	3
DANC:2065	Performing Power/ Performing Protest: The Body, Identity, and the Image	3	FREN:4015	Francophone Cinema	3-4
DANC:2150	Brazilian Social Dance: The Samba	2	FREN:4080	Post-Colonial Literature in France	3
ENGL:2330	Topics in Modern British Literature After 1900	3	FREN:4090	Quebec Literature	3
ENGL:2360	Twentieth-Century British Literature	3	FREN:4100	French Cinema	3-4
ENGL:2361	Twenty-first-Century British Literature	3	FREN:4110	Francophone Literature of the African Diaspora	3
ENGL:2369	Topics in British Culture and Identity	3	FREN:4433/ HIST:4433	France Under Nazi Occupation, 1940-1944	3-4
ENGL:2510	Selected Transnational Authors	3	FREN:4520	Versailles Under the Sun King	3-4
ENGL:2560	Topics in Culture and Identity	3	FREN:4540/ GWSS:4540	Gender and Sexuality in French Cinema	3-4
ENGL:3182	Digital Cultures and Literacies	3	FREN:4750	Topics in French Studies II	3
ENGL:3329	Literature and Culture of Eighteenth-Century Britain	3	GEOG:1060	Geography of Asia: From Japan to Pakistan	3
ENGL:3338	Literature and Culture of the Romantic Period	3	GRMN:2275	Scandinavian Crime Fiction	3
ENGL:3339	Literature and Culture of Nineteenth-Century Britain	3	GRMN:2550/ WLLC:2550	Mardi Gras and More: Cultures of Carnival	3-4
ENGL:3348	Literature and Culture of Nineteenth-Century Scotland	3	GRMN:2600	Witch Hunts in Fact and Fiction: A Global History of Exclusion	3-4
ENGL:3350	Literature and Culture of 20th- and 21st-Century Britain	3	GRMN:2618/ WLLC:2618	Film and Literature of the Holocaust	3-4
ENGL:3355	British Poetry	3	GRMN:2620/ WLLC:2620	Anne Frank and Her Story	3-4
ENGL:3360	British Fiction	3	GRMN:2630	German Cinema: Greatest Hits	3-4
ENGL:3467/ LATS:3467	Latina/o/x Literatures and Cultures	3	GRMN:2650	German Nationalism from Enlightenment to Present	3-4
ENGL:3525	Literature and Culture of the Americas	3	GRMN:2655/IS:2600	Muslim Minorities in the West	3-4
ENGL:3530	Caribbean Literature and Culture	3	GRMN:2666/ WLLC:2666	Pact with the Devil	3-4
			GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	3-4
			GRMN:2720/ HIST:2420	Germany in the World	3-4

GRMN:2770	Norse Mythology: Gods, Heroes, and Monsters of Northern Europe	3-4	HIST:3289/ NAIS:3289	The Atlantic World c. 1450-1850	3
GRMN:2785	Cyborgs, Monsters, and the Uncanny	3-4	HIST:3416	Modern Britain: War and Empire in the Twentieth Century	3
GRMN:3200/ TRNS:3200	Literary Translation from German	3	HIST:3420/ GHS:3420	Health and Healing in Early Modern Europe	3
GRMN:3214	Business German	3	HIST:3475	Germany's Twentieth Century	3-4
GRMN:3236	German Film	3	HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
GRMN:3405	German Cultural History	3	HIST:3508/ GHS:3508/LAS:3508	Disease and Health in Latin American History	3
GRMN:3501	German Writers Engaged	3	HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
GRMN:3550	The Politics of Remembrance in German Multicultural Literature and Film	3	HIST:3652/ ASIA:3652	Twentieth-Century China	3
GRMN:3860/ LING:3860	German Language and Society	3	HIST:3685/ ASIA:3685	Modern Korean History	3
GRMN:3865	History of the German Language	3	HIST:3755/ GHS:3555/IS:3555	Understanding Health and Disease in Africa	3
GRMN:4315	German Society Today	3	HIST:3760/ AFAM:3760	The Making of Modern Africa	3
GWSS:1600/ WLLC:1600	Wonder Woman Unleashed: A Hero for Our Times	3	HIST:3808	Art, Power, and Resistance in the Modern Middle East and North Africa	3
GWSS:2400/ CPH:2240/ LATS:2400	Health, Intersectionality, and Diversity	3	HIST:3810	History of the Modern Middle East	3
GWSS:3427/ HIST:3427	Family, Gender, and Society in Early Modern Europe	3	HIST:4148	Global History as Local History: European Immigration in Iowa	1,3-4
HIST:1010	History Matters	3	HIST:4216/ LAS:4216	Mexican American History	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China from the 17th Century to the Present	3	HIST:4334	Topics in American Borderlands History	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4	HIST:4415/ MDVL:4415	European Intellectual History Medieval to Modern	3
HIST:1606/ ASIA:1606/ RELS:1606	Civilizations of Asia: South Asia	3-4	HIST:4438	Modern European Imperialism	3
HIST:1607/ ASIA:1607	Civilizations of Asia: Korea	3-4	HIST:4478	Holocaust in History and Memory	3
HIST:1609/ ASIA:1609	India Now! Surveying the World's Largest Democracy	3-4	HIST:4499	First World War	3-4
HIST:1708	Civilizations of Africa	3	HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:2461/ CLSA:2461/ RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3	HIST:4505	Topics in Latin American History	3
HIST:2462	Middle East and Mediterranean: Saladin to Napoleon	3	HIST:4510	Colonial Latin America	3
HIST:2465	Europe Since 1945	3	HIST:4610/ JPNS:4610	Japan - Age of the Samurai	3
HIST:2802	Gender, Religion, and Social Identities in the Modern Middle East	3	HIST:4615/ JPNS:4615	Modern Japan	3
HIST:2810	The Modern Middle East: 1914 to Present	3	HIST:4620/ JPNS:4620	Japan-U.S. Relations	3
HIST:3143	International Politics: The History of the Present	3-4	HIST:4666/ ASIA:4166	Topics in Asian History	3
HIST:3190/ RELS:3190	Medieval to Modern: The Birth of Protestantism	3	ITAL:2550	Images of Modern Italy	3-4
HIST:3217/ LAS:3217/ LATS:3217	Latina/o/x Immigration	3	ITAL:2770	The Mafia and the Movies	3
HIST:3251/ AMST:3251	The Office: Business Life in America	3	ITAL:4550	Topics in Italian Studies	3
			ITAL:4633	Dante's Inferno	3-4
			ITAL:4634	The Italian Renaissance	3

ITAL:4660	Transcultural Texts and Translations	3	MUS:1009	Jazz Cultures in America and Abroad	3
ITAL:4667	Modern Italian Fiction	3	MUS:1800/ DPA:1800	World of the Beatles	3
ITAL:4668	Modern Italian Poetry and Theater	3	MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
IWP:3191/ ENGL:3595/ TRNS:3191/ WLLC:3191	International Literature Today	1,3	MUS:3162	All University Steel Band	1-3
JMC:1500	Introduction to Social Media	3	MUS:3163	Intermediate Steel Band	1
JMC:3142/IS:3142	Social Media for Social Change	3	NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
JPNS:1506	Asian Humanities: Japan	3	PHIL:2352	Chinese Philosophy	3
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3	POLI:1401	Introduction to Russian Politics	3
JPNS:3202	Traditional Japanese Literature in Translation	3	POLI:1410	Introduction to Asian International Relations	3
JPNS:3203	Modern Japanese Fiction in Translation	3	POLI:1445	Introduction to Asian Politics: China	3
JPNS:3204	Topics in Japanese Literature in Translation	3	POLI:1449	Introduction to European Politics	3
JPNS:3206	Warriors' Dreams	3	POLI:2415/ LAS:2415	Latin American Politics	3
JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3	POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3
JPNS:3208	Japanese Film	3	POLI:3408	Chinese Politics and Society	3
JPNS:3210	Japanese Theater	3	POLI:3410	Russian Foreign Policy	3
JPNS:3401	Language in Japanese Society	3	POLI:3420	Southeast Asia: Politics and Development	3
JPNS:3402	Japan: Culture and Communication	3	POLI:3422	Horn of Africa: Politics and Transnational Issues	3
JPNS:3500	Japanese for Professional Purposes I	3	POLI:3423	The Middle East: Policy and Diplomacy	3
JPNS:3501	Japanese for Professional Purposes II	3	POLI:3425	South Asia: Politics, Identity, and Conflict	3
JPNS:3601	Contemporary Japanese Culture	3	PORT:3400	Brazilian Literature After 1900	3
JPNS:4201	The Tale of Genji	3	PORT:3850/ SPAN:3850	Topics in Cultural Studies	3
KORE:1135	Korean Language and Contemporary Pop Culture	3	PORT:4000	Topics in Luso-Brazilian Literature	3
KORE:1500	Asian Humanities: Korea	3	PORT:4100	Topics in Luso-Brazilian Culture	3
KORE:3070	Topics in Korean Studies	3	RELS:1001	Judaism, Christianity, and Islam	3
LAS:2700/ COMM:2800/ IS:2700/PORT:2700/ SPAN:2700	Introduction to Latin American Studies	3	RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
LAS:3225/ SPAN:3225	Latin American Women Writers	3	RELS:1350/ AFAM:1250	Introduction to African American Religions	3
LAS:4700/ ANTH:4700/ HIST:4504/ PORT:4700/ SPAN:4900	Latin American Studies Seminar	3-4	RELS:1404/ ASIA:1040/ HIST:1610	Living Religions of the East	3
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o/x Studies	3	RELS:1506/ ASIA:1060/ HIST:1612	Introduction to Buddhism	3
LATS:3100	Latinx Community Engagement	3	RELS:1670/ ASIA:1670/ KORE:1670	Korea in the World	3
LATS:3550	Topics in Latina/o/x Studies: History and Culture	1-3	RELS:1765/ LATS:1765	U.S. Latina/o/x Religions	3
LAW:8698	Law in the Muslim World	2-3			
LING:3080/ WRIT:3080	History of the English Language	3			

RELS:2041/ ASIA:2041/IS:2041	Understanding "The Muslim World"	3	SPAN:2400	Readings in Spanish Literature	3
RELS:2289/ CLSA:2489	Jerusalem: The Holy City	3	SPAN:2500	Readings in Spanish American Literature	3
RELS:2775	The Bible and the Holocaust	3	SPAN:2800/ LAS:2800	Screening Latin America	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3	SPAN:2810	Screening Spain	3
RELS:3655/ ASIA:3655/ HIST:3655	Zen Buddhism	3	SPAN:2900/ LAS:2900	Music of the Hispanic World	3
RELS:3808/ AFAM:3500/ HIST:3160	Malcolm X, King, and Human Rights	3	SPAN:3020/ JMC:3445/LAS:3020	Journalistic Writing in Spanish	3
RELS:3855/IS:3855	Human Rights and Islam	3	SPAN:3030	Translation Workshop: English to Spanish	3
RELS:4155/ HIST:4455	Religious Conflict: Early Modern Period	3	SPAN:3045/ GHS:3045	Spanish Health Narratives	3
RELS:4352/ CLSA:4452	The Dead Sea Scrolls	3	SPAN:3050	Translation Workshop: Spanish to English	3
RUSS:1082	Youth Subcultures After Socialism	3	SPAN:3080	Spanish for International Business	3
RUSS:1131/ WLLC:1131	Introduction to Russian Culture	3	SPAN:3130	Introduction to Bilingualism	3
RUSS:1132	Russia Today	3	SPAN:3200	Latin American Cultural Studies	3
RUSS:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3	SPAN:3210	Cultural Storytelling	3
RUSS:1531	Slavic Folklore	3	SPAN:3215/ LAS:3215	Medellin	3
RUSS:2050/ WLLC:2050	Women from an Unknown Land: The Fight for Independence	3	SPAN:3230	Modern Mexico	3
RUSS:2100	Russian Mindset: Sex, Business, and Politics	3	SPAN:3290	Topics in Cinema and Society	3
RUSS:2110	Russian Sports: Politics, Scandal, Glory	3	SPAN:3310/ LAS:3310	Spanish American Short Story	3
RUSS:2232	Romani (Gypsy) Cultures of Eastern Europe	3	SPAN:3320	Spanish American Poetry	3
RUSS:3200	Advanced Russian Through Music, Literature, and Film I	3	SPAN:3350	Contemporary Spanish American Literature	3
RUSS:3201	Advanced Russian Through Music, Literature, and Film II	3	SPAN:3370	Topics in Literatures and Cultures	3
RUSS:3202/ HIST:3492/ TRNS:3203/ WLLC:3202	Russian Literature in Translation 1860-1917	3	SPAN:3440/ LATS:3440	Topics in Latina/o/x Literature and Culture	3
SOAS:1502/ ASIA:1502/ RELS:1502	Asian Humanities: India	3	SPAN:3500	Topics in Culture of the Hispanic World	3
SOAS:1620/ RELS:1620	Bhagavad Gita: Essential Teachings of Indian Religion	3	SPAN:3600	Cultures of Spain	3
SPAN:1700/ LATS:1700	Latina/o/x Literature in the United States	3	SPAN:3620	Madrid	3
SPAN:1800	Contemporary Spanish American Narrative	3	SPAN:3820	Modern and Contemporary Spanish Literature	3
SPAN:2005	Writing Global Spanish	3	SPAN:3840	Contemporary Spanish Short Story	3
SPAN:2050	Spanish in the United States	3	SPAN:4160/ LATS:4160	Language, Justice, and the Law	3
SPAN:2080	Business Spanish	4	SPAN:4205/ GHS:4205	Culture, Language, and Health	3
SPAN:2090/ GHS:2090	Medical Spanish in Contemporary Society	4	SPAN:4330	Colonial Spanish American Literature	3
SPAN:2200/ LAS:2200	Introduction to Spanish American Cultures	3	SPAN:4390/ LAS:4390	Topics in Spanish American Literature	3
			SPAN:4650	Don Quijote	3
			SPAN:4690	Topics in Spanish Literature	3
			SPAN:4815/ LAS:4815	Lost Childhoods: Marginal Children of Latin America	3
			SPAN:4820/ AMST:4800/ LATS:4800	Latina/o/x Popular Culture	3



SPAN:4840	Visual Culture in Modern and Contemporary Spain	3	FREN:1510	Cultural Misunderstandings: France and U.S.A.	3
SPAN:4980	Advanced Translation: Spanish to English	3	FREN:3410	Business French	3
SWAH:1010	Introduction to Swahili Language and Culture	2	GEOG:2910	The Global Economy	3
SWAH:4050	Kiswahili in Cyberspace	3	GRMN:3214	Business German	3
THTR:1400	Theatre and Society: Ancients and Moderns	3	HIST:3251/ AMST:3251	The Office: Business Life in America	3
THTR:1401	Theatre and Society: Romantics and Rebels	3	JMC:1500	Introduction to Social Media	3
			JMC:3116/IS:3116	Media and Global Cultures	3
			JMC:3142/IS:3142	Social Media for Social Change	3
			JPNS:3402	Japan: Culture and Communication	3
			JPNS:3500	Japanese for Professional Purposes I	3
			MGMT:3450	International Business Environment	3
			MGMT:4500	Strategy, Innovation and Global Competition	3
			MKTG:4300	International Marketing	3
			POLI:3516	The Politics of International Economics	3
			POLI:3524	Politics and Multinational Enterprises	3
			RHET:2090	Conversation Practicum	0-3
			RUSS:2100	Russian Mindset: Sex, Business, and Politics	3
			SPAN:2080	Business Spanish	4
			SPAN:3080	Spanish for International Business	3
			SRM:1085	Introduction to Travel and Tourism	3
			TRNS:2000	Translation and Global Society	3

## Optional Concentrations

Students have the option to complete a 15 s.h. concentration. This may be done by choosing global perspectives courses and world cultures and societies courses that are approved in one of the three concentrations—global business and communication [p. 761], international human rights and public service [p. 761], and international sustainable development [p. 762].

### Global Business and Communication

This concentration enables students to understand the complex forces that shape global commerce on the macro and micro levels. Students use multidisciplinary perspectives to understand the economic and cultural impacts of globalization processes, including on globalized systems and cultures of business, communication, and media. It offers social scientific and humanistic approaches to global business and communication. This background enables students who earn the concentration to stand out among entry-level business applicants; students develop the knowledge and skills needed for engaging in ethical and effective intercultural communication and action in the global business world, which are valued by multinational corporations and businesses worldwide.

Code	Title	Hours
15 s.h. from these:		
ANTH:3123	Making a Living: Perspectives on Economic Anthropology	3
ANTH:3190/ IS:3190/SJUS:3190	Global Debt	3
BUS:2350	Introduction to Global Business: Asia Pacific	3
COMM:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3
COMM:2042/ IS:2042/SSW:2042	Intercultural Communication	3
COMM:2086	Global Media Studies	3
COMM:4131/ IS:4131	Globalization and Culture	3
COMM:4171	Community Media	3
ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ENTR:4460	Entrepreneurship and Global Trade	3
FREN:1006	Global Sports and National Cultures	3

### International Human Rights and Public Service

This concentration is designed to provide a combination of philosophical and practical knowledge related to social justice and human rights. The study of human rights is inherently multidisciplinary, and students have the opportunity to become familiar with international human rights standards, their application, and implications through coursework in a variety of disciplines. Students are expected to understand how to discuss and address human rights concerns from a number of distinct perspectives and to apply critical thinking skills to complex problems. Students also develop an understanding of the ways that cultural and political-economic systems reflect specific place-based contexts as well as complex world histories of colonization, resistance, migration and globalization. They gain knowledge and skills that are directly applicable to public service careers in government and nongovernmental organization, in the United States and abroad, as well as graduate programs of study such as law and public policy.

Code	Title	Hours
This course:		
HRTS:2115/IS:2115	Introduction to Human Rights	3
3 s.h. from these:		
HRTS:3903/IS:3903	Technology and Human Rights	1-3

HRTS:3904/IS:3904	Business, Labor, and Human Rights	1-3
HRTS:3905/IS:3905	Topics in Human Rights	1-3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3907/IS:3907	Literature and Human Rights	1-3
HRTS:3908/IS:3908	Governance and Human Rights	1-3
HRTS:3909/IS:3909	Human Rights Lab	1-3
And 9 s.h. from these:		
AFAM:3500/ HIST:3160/ RELS:3808	Malcolm X, King, and Human Rights	3
ANTH:1040/ LING:1040	Language Rights	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
ANTH:3110/ GHS:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:2560	Topics in Culture and Identity	3
ENGL:2571/ GWSS:2571/ SJUS:2571	Visualizing Human Rights	3
FREN:4210/ MUSM:4310/ WLLC:4210	Slavery Museums, Memorials, and Statues in the United States, Europe, and the Global South	3-4
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	3-4
GHS:3034	Doing Harm by Doing Good: The Ethics of Studying, Volunteering, and Working in Global Communities	1
GHS:4003	Case Studies in Global Health Inequities	3
GWSS:3157/ HIST:3157	Gender, Sexuality, and Human Rights	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
HIST:4478	Holocaust in History and Memory	3
LATS:3100	Latinx Community Engagement	3
LATS:3104/ LAS:3104/ POLI:3104	Immigration Politics	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
RELS:3855/IS:3855	Human Rights and Islam	3
RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3

RUSS:2050/ WLLC:2050	Women from an Unknown Land: The Fight for Independence	3
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## International Sustainable Development

Students learn about the multiple dimensions to social change and human development in areas of the world categorized as developing societies, including poverty reduction; health; the environment and sustainability; climate change; food security; communication for development; cultures of developing societies; and historical, cultural, and critical perspectives on the idea of modern development. They gain an understanding of development as a cultural and political-economic process that directly influences the environment. Students also study the ways in which direct and indirect policy making by social, economic, and political institutions affect environmental issues. In this way, they develop an appreciation of the complexity of development and environmental problems in the globalized world. This concentration gives students the knowledge and skills needed for jobs or graduate education in international development and sustainability work after graduation.

Code	Title	Hours
15 s.h. from these:		
IS:3200	Sustainable Development	3
ANTH:1046/ GEOG:1046/ GWSS:1046/ SJUS:1046	Environmental Politics in India	3
ANTH:2136	Race, Place, and Power: Urban Anthropology	3
ANTH:2160/ GHS:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2261	Human Impacts on the Environment	3
CPH:4200	Agriculture, Food Systems, and Sustainability	3
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3
GEOG:2410	Environment and Development	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
GEOG:4000/ SDG:4000	The United Nations Sustainable Development Goals: A Blueprint for a Sustainable Future	3
GWSS:3326/ GHS:3327	The Politics of Progress: NGOs, Development, and Sexuality	3
HIST:3128	Topics in Global Environmental History	3
HIST:3508/ GHS:3508/LAS:3508	Disease and Health in Latin American History	3
HIST:3755/ GHS:3555/IS:3555	Understanding Health and Disease in Africa	3

POLI:1510	International Relations of Environmental Issues	3
POLI:2417	Comparative Environmental Policy	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3424	Global Development	3
URP:4752	Eight Generation Planning: Envisioning Regenerative Cities	3

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. International studies honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in all coursework for the major and in all coursework that may be applied to the major.

To graduate with honors in the major, students must complete a minimum of 46 s.h. for the major (an additional 3 s.h.), including at least 6 s.h. in courses designated as honors courses.

Honors students must choose IS:3010 Writing and Research for the World for their capstone option, and complete IS:4991 Honors Thesis in International Studies. Students also are encouraged to present their research in a public venue, such as the Spring Undergraduate Research Festival (SURF).

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the international studies major.

## Career Advancement

The flexible structure of the international studies major allows students to tailor the degree to fit a wide range of academic interests and career goals. International studies is an ideal complement to a variety of academic degree programs and many students combine the international studies major with another major such as in world languages, business, journalism, health sciences, or the arts.

International studies alumni find employment in a range of career sectors such as education, nonprofit/nongovernmental organizations (NGOs), business, government, and translation/interpreting.

Specific examples of organizations where recent graduates have found post-graduation opportunities include Doctors without Borders (New York City, New York), the International Visitor Leadership Program/U.S. Department of State (Washington, D.C.), Coyote Logistics (Chicago, Illinois), Peace Corps (Cambodia and Uganda), American Councils for International Education (Washington, D.C.), CET Study Abroad Programs (Greece), RefugeeRISE AmeriCorps (Des Moines and Iowa City, Iowa), Japan Exchange and Teaching Program

(Japan), The Bold Italic (San Francisco, California), and Texas Rio Grande Legal Aid (Austin, Texas).

International studies graduates also have used their cross-cultural, interdisciplinary education to win prestigious awards such as the Fulbright English Teaching Assistantship (Czech Republic, Taiwan, Brazil, Russia), the Gilman Scholarship, the Stanley Undergraduate Award for International Research, the Princeton in Latin America Fellowship, and the Critical Language Scholarship.

Additionally, the international studies major is excellent preparation for graduate and professional programs in law, international development, medicine, nonprofit management, higher education, public health, and urban and regional planning.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete in order to stay on the University's Four-Year Graduation Plan.

Students who intend to study abroad during their junior year should schedule an appointment during their fourth semester to meet with an advisor from International Programs Study Abroad; those who intend to study abroad during their senior year should schedule an appointment during their sixth semester.

**Before the fifth semester begins:** at least two 3 s.h. foundation courses, and one global perspectives course or world cultures and societies course.

**Before the seventh semester begins:** at least nine courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least 12 courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major (including capstone course if not already taken), all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

# Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## International Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The International Studies program encourages students to develop cross-cultural skills through study abroad and/or involvement with internationally-focused U.S.-based organizations. <sup>a</sup>		
Honors students must choose IS:3010 Writing and Research for the World for their capstone option and complete IS:4991 Honors Thesis in International Studies.		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
IS:2000	Introduction to International Studies <sup>c</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture <sup>d</sup>		3
GE CLAS Core: World Languages First Level Proficiency <sup>e</sup>		4 - 5
First-Year Seminar course with international content encouraged		1
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
IS:1000 or IS:2500	Designing Your International Studies Major <sup>c</sup> or Working Internationally	1
IS:2009	World Travel: Cross-Cultural Skills for International Business, Education, and Service <sup>c</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>14-16</b>
<b>Second Year</b>		
<b>Fall</b>		
IS:2020	World Events Today! <sup>c</sup>	3
Major: World Cultures and Societies course (may select Optional Concentration course) <sup>g, h</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
Major: Global Perspectives course (may select Optional Concentration course) <sup>h, i</sup>		3

GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Third Year</b>		
<b>Fall</b>		
IS:1000 or IS:2500	Designing Your International Studies Major <sup>c</sup> or Working Internationally	1
Major: World Cultures and Societies course (may select Optional Concentration course) <sup>g, h</sup>		3
Major: Language Requirement course <sup>j</sup>		3 - 5
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: Global Perspectives course (may select Optional Concentration course) <sup>h, i</sup>		3
Major: World Cultures and Societies course (may select Optional Concentration course) <sup>g, h</sup>		3
Major: Language Requirement course <sup>j</sup>		3 - 5
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15-17</b>
<b>Fourth Year</b>		
<b>Fall</b>		
IS:3010	Writing and Research for the World <sup>h, i</sup>	3
Major: World Cultures and Societies course (may select Optional Concentration course) <sup>g, h</sup>		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
IS:3012	Service Learning in International Studies <sup>h, i</sup>	3
Major: Global Perspectives course (may select Optional Concentration course) <sup>h, i</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>k</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120-130</b>

<sup>a</sup> Students meet regularly with the International Studies academic advisor for help in identifying experiential learning activities and integrating them into their academic plans.  
<sup>b</sup> Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives;

- International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Students earn a minimum of 10 s.h. in International Studies Foundation courses.
  - d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
  - e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
  - f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
  - g Students earn a minimum of 12 s.h. in International Studies World Cultures and Societies courses; see the General Catalog for list of approved courses.
  - h Students have the option to complete a 15 s.h. concentration. They choose Global Perspectives courses and World Cultures and Societies courses approved in one of the three concentrations: Global Business and Communication, International Human Rights and Public Service, or International Sustainable Development.
  - i Students earn a minimum of 12 s.h. in International Studies Global Perspectives courses including at least 6 s.h. numbered 2000 or above; see the General Catalog for list of approved courses.
  - j Students must complete a minimum of two courses of language study beyond that required by the GE CLAS Core. This additional language requirement may be met either by completing two courses of upper-level study in the same language used to fulfill the GE CLAS Core World Languages requirement or by completing two courses, or the equivalent, of a second world language at any level.
  - k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# International Studies, Minor

## Requirements

The undergraduate minor in international studies requires a minimum of 16 s.h., including 13 s.h. in courses taken at the University of Iowa.

Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Students may count a maximum of 6 s.h. from a single department or program, from the Tippie College of Business, or from a major, another minor, or a certificate toward the minor in international studies.

A minor in international studies requires the following work.

## Required Courses

Code	Title	Hours
One of these:		
IS:2000	Introduction to International Studies	3
IS:2020	World Events Today!	3
Both of these:		
IS:2009	World Travel: Cross-Cultural Skills for International Business, Education, and Service	3
IS:2500	Working Internationally	1

## Additional Requirements

### Coursework/Approved Credit-Bearing Experiential Learning Activity

For approved coursework options listed below, students can choose courses under Requirements [p. 752] in the B.A. in international studies section of the Catalog. The courses with course numbers listed below are experiential learning activities. Students may consult with their program of study academic advisor to find additional opportunities that they can petition to use toward the minor.

Code	Title	Hours
These:		
Approved coursework numbered 2000-4999		6
One of these (minimum of 3 s.h.):		
IS:3012	Service Learning in International Studies	3
CSD:3187/ EDTL:3187	Early Literacy Instruction for Young Children	3
GHS:4000	Global Health Studies Service Learning: Local Health is Global Health	4
GHS:4001	Social Entrepreneurship and Global Health	3
LS:1024	Hawkeye Service Breaks	3
RHET:2090	Conversation Practicum	3
SPAN:3092	Spanish in the Community	3
WRIT:2100	Writing and Community Outreach	3

Approved coursework numbered 2000-4999	3
Approved study abroad coursework	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### International Studies, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The minor in International Studies requires 16 s.h. of which at least 13 s.h. must be completed at the University of Iowa.		
A maximum of 6 s.h. from a single department, program, or from the Tippie College of Business, or from a major, another minor, or a certificate may be applied to the minor.		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
IS:2009	World Travel: Cross-Cultural Skills for International Business, Education, and Service	3
		<b>Hours</b>
		<b>3</b>
<b>Spring</b>		
IS:2020 or IS:2000	World Events Today! or Introduction to International Studies	3
		<b>Hours</b>
		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
IS:2500	Working Internationally	1
		<b>Hours</b>
		<b>1</b>
<b>Spring</b>		
Minor: course numbered 2000+ and approved for the International Studies BA <sup>a</sup>		3
		<b>Hours</b>
		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: course numbered 2000+ and approved for the International Studies BA <sup>a</sup>		3
		<b>Hours</b>
		<b>3</b>
<b>Spring</b>		
Minor: course numbered 2000+ and approved for the International Studies BA or an approved credit-bearing experiential learning activity (may complete during any session) <sup>a, b</sup>		3
		<b>Hours</b>
		<b>3</b>
		<b>Total Hours</b>
		<b>16</b>

<sup>a</sup> Choose by reviewing the international studies course database available on the international studies website.

b The experiential learning activity can be study abroad or service-learning coursework. Contact UI Study Abroad to find approved study abroad programs.

# Iowa Sciences Academy

## Director

- Lori Adams (Biology)

**Faculty:** <https://isa.uiowa.edu/people>

**Website:** <https://isa.uiowa.edu/>

The Iowa Sciences Academy (ISA) is home to a range of programs that support the success of undergraduate students interested in research and scientific communication. Through ISA programs, students have access to hands-on research, professional development, and scientific outreach opportunities. The Iowa Sciences Academy strives to build a strong community of students, staff, and faculty that value diversity in the sciences.

The Science Alliance Internship Program supports qualified first- and second-year students interested in exploring research on campus. The program aims to enrich the undergraduate experience through coursework, mentor matching, career guidance, and creating a cohort of students with similar interests in science and research. Competitive wages to carry out research in laboratories and access to a summer program for science alliance interns will be provided.

The Maximizing Access to Research Careers (UI-MARC) is a National Institutes of Health (NIH) funded program that supports the academic and personal success of qualified junior and senior students committed to pursuing a Ph.D. or M.D./Ph.D. The goal of the UI-MARC research training program is to develop a diverse pool of undergraduates who complete their baccalaureate degree, and transition into and complete biomedical, research-focused higher degree programs (e.g., Ph.D. or M.D./Ph.D.). A yearly stipend, funding for conference travel, and access to external summer research experiences are provided.

The mission of the National Science Foundation (NSF) funded Louis Stokes Alliance for Minority Participation (UI-LSAMP) program is to increase the number of underrepresented minority science, technology, engineering, and mathematics (STEM) graduates, and to build a foundation for greater increases in future years. UI-LSAMP facilitates the professional development and finding laboratory experiences for underrepresented STEM majors transferring from community colleges. Selected students receive stipends for each term.

The Latham Science Engagement Initiative provides the opportunity for sophomore, junior, and senior students to interact with highly talented undergraduate students across science disciplines. The program prepares students to communicate science in the public sphere, work in multidisciplinary settings, and demonstrate the broader impact of scientific research. Students selected for the program complete two courses, design and implement science outreach projects, and participate in an event that highlights their achievements.

## Admission

### Admission Requirements

Students must apply for each program individually to be considered for admission. Requirements for admission vary from program to program. Admission to all programs requires an interview. For more information, including the online application forms, visit the Iowa Sciences Academy website.

In general, applicants should:

- have a strong interest in pursuing a research career;
- have a qualifying academic major;
- be in good academic standing (e.g., a g.p.a. of at least 3.00); and
- meet additional requirements as specified by the individual program.

## Courses

### Iowa Sciences Academy Courses

#### **IBA:1041 IBA Student Development Seminar** 1 s.h.

Academic and professional development; presentations by faculty researchers, admissions representatives, or students in graduate bioscience programs; discussions about succeeding at the University; talks by professional educators on topics such as effective study skills.

#### **IBA:3992 IBA Research in Biomedical Science** 0 s.h.

Registration in a section taught by student's research mentor. Requirements: enrollment in IBA.

#### **IBA:4041 Senior Capstone Project** 1 s.h.

Structure for development, planning, and implementation of a culminating project for the Iowa Sciences Academy; students dedicate three to five hours per week to the project and are encouraged to connect their projects to community issues or problem; integration of external learning experiences and activities including interviews, scientific observations, or internships.



# Journalism and Mass Communication

## Interim Director

- Melissa Tully

**Undergraduate major:** journalism and mass communication (B.A.)

**Undergraduate minors:** media management; news and media literacy

**Graduate degrees:** M.A. in mass communication; M.A. in strategic communication; Ph.D. in mass communication

**Faculty:** <https://journalism.uiowa.edu/people>

**Website:** <https://journalism.uiowa.edu/>

The School of Journalism and Mass Communication offers an undergraduate major and two minors as well as three graduate degree programs. Undergraduate students in all majors may use approved journalism and mass communication courses to satisfy the Diversity and Inclusion, Historical Perspectives, Social Sciences, and Values and Culture requirements of the College of Liberal Arts and Sciences GE CLAS Core [p. 20], and the school's First-Year Seminar is designed specifically for entering undergraduate students. The School of Journalism and Mass Communication also administers the two undergraduate certificates listed below.

The school is accredited by the Accrediting Council on Education in Journalism and Mass Communications.

## Certificates

The School of Journalism and Mass Communication administers the Certificate in Event Management in collaboration with the Departments of Communication Studies, Health and Human Physiology, and Marketing. It also collaborates with the Department of Management and Entrepreneurship to offer the Certificate in Nonprofit Leadership and Philanthropy.

## Event Management

See the Certificate in Event Management [p. 512] in the Catalog.

## Nonprofit Leadership and Philanthropy

See the Certificate in Nonprofit Leadership and Philanthropy [p. 2198] in the Catalog.

## Professional Enrichment

### Internships

The school encourages undergraduate majors to complete at least one internship. The school's internship coordinator helps students find appropriate positions.

Undergraduate students may earn up to a total of 4 s.h. of internship credit, but not more than 3 s.h. from one single internship, registering with appropriate faculty sponsorship for JMC:2100 Journalism Internship (1-3 s.h.). Internships do not fulfill requirements for the major, but internship credit counts toward the total journalism and mass communication credit that students may apply toward a B.A. degree (maximum of 52 s.h.). Students may take internships for no credit through CCP:1201 Academic Internship.

Students also are encouraged to pursue opportunities for journalism experience on campus through student-operated media, including The Daily Iowan, Daily Iowan TV, and KRUI-FM radio.

## Activities

The school engages in a variety of activities for the enrichment of students, faculty, and the entire campus. Speakers visit campus each year under lectureships funded by the Li Chen Fund and the M. Holly McGranahan Lecture. In addition, guest speakers are funded through the Hearst Visiting Professionals Program. Campus organizations for students include Kappa Tau Alpha (KTA), a national society honoring scholarship in journalism, the National Association of Black Journalists (NABJ), the Public Relations Student Society of America (PRSSA), and Ed on Campus (EOC).

## Financial Support

More than \$200,000 in scholarships and awards is disbursed to journalism and mass communication students each year. Scholarship information and applications are available each fall. Visit Undergraduate Awards and Scholarships on the School of Journalism and Mass Communication website or contact the school.

Additionally, the school has a limited number of annual awards to encourage and support journalism and mass communication majors who seek an international experience or an immersive internship experience.

The school offers research and teaching assistantships for graduate students; preference is given to Ph.D. students. Journalism and mass communication students have been successful in winning competitive fellowships open to all graduate students; applicants must be nominated by the graduate committee.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Journalism and Mass Communication (Bachelor of Arts) [p. 776]

#### Minors

- Minor in Media Management [p. 786]
- Minor in News and Media Literacy [p. 787]

### Graduate Programs of Study

#### Majors

- Master of Arts in Mass Communication [p. 788]
- Master of Arts in Strategic Communication [p. 790]
- Doctor of Philosophy in Mass Communication [p. 792]

## Facilities

The School of Journalism and Mass Communication is housed in the Philip D. Adler Journalism and Mass Communication Building. The 65,000-square-foot building has computer laboratories for audio, video, design, writing and web publishing, a student center, and the Moeller Media Research Lab. The building also is home to offices of the Iowa High

School Press Association; the Quill and Scroll Society, an international honor society for high school journalists; the University's award-winning student newspaper, *The Daily Iowan*; *Daily Iowan TV*, a student-run newscast; and the *Journal of Communication Inquiry*.

## Courses

### Journalism and Mass Communication Courses

#### **JMC:1000 First-Year Seminar** 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **JMC:1100 Introduction to Media Effects** 3 s.h.

Application of social science methods and media theory to understanding effects of news, advertising, entertainment, and social media. GE: Social Sciences.

#### **JMC:1200 Introduction to Media and Culture** 3 s.h.

Historical development of journalism in the United States; cultural, historical content. GE: Historical Perspectives.

#### **JMC:1300 Introduction to Journalism and Strategic Communication** 3 s.h.

Understanding foundational theories and practices of contemporary journalism and strategic communication; unique public service mission of journalism; cultural, social, organizational roles of public relations; journalism and public relations (PR) industry opportunities, problems, and solutions; structural inequalities in journalism and strategic communication impacting industry diversity and media representation.

#### **JMC:1500 Introduction to Social Media** 3 s.h.

Prehistory of social media and identification of ideas, events, and elements in ancient and historical times; earliest days of online posting and interacting; first instances of social engagement on the Web; how social media (journalism, politics, health care, romance and lifestyle, entertainment, war and terrorism, professions and jobs) affects individual areas of life, culture, and society; what's next and how social media changes lives in the future and affects the fate of humanity. GE: Values and Culture.

#### **JMC:1600 Writing Fundamentals** 1 s.h.

The importance of grammar; recognition of common errors in the student's own writing, with a focus on fixing these problems.

#### **JMC:1800 Twenty-first-Century Science: Environmental Communication in the Digital Age** 3 s.h.

How information created by scientists about environmental issues is used by media, public relations practitioners, law makers, regulators, and decision makers in governments, organizations, and corporations, as well as by lay citizens; analysis of strategies to get scientific knowledge to the public arena in ways that inform, educate, and empower the public; examination of how this information can be used to mislead or confuse the public.

#### **JMC:2010 Reporting and Writing** 3 s.h.

Fundamental skills of journalistic reporting and writing. Prerequisites: JMC:1300 with a minimum grade of C- and JMC:1600 with a minimum grade of C- and (JMC:1100 with a minimum grade of C- or JMC:1200 with a minimum grade of C- or JMC:1500 with a minimum grade of C-). Requirements: journalism major.

#### **JMC:2020 Multimedia Storytelling** 3 s.h.

Fundamental skills of multimedia storytelling. Prerequisites: JMC:1300 with a minimum grade of C- and JMC:1600 with a minimum grade of C- and (JMC:1100 with a minimum grade of C- or JMC:1200 with a minimum grade of C- or JMC:1500 with a minimum grade of C-). Requirements: journalism major.

#### **JMC:2030 Visual Communication and Design** 3 s.h.

Introduction to visual communication design through lectures and hands-on projects; key professional production skills, including technical aspects of graphics and graphic design software; use of visual communication design skills to create effective layouts and design pieces; topics include elements and principles of design, visual perception theories, typography, color theory, representation, composition, information design, and ethical and inclusive practices of visual communication design; how to become more effective visual communicators and designers; preparation for upper-level journalism and mass communication coursework. Prerequisites: JMC:1300 with a minimum grade of C- and JMC:1600 with a minimum grade of C- and (JMC:1100 with a minimum grade of C- or JMC:1200 with a minimum grade of C- or JMC:1500 with a minimum grade of C-). Requirements: journalism and mass communication major.

#### **JMC:2100 Journalism Internship** 1-3 s.h.

Faculty-supervised professional work experience in journalism and mass communication. Prerequisites: JMC:2020 and JMC:2010. Requirements: journalism major.

#### **JMC:2150 News and Knowledge: Chinese Culture, History, and Journalism** 1 s.h.

Chinese culture, and social and cultural issues as perceived by people inside and outside China from a journalistic view.

#### **JMC:2500 Community Media** 3 s.h.

The boundaries of community can be set in many ways —by geography, age, ability, race, ethnicity, and more —or by intersection of several of these factors; students engage deeply with media representations of different types of communities, discuss basic concepts of identity and community, and explore some of the major fault lines, biases, and privileges in contemporary life; students critique common stereotypes that often show up in media coverage of marginalized communities to better practice storytelling across difference, focusing on how stories from communities that are underrepresented or misrepresented by media can be amplified. GE: Diversity and Inclusion.

#### **JMC:2600 Freedom of Expression** 3 s.h.

Philosophy, history, political science, and legal studies blended into a semester-long meditation on the meaning of freedom of expression, especially in the United States, and specifically on the U.S. Supreme Court; special attention given to the way in which freedom of expression enters into societal debates about benefits and challenges of diversity, and whether and how to rectify structural relationships of inequality; as students learn the history and tradition of how Americans have understood this concept, they reflect on their own perspectives and engage with others who may have different ideas from their own. GE: Diversity and Inclusion.

#### **JMC:2700 Media Ethics and Diversity** 3 s.h.

Application of ethical principles in journalistic decision making; consideration of potentially conflicting values, loyalties, and goals that force professional journalists to make difficult choices.

- JMC:3025 Iowa Policy and Opinion Lab** 0-3 s.h.  
Collaboration and study of policymaking and public opinion in Iowa; examination of policy choices in legislative, executive, and judicial branches; collection of survey data on public opinion among Iowans; students assist with research question development, data collection, data analysis, writing up results, and work with topics in these and other areas (e.g., race and crime, gender and social issues, health and COVID-19, environment); research group led by faculty in the Departments of Political Science and Journalism and Mass Communication.
- JMC:3116 Media and Global Cultures** 3 s.h.  
Communication as a vital component for any effort to create social change; necessary communication to reach out to target audiences—people and communities in need—from campaigns persuading communities to change knowledge, attitudes, and practices to aiding other development efforts in areas of health, education, rural development, or sustainable agricultural practices; importance of communication as an integral part to any effort aimed at creating large-scale social change. Same as IS:3116.
- JMC:3122 Digital and Gaming Culture** 3 s.h.  
Examination of digital and gaming cultures including immersive media technology, vloggers, online communities, and Twitch celebrities; industry, aesthetics, storytelling, rewards, and risks in video games across mobile, open world, role playing, casual, and serious game genres.
- JMC:3123 Advocacy Communication** 3 s.h.  
Explore how organizations, businesses, nonprofits, and grassroots groups attempt to shape public policy through use of traditional and new media, direct communication, and lobbying.
- JMC:3124 Entertainment Media** 3 s.h.  
Explore the technological revolution as it has profoundly shaped entertainment media, analyzing the parallels and differences among a variety of digitized media (movies, music, television, books, even video games); everything has changed, from the distribution to consumption to creation.
- JMC:3135 New Media and the Future of Sport** 3 s.h.  
Emergence and significance of internet blogs, social media, convergence journalism, video games, and fantasy sports; economic, regulatory, and cultural forces that shape new media sport journalism and entertainment. Same as AMST:3198, SPST:3198.
- JMC:3142 Social Media for Social Change** 3 s.h.  
Individuals and groups use social media to organize, collaborate, and spread their messages to local and global audiences; students explore the myriad ways that people and organizations use social media as tools for civic engagement, activism, and political participation; drawing on a broad range of international and national cases, students examine unfolding social movements from early internet activism to the present. Same as IS:3142.
- JMC:3150 Media and Health** 3 s.h.  
Potential and limits of mass media's ability to educate the public about health; research and theory on the influence of information and entertainment media; theories, models, assumptions of mass communication in relation to public health issues. Same as CBH:3150, GHS:3150.
- JMC:3165 African Americans and the Media** 3 s.h.  
Exploration of the theoretical notion of racialism in various genres of mass communication (i.e., music, print media, television/cable, film, social media); analysis and discussion of contemporary images and messages in media related to African American culture with close attention to impact of stereotypes, historical myths, stigmas, problematic representations, biased framing, and traditional racism. Same as AFAM:3925.
- JMC:3175 Gender and Mass Media** 3 s.h.  
Media images and representations of the body in terms of gender; impact on people, society; media and body image, sexuality, gender roles, gender and power, race, ethnicity, class, age; critical analysis of mediated images.
- JMC:3182 Sport, Scandal, and Strategic Communication in Media Culture** 3 s.h.  
Use of sport scandal to consider relationship between sport and media in American and global popular culture; broad range of case studies used to consider what constitutes a sport scandal, how this definition shifts in different circumstances; crucial roles media play in creating, communicating, and diffusing these crises; how phenomenon of sports scandal has intensified along with emergence of cable television, internet, and social media. Same as SPST:3182.
- JMC:3183 Sport and the Media** 3 s.h.  
Examination of sport and media's intimate relationship; aesthetic, cultural, political, economic, and industrial factors that shape it. Same as SPST:3175.
- JMC:3184 Narrative Sports Journalism** 3 s.h.  
Historical review of long-form sports journalism to understand development of subjects, form, and technique of sports coverage and long-form nonfiction writing; students read several long-form articles and books that incorporate reporting about sports, and propose an original long-form work about sports. Same as SPST:3184.
- JMC:3185 Topics in Understanding Media** 3 s.h.  
Focus on particular area, issue, approach, or body of knowledge; may include international media, media criticism, new technologies, history of documentary photography, literary journalism, media management.
- JMC:3350 Journalism Topics for Nonmajors** 3 s.h.  
Varied journalism topics. Requirements: non-journalism major.
- JMC:3360 Journalism Writing for Nonmajors** 3 s.h.  
Intensive writing on varied journalism topics. Requirements: non-journalism major.
- JMC:3400 Topics in Writing/Storytelling** 3-4 s.h.  
Topics may include public affairs, law, science, business, medicine, intercultural affairs, education, computer-assisted reporting. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.
- JMC:3410 Magazine Reporting and Writing** 3-4 s.h.  
Finding ideas, researching, interviewing; problems of organization and style; identification of audiences and markets; development of writing skills. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.

- JMC:3411 Multimedia News Storytelling** 3-4 s.h.  
Principles of gathering, writing, editing, and reporting the news; techniques and concepts as a foundation for understanding, successfully writing, and delivering broadcast news. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Requirements: journalism major.
- JMC:3412 Strategic Communication Writing** 3-4 s.h.  
Principles and practices of persuasive writing; focus on public relations; may include editorials, op-ed pieces, magazine essays, reviews. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.
- JMC:3413 Sports Writing** 3-4 s.h.  
Introduction to the history, culture, industry, and practice of sports writing. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-.
- JMC:3414 Basic Elements of Book Writing** 3-4 s.h.  
Basic elements involved in writing a novel or a nonfiction book; students will research, write, and workshop either a nonfiction book or novel proposal; they will complete a chapter outline and one chapter from their manuscript, and constructively edit and evaluate the work of fellow classmates through individual workshop sessions; course will culminate in an author's pavilion where students will select five minutes from their chapter to read to an audience. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.
- JMC:3415 Writing Across Cultures** 3-4 s.h.  
Forms of travel writing and other types of cross-cultural reporting; skills, knowledge, understandings vital to writing well about an increasingly multicultural and diverse world. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.
- JMC:3420 Content Marketing** 3-4 s.h.  
Tools for creating great content, as well as tactics for getting that content in front of the right audiences with the right message at the right time. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism and mass communication major.
- JMC:3425 Personal Branding and Building a Niche** 3-4 s.h.  
Creation of original journalistic websites incorporating writing, design, and structure; contemporary online media issues. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Requirements: journalism major.
- JMC:3430 Political Public Relations** 3-4 s.h.  
How strategic communication goals, objectives, strategies, and tactics can influence public debate on policy issues; students apply this knowledge for the benefit of a real-world client, producing a portfolio of work by the end of the semester. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism and mass communication major.
- JMC:3440 Multimedia Narratives** 3-4 s.h.  
Builds on skills learned in JMC:2020 to develop compelling multipart digital stories; focus on a range of storytelling techniques and tools to create in-depth stories that incorporate visual, audio, text, and data; students strengthen their digital storytelling skills by producing various multimedia projects, such as podcasts and digital long-form stories; project-based with opportunities to produce individual and collaborative work. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.
- JMC:3445 Journalistic Writing in Spanish** 3 s.h.  
Spanish writing skills; introduction to style and practice of journalistic reporting and writing. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as LAS:3020, SPAN:3020.
- JMC:3460 Arts and Culture Reporting and Writing** 3-4 s.h.  
Writing about arts and culture in a range of formats (e.g., news, profiles, features, criticism, essays); emphasis on original reporting that draws on resources, issues, people, and events on campus and in the community, especially in visual and performing arts. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2010 with a minimum grade of C-. Requirements: journalism major.
- JMC:3470 Narrative Journalism** 3-4 s.h.  
Process of writing the true story; development of skills in researching, interviewing, information gathering, organization, story-telling techniques, writing final story; story publication in magazines, newspapers, journals, online. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.
- JMC:3490 Feature Reporting and Writing** 3-4 s.h.  
Storytelling techniques for magazine, newspaper, website features; stylistic flair; human elements in stories; research, interviewing, and reporting. Prerequisites: JMC:2010 with a minimum grade of C- and JMC:2020 with a minimum grade of C-. Requirements: journalism major.
- JMC:3500 Topics in Managing/Planning** 3 s.h.  
Focus on particular area, issue, approach, or body of knowledge.
- JMC:3510 Audience Engagement: Marketing Research in the Digital Age** 3 s.h.  
Solutions to problems related to communication channels, content, users, and audiences sought daily by media and communication professionals to understand what the public thinks, feels, and does about ideas, events, and trends; learn about audience needs; ways to improve or change content; systematic and methodical ways to investigate problems and figure out how best to tackle communication problems related to media content, audiences, media practice, and media institutions.
- JMC:3520 Business of Media: Profits, People, and Power** 3 s.h.  
How U.S. media is managed; decision making in a current highly charged, rapidly changing media culture; how major company decision makers seek competitive advantage, and their consequent successes and failures in doing so.
- JMC:3530 Social Media Marketing** 3 s.h.  
Social media marketing as an ever-changing area that seems to only grow in importance for everyone from academic institutions to nonprofits to businesses big and small; each of these entities and more has an online brand and goals that social media can help them meet.

- JMC:3540 The Business of Sport Communication** 3 s.h.  
Critical and practical approach to understanding contemporary sports media and business practices that mark it; focus on sports media industries and institutions; branding, marketing, demographic, public relations, and promotional factors that shape content. Same as SPST:3181.
- JMC:3550 Editing** 3-4 s.h.  
Principles and process of editing content for publication; micro- and macroediting, headline writing, other aspects of editing.
- JMC:3600 Topics in Designing/Producing** 3-4 s.h.  
Analysis and solution of problems with communication strategies and/or media products; public relations, newsletter production, radio, media research, web basics, global media, interviewing, public relations fund raising. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2030 with a minimum grade of C-. Requirements: journalism major.
- JMC:3603 Studio News Production** 3-4 s.h.  
Electronic news gathering; conceptualization, shooting, editing basic news packages. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2030 with a minimum grade of C-. Requirements: journalism major.
- JMC:3610 Graphic Design** 3-4 s.h.  
Problems of design, layout and production; practical and aesthetic considerations; digital techniques; creative projects. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2030 with a minimum grade of C-. Requirements: journalism major.
- JMC:3611 Web Design** 3-4 s.h.  
Web development from the ground up; students will choose topics and build personal sites for original pieces of journalism. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2030 with a minimum grade of C-. Requirements: journalism major.
- JMC:3630 Photography** 3-4 s.h.  
Techniques; basic craft, location shooting, editing photographs; group critiques of assignments. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2030 with a minimum grade of C-.
- JMC:3640 Information and Data Visualization** 3-4 s.h.  
How to find and tell stories using data; hands-on introduction to data visualization, data analysis and data literacy for journalists and communications professionals. Prerequisites: (JMC:2020 with a minimum grade of C- and JMC:2030 with a minimum grade of C-) or CS:2110 or IGPI:5110.
- JMC:3650 Video Production** 3-4 s.h.  
Creation of high-quality videos for social media and mobile platforms; how to use digital single-lens reflex (DSLR) cameras and video editing software to create professional content customized for social media sites (i.e., YouTube, Facebook); how to use smartphone cameras and editing software to make shareable videos for mobile apps (i.e., Instagram, Snapchat); current industry trends and preferred practices for designing, directing, and editing compelling video stories for multiple digital platforms. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2030 with a minimum grade of C-. Requirements: journalism major.
- JMC:3660 Audio Production** 3-4 s.h.  
Techniques; basic craft, audio recording, audio editing; individual and group production; group critiques of assignments. Prerequisites: JMC:2020 with a minimum grade of C- and JMC:2030 with a minimum grade of C-. Requirements: journalism major.
- JMC:3700 Nonprofit Internship** 3 s.h.  
Faculty-supervised professional work experience with a nonprofit organization with associated academic content.
- JMC:3710 Fundraising Fundamentals** 3 s.h.  
Nonprofit organization reliance on raised funds to survive and thrive; basic concepts of fundraising for successful nonprofit organization; work with a nonprofit organization to explore basic fundraising techniques that nonprofits typically use including donor research, annual fund campaigns (phone, mail, email), capital campaigns, events, cause-related marketing, grants, planned giving, and donor stewardship; when and how to use different fundraising strategies to meet an organization's goals.
- JMC:3720 Nonprofit Communications** 3 s.h.  
Practical experience planning and writing fundraising materials; how yearly fundraising helps approximately 1.5 million nonprofit organizations receive more than \$3 billion from individuals, foundations, and corporations to help people in need, advocate for causes, support research/arts/culture, and enhance opportunities for public and/or their members.
- JMC:4000 Scientists and Writers** 1 s.h.  
Science communication and collaborative skills that are highly sought after by employers in STEM firms including pharmaceutical firms, biotech start-ups, and many others; these same skills essential for reporting on, writing about, or translating science in any area; studio-style format. Same as CHEM:4000, WRIT:4002.
- JMC:4100 Advanced Topics in Writing/Storytelling** 3-4 s.h.  
Project journalism; extended magazine pieces, explanatory/investigative journalism, series for newspapers, or task-force projects by entire class on a major issue, with goal of publication. Prerequisites: JMC:3400 or JMC:3410 or JMC:3411 or JMC:3412 or JMC:3413 or JMC:3414 or JMC:3415 or JMC:3420 or JMC:3425 or JMC:3430 or JMC:3440 or SPAN:3020 or JMC:3460 or JMC:3470 or JMC:3490. Requirements: journalism major.
- JMC:4125 Advanced Strategic Storytelling** 3-4 s.h.  
Advanced tools for creating great content; tactics for getting that content in front of the right audiences with the right message at the right time. Prerequisites: 2 of the following are required: JMC:3412, JMC:3420, JMC:3530. Requirements: journalism major.
- JMC:4300 Advanced Photography** 3-4 s.h.  
Builds on photography skills learned in JMC:3630; may include documentary photography, advanced photography methods and techniques. Prerequisites: JMC:3630.
- JMC:4310 Advanced Topics in Designing/Producing** 3-4 s.h.  
Journalism and mass communication skills; may include editing, broadcasting, design, multimedia. Prerequisites: JMC:3600 or JMC:3603 or JMC:3610 or JMC:3611 or JMC:3630 or JMC:3640 or JMC:3650 or JMC:3660. Requirements: journalism major.
- JMC:4315 Advanced Strategic Communication** 3-4 s.h.  
Development and presentation of public relations campaigns for client organizations; communication theory and research techniques applied to analyzing and solving public relations problems through objective-based strategic planning. Prerequisites: JMC:3412 or JMC:3420. Requirements: journalism and mass communication major.

- JMC:4350 Advanced Graphic Design** 3-4 s.h.  
Advanced design, layout, and production; practical and aesthetic considerations; digital techniques; creative projects. Prerequisites: JMC:3610. Requirements: journalism major.
- JMC:4360 Advanced Web Design** 3-4 s.h.  
Course builds upon techniques learned in JMC:3611. Prerequisites: JMC:3611. Requirements: journalism major.
- JMC:4400 Capstone** 3-4 s.h.  
Application and practice of classroom experience to a specific project with guidance from a faculty member. Prerequisites: (JMC:3400 or JMC:3410 or JMC:3411 or JMC:3412 or JMC:3413 or JMC:3414 or JMC:3415 or JMC:3420 or JMC:3425 or JMC:3430 or JMC:3440 or SPAN:3020 or JMC:3460 or JMC:3470 or JMC:3490) and (JMC:3600 or JMC:3603 or JMC:3610 or JMC:3611 or JMC:3630 or JMC:3640 or JMC:3650 or JMC:3660). Requirements: journalism major.
- JMC:4900 Special Projects in Mass Communication** arr.  
Research and readings to fit needs, interests of students.
- JMC:4910 Readings in Communication and Mass Communication** 1-3 s.h.  
Focus on a problem or issue.
- JMC:4955 Honors Project** 3 s.h.  
Independent research or project for honors students. Requirements: honors standing.
- JMC:5200 Topics in Strategic Communication** 3 s.h.  
Various topics relevant to strategic communication.
- JMC:5235 Strategic Communications Research** 3 s.h.  
Methodology of social science inquiry, the process and instruments of data gathering, evaluation of evidence, and the usefulness and appropriateness of various information sources in the service of strategic communication research; blends theory and practice.
- JMC:5237 Financial and Budget Fundamentals for Communicators** 3 s.h.  
How a company operates as a business; rapid changes in international economy; important SEC documents and other sources of information on public companies; a public company's financial statements; comparison of public companies financial conditions; analysis and informed conclusions about a public company's financial condition.
- JMC:5238 Strategic Communication Campaigns** 3 s.h.  
Practice of strategic communication through traditional and new media for purpose of benefiting nonprofit organizations or bringing about social change; examples and strategies from corporate, nonprofit, and social marketing campaigns; application of knowledge for benefit of real-world clients; principles and strategies applied to professional projects. Prerequisites: JMC:5300 and JMC:5400.
- JMC:5239 Strategic Web Video Communication** 3 s.h.  
Production of video content and releasing visual stories online; tools needed to capture compelling images and edit meaningful stories; strengths and weaknesses of video storytelling using portable video cameras and affordable editing software; for graduate students who are working professionals.
- JMC:5240 Digital Strategic Communication** 3 s.h.  
Exploration of information industry growth; creative processes involved in developing a blog and utilizing multimedia tools to enhance strategic messages; focus on characteristics and spread of new communication technologies and their social, economic, and political effects.
- JMC:5243 Copywriting for Strategic Communication** 3 s.h.  
Focusing copy to a targeted audience to move them to action; multiple platforms where copywriting can appear; learn how professional copywriters craft motivational, persuasive messages and continuously refine their skills; build copywriting skills through weekly exercises, peer reviews, and a final portfolio.
- JMC:5248 Strategic Political Communication** 3 s.h.  
Study of political communication; topics range from classic issues (agenda setting) to current debates and emerging topics associated with new media; readings address political communication in the United States.
- JMC:5250 Strategic Communication for Nonprofits** 3 s.h.  
Examination of components, objectives, and initiatives of strategic communications for nonprofit organizations; students specifically examine strategies that inspire and persuade diverse audiences and stakeholders through multi-channel communications with emphasis on audience analysis; in addition to assigned texts, students utilize case studies to examine organizational approaches and identify successful—and unsuccessful—strategies; although focus is primarily on nonprofits, the teaching modules are applicable to diverse industries.
- JMC:5255 Strategic Global Communication** 3 s.h.  
Examination of communications practices around the globe and exploration of different professions and organizations that employ international strategic communications; emphasis on practical application of communications theory, with copious use of real-life case studies and examples from leading expert practitioners; through a combination of projects, discussions, and case studies, students develop a more nuanced understanding of international and intercultural communication strategies while taking into account cultural context, stakeholders, and trends.
- JMC:5260 Digital Analytics for Strategic Communication** 3 s.h.  
Introduction to multiple digital analytics platforms and dashboards; how to align business objectives and digital metrics, ensuring the ability to make more strategic content, marketing, and audience targeting decisions; strategies to assist students in communicating insights and analytics to leadership.
- JMC:5266 Risk Communication** 3 s.h.  
Examination of risk as a central concept in communication process; risk as intrinsically an interdisciplinary concept; literature from a wide range of disciplines and perspectives (communication, psychology, sociology, formal risk analysis); case studies drawn from issues and cultural contexts (environmental, technological or health risks, food safety risks; international military crisis or threats of terrorism, natural disasters); emphasis on comparison of European and American contexts.
- JMC:5267 Strategic Health Care Communication** 3 s.h.  
Breaking down health care to basics; writing and communicating about health care in an understandable way so that hospitals, medical groups, and health care businesses can be better understood when doing business with each other as well as the public and consumers at large; health care writing and communication so consumers can understand, avoid injuries and even death from medical errors shown by studies on health literacy; how doctors and insurance companies can convey their messages in easy-to-understand way to lessen public frustration with the system.

<b>JMC:5269 Media Management for Strategic Communicators</b>	<b>3 s.h.</b>	<b>JMC:6999 Dissertation</b>	<b>arr.</b>
Looking at media in a completely new way; focus on economics and management of competitive businesses; how modern-day businesses in the media sector succeed or fail and why; decision making, competition, and outcomes; emphasis on news media companies that operate in public glare and offer rich opportunities for critical observation.			
<b>JMC:5270 Leadership Communication</b>	<b>3 s.h.</b>		
Using communications skills effectively for leadership in the modern workplace; how technological, global, and demographic developments have combined to transform the field of strategic communications; skills necessary to be effective in an environment of collaboration, teamwork, and self-management across a variety of platforms.			
<b>JMC:5285 Strategic Communication Externship</b>	<b>3 s.h.</b>		
Externship to allow connection between academic program and professional world; enhancement of skill and knowledge.			
<b>JMC:5300 Foundations of Strategic Communication</b>	<b>3 s.h.</b>		
Introduction to the field of strategic communication.			
<b>JMC:5400 Strategic Communication Writing</b>	<b>3 s.h.</b>		
Writing workshop for M.A. strategic communication students.			
<b>JMC:5600 Teaching Media Writing, Production, and Design</b>	<b>1 s.h.</b>		
Preparation to teach media skills courses; core topics include media writing, media production, and media design.			
<b>JMC:5950 Capstone Project in Strategic Communication</b>	<b>1-3 s.h.</b>		
Workshop of capstone projects required for graduation; for students nearing completion of M.A. in strategic communication. Requirements: M.A. in strategic communication program enrollment.			
<b>JMC:5955 Masters Research</b>	<b>arr.</b>		
Independent research for projects, theses.			
<b>JMC:6100 M.A./Ph.D. Seminar</b>	<b>1 s.h.</b>		
Forum on theoretical or methodological problems in mass communication.			
<b>JMC:6200 Humanistic Approaches to Media Communication</b>	<b>3 s.h.</b>		
Exploration of foundations, assumptions, and applications of critical/cultural theory and methods; how to understand and critique humanistic research; how to develop ideas, evidence, and arguments that lead to compelling and useful research in media communication.			
<b>JMC:6300 Social Scientific Approaches to Media Communication</b>	<b>3 s.h.</b>		
Exploration of foundations, assumptions, and application of social science theory and methods to media communication questions; how to understand and critique social science research; how to develop and test questions that lead to rigorous and useful research in media communication.			
<b>JMC:6330 Reading Group</b>	<b>1-3 s.h.</b>		
Analysis and discussion of important texts.			
<b>JMC:6333 Seminar in Media Communication</b>	<b>3 s.h.</b>		
Topics vary.			
<b>JMC:6700 Approaches to Media Communication</b>	<b>3 s.h.</b>		
Institutional and disciplinary issues that influence media communication.			
<b>JMC:6920 Ph.D. Research</b>	<b>arr.</b>		
Independent research for projects, theses.			

# Journalism and Mass Communication, B.A.

Media writing and visual storytelling form the core of the undergraduate major in journalism and mass communication. Students are required to take introduction, foundation, application, and advanced or capstone courses offered by the school; they develop professional skills while studying the historical, legal, cultural, and institutional roles of media in society. They also complete extensive academic work outside the school, consistent with the University's commitment to the liberal arts and sciences.

First-year students completing a major in journalism and mass communication are advised at the Academic Advising Center. Students who have earned 30 s.h. or more and have declared the journalism and mass communication major are advised in the School of Journalism and Mass Communication by one of the journalism and mass communication academic advisors.

## Transfer Students

The School of Journalism and Mass Communication may accept transfer credit earned at other institutions. A maximum of 9 s.h. of approved transfer credit may be applied to the major in journalism and mass communication unless the transfer institution has an approved articulation agreement with the School of Journalism and Mass Communication to count additional coursework. Some journalism coursework taken at other schools may be used to fulfill the GE CLAS Core [p. 20] and/or second area of study requirements.

Students who wish to apply transfer credit toward School of Journalism and Mass Communication requirements must discuss the proposed transfer credit with a journalism advisor and must have approval from the head of undergraduate studies.

## Learning Outcomes

### Law and Ethics

Students will:

- understand and apply the principles and laws of freedom of speech and press in real space and cyberspace; and
- demonstrate an understanding of professional ethical principles and their historical development.

### Media Literacy

Students will:

- understand the principles of media literacy; and
- develop the skills necessary to access, analyze, evaluate, and create media messages across multiple media domains.

### Writing and Storytelling

Students will:

- understand that clear, concise, and correct writing is at the heart of journalistic expression and that reporting and communicating it effectively requires a knowledge and achievement of the highest, professionally accepted standards in all work.

## Diversity, Equity, and Inclusion (DEI)

Students will:

- understand and value the diversity of groups (including communities defined by gender, race, ethnicity, age, religion, and sexual orientation) and experiences in a global society;
- recognize structural racism and inequalities that impact and affect marginalized communities and how our work perpetuates or challenges these systems; and
- enhance their ability to effectively serve and communicate with people from different backgrounds and experiences.

## Media Culture and Industries

Students will:

- understand the history of media in the context of industries and identify transformations in audiences, engagement, and business practice over time;
- grasp the significance of advances in mass communication technology for cultural production in domestic and global media markets from the printing press to the latest digital platforms; and
- trace the production of cultural meanings across historical periods as well as connections between business models and news consumption.

## Requirements

The Bachelor of Arts with a major in journalism and mass communication requires a minimum of 120 s.h., including at least 43 s.h. in journalism and mass communication courses, plus a second major, certificate, or minor. See "Second Area of Study" below. Students must maintain a g.p.a. of at least 2.00 in the major. All students must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students may count a maximum of 52 s.h. earned in School of Journalism and Mass Communication courses (prefix JMC) toward the 120 s.h. required for the degree.

Students may choose to complete the B.A. with a major in journalism and mass communication without a track or declare one of three optional tracks: multimedia production and design, reporting and writing, or strategic communication. All students must complete the introduction and foundation course requirements. Application and capstone course requirements vary for each optional track.

Each student works with an assigned educational advisor and/or faculty advisor to develop a study plan that meets the major's requirements. Requirements for the major are consistent with the program's accreditation requirements; the school cannot make exceptions.

The B.A. with a major in journalism and mass communication requires the following coursework.

Code	Title	Hours
	Introduction Courses	7
	Foundation Courses	15
	Application Courses	18
	Advanced or Capstone Course	3
	Second Area of Study	
<b>Total Hours</b>		<b>43</b>



## Introduction Courses

Students must complete these courses before they enroll in JMC:2010 Reporting and Writing, JMC:2020 Multimedia Storytelling, and JMC:2030 Visual Communication and Design.

Code	Title	Hours
One of these completed with a grade of C- or higher:		
JMC:1100	Introduction to Media Effects	3
JMC:1200	Introduction to Media and Culture	3
JMC:1500	Introduction to Social Media	3
Both of these completed with a grade of C- or higher:		
JMC:1300	Introduction to Journalism and Strategic Communication	3
JMC:1600	Writing Fundamentals	1

## Foundation Courses

Before students enroll in a Writing/Storytelling course, they must complete JMC:2010 and JMC:2020. And before students enroll in a Designing/Producing course, they must complete JMC:2020 and JMC:2030.

Code	Title	Hours
All three of these completed with a grade of C- or higher:		
JMC:2010	Reporting and Writing	3
JMC:2020	Multimedia Storytelling	3
JMC:2030	Visual Communication and Design	3
And both of these:		
JMC:2600	Freedom of Expression	3
JMC:2700	Media Ethics and Diversity	3

## Application Courses

### Managing/Planning

This requirement varies according to optional tracks.

### No Optional Track

Code	Title	Hours
One of these:		
JMC:3500	Topics in Managing/Planning	3
JMC:3510	Audience Engagement: Marketing Research in the Digital Age	3
JMC:3520	Business of Media: Profits, People, and Power	3
JMC:3530	Social Media Marketing	3
JMC:3540	The Business of Sport Communication	3
JMC:3550	Editing	3
JMC:3720	Nonprofit Communications	3

### Multimedia Production and Design Track

Code	Title	Hours
One of these:		
JMC:3500	Topics in Managing/Planning	3

JMC:3510	Audience Engagement: Marketing Research in the Digital Age	3
JMC:3520	Business of Media: Profits, People, and Power	3
JMC:3530	Social Media Marketing	3
JMC:3540	The Business of Sport Communication	3
JMC:3550	Editing	3
JMC:3720	Nonprofit Communications	3

## Reporting and Writing Track

Code	Title	Hours
One of these:		
JMC:3500	Topics in Managing/Planning (advisor input required for course topic)	3
JMC:3520	Business of Media: Profits, People, and Power	3
JMC:3540	The Business of Sport Communication	3
JMC:3550	Editing	3

## Strategic Communication Track

Code	Title	Hours
One of these:		
JMC:3500	Topics in Managing/Planning (advisor input required for course topic)	3
JMC:3510	Audience Engagement: Marketing Research in the Digital Age	3
JMC:3530	Social Media Marketing	3
JMC:3720	Nonprofit Communications	3

## Understanding Media

All students must complete this requirement.

Code	Title	Hours
One of these:		
JMC:3116	Media and Global Cultures	3
JMC:3122	Digital and Gaming Culture	3
JMC:3123	Advocacy Communication	3
JMC:3124	Entertainment Media	3
JMC:3135	New Media and the Future of Sport	3
JMC:3142	Social Media for Social Change	3
JMC:3150	Media and Health	3
JMC:3165	African Americans and the Media	3
JMC:3175	Gender and Mass Media	3
JMC:3182	Sport, Scandal, and Strategic Communication in Media Culture	3
JMC:3183	Sport and the Media	3
JMC:3184	Narrative Sports Journalism	3
JMC:3185	Topics in Understanding Media	3

## Designing/Producing

This requirement varies according to optional tracks.

### No Optional Track

Code	Title	Hours
Two of these:		
JMC:3600	Topics in Designing/ Producing	3
JMC:3603	Studio News Production	3
JMC:3610	Graphic Design	3
JMC:3611	Web Design	3
JMC:3630	Photography	3
JMC:3640	Information and Data Visualization	3
JMC:3650	Video Production	3
JMC:3660	Audio Production	3

### Multimedia Production and Design Track

Code	Title	Hours
Three of these:		
JMC:3600	Topics in Designing/ Producing	3
JMC:3603	Studio News Production	3
JMC:3610	Graphic Design	3
JMC:3611	Web Design	3
JMC:3630	Photography	3
JMC:3640	Information and Data Visualization	3
JMC:3650	Video Production	3
JMC:3660	Audio Production	3

### Reporting and Writing Track

Code	Title	Hours
One of these:		
JMC:3600	Topics in Designing/ Producing	3
JMC:3603	Studio News Production	3
JMC:3610	Graphic Design	3
JMC:3611	Web Design	3
JMC:3630	Photography	3
JMC:3640	Information and Data Visualization	3
JMC:3650	Video Production	3
JMC:3660	Audio Production	3

### Strategic Communication Track

Code	Title	Hours
Two of these:		
JMC:3600	Topics in Designing/ Producing	3
JMC:3603	Studio News Production	3
JMC:3610	Graphic Design	3
JMC:3611	Web Design	3
JMC:3630	Photography	3
JMC:3640	Information and Data Visualization	3
JMC:3650	Video Production	3
JMC:3660	Audio Production	3

## Writing/Storytelling

This requirement varies according to optional tracks.

### No Optional Track

Code	Title	Hours
Two of these:		
JMC:3400	Topics in Writing/Storytelling	3
JMC:3410	Magazine Reporting and Writing	3
JMC:3411	Multimedia News Storytelling	3
JMC:3412	Strategic Communication Writing	3
JMC:3413	Sports Writing	3
JMC:3414	Basic Elements of Book Writing	3
JMC:3415	Writing Across Cultures	3
JMC:3420	Content Marketing	3
JMC:3425	Personal Branding and Building a Niche	3
JMC:3430	Political Public Relations	3
JMC:3440	Multimedia Narratives	3
JMC:3445	Journalistic Writing in Spanish	3
JMC:3460	Arts and Culture Reporting and Writing	3
JMC:3470	Narrative Journalism	3
JMC:3490	Feature Reporting and Writing	3

### Multimedia Production and Design Track

Code	Title	Hours
One of these:		
JMC:3400	Topics in Writing/Storytelling	3
JMC:3410	Magazine Reporting and Writing	3
JMC:3411	Multimedia News Storytelling	3
JMC:3412	Strategic Communication Writing	3
JMC:3413	Sports Writing	3
JMC:3414	Basic Elements of Book Writing	3
JMC:3415	Writing Across Cultures	3
JMC:3420	Content Marketing	3
JMC:3425	Personal Branding and Building a Niche	3
JMC:3430	Political Public Relations	3
JMC:3440	Multimedia Narratives	3
JMC:3445	Journalistic Writing in Spanish	3
JMC:3460	Arts and Culture Reporting and Writing	3
JMC:3470	Narrative Journalism	3
JMC:3490	Feature Reporting and Writing	3

## Reporting and Writing Track

Code	Title	Hours
Three of these:		
JMC:3400	Topics in Writing/Storytelling (advisor input required for course topic)	3
JMC:3410	Magazine Reporting and Writing	3
JMC:3411	Multimedia News Storytelling	3
JMC:3413	Sports Writing	3
JMC:3414	Basic Elements of Book Writing	3
JMC:3415	Writing Across Cultures	3
JMC:3440	Multimedia Narratives	3
JMC:3445	Journalistic Writing in Spanish	3
JMC:3460	Arts and Culture Reporting and Writing	3
JMC:3470	Narrative Journalism	3
JMC:3490	Feature Reporting and Writing	3

## Strategic Communication Track

Code	Title	Hours
This course:		
JMC:3412	Strategic Communication Writing	3
And one of these:		
JMC:3400	Topics in Writing/Storytelling (advisor input required for course topic)	3
JMC:3420	Content Marketing	3
JMC:3425	Personal Branding and Building a Niche	3
JMC:3430	Political Public Relations	3
JMC:3440	Multimedia Narratives	3

## Advanced or Capstone Course

This requirement varies according to optional tracks.

## No Optional Track

Code	Title	Hours
One of these:		
JMC:4100	Advanced Topics in Writing/Storytelling	3
JMC:4125	Advanced Strategic Storytelling	3
JMC:4300	Advanced Photography	3
JMC:4310	Advanced Topics in Designing/Producing	3
JMC:4315	Advanced Strategic Communication	3
JMC:4350	Advanced Graphic Design	3
JMC:4360	Advanced Web Design	3
JMC:4400	Capstone	3

## Multimedia Production and Design Track

Code	Title	Hours
One of these:		
JMC:4300	Advanced Photography	3
JMC:4310	Advanced Topics in Designing/Producing	3
JMC:4350	Advanced Graphic Design	3
JMC:4360	Advanced Web Design	3
JMC:4400	Capstone (advisor input required for course topic)	3

## Reporting and Writing Track

Code	Title	Hours
One of these (advisor input required for course topic):		
JMC:4100	Advanced Topics in Writing/Storytelling	3
JMC:4400	Capstone	3

## Strategic Communication Track

Code	Title	Hours
One of these:		
JMC:4100	Advanced Topics in Writing/Storytelling (advisor input required for course topic)	3
JMC:4125	Advanced Strategic Storytelling	3
JMC:4315	Advanced Strategic Communication	3
JMC:4400	Capstone (advisor input required for course topic)	3

## Optional Journalism Electives

Students may earn elective credit by completing additional journalism and mass communication coursework (prefix JMC), but they may not exceed a maximum of 52 s.h. earned in the School of Journalism and Mass Communication toward the 120 s.h. required for the degree.

Code	Title	Hours
JMC:1000	First-Year Seminar	1-2
JMC:1800	Twenty-first-Century Science: Environmental Communication in the Digital Age	3
JMC:2100	Journalism Internship	1-3
JMC:2150	News and Knowledge: Chinese Culture, History, and Journalism	1
JMC:2500	Community Media	3
JMC:3025	Iowa Policy and Opinion Lab	1-3
JMC:3350	Journalism Topics for Nonmajors	3
JMC:3360	Journalism Writing for Nonmajors	3
JMC:3700	Nonprofit Internship	3
JMC:3710	Fundraising Fundamentals	3
JMC:4900	Special Projects in Mass Communication	arr.

JMC:4910	Readings in Communication and Mass Communication	1-3
JMC:4955	Honors Project	3

## Second Area of Study

Every student majoring in journalism and mass communication must complete a second area of study. The second area of study enables students to acquire a substantial body of knowledge or expertise in a relevant area, learn how another discipline views the world, and/or develop a companion set of skills to those in journalism and mass communication.

## Requirements for the Second Area of Study

Students must complete the requirements for the journalism and mass communication major (at least 43 s.h.) and must satisfy the school's second area of study requirement in one of three ways.

### Option 1

Students complete a second major in another department.

### Option 2

Students complete an undergraduate certificate. Students may not double count courses for their journalism and mass communication major and a certificate being used as their second area of study.

### Option 3

Students complete an undergraduate minor. Students may not double count courses for their journalism and mass communication major and a minor being used as their second area of study. The minor in media management may not be used as the second area of study.

## Honors

## Honors in the Major

Students majoring in journalism and mass communication have the opportunity to graduate with honors in the major. Students in the school's honors program must have a g.p.a. of at least 3.50 in work for the major and a UI cumulative g.p.a. of at least 3.33. To graduate with honors in the major, they complete JMC:4955 Honors Project, earning 3 s.h. of credit in work guided by a faculty member. The honors project may be a thesis or a professional project and typically is completed during the last semester of the senior year.

## National Honor Society

The school's chapter of Kappa Tau Alpha, the national society honoring scholarship in journalism and mass communication, was founded in 1936 and is named for former director Leslie G. Moeller. Students are considered for membership if their grade-point average places them in the top 10 percent of their class and they have completed at least five semesters of University work, including a minimum of 9 s.h. in journalism and mass communication skills courses. Contact the school's Kappa Tau Alpha advisor for details.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the journalism and mass communication major.

All majors with a UI cumulative g.p.a. of at least 3.33 are encouraged to take any journalism and mass communication course for honors credit and to make use of other honors opportunities in the school. Visit Honors in Journalism on the school's website or contact the school's honors advisor for details.

## Career Advancement

The major prepares students for careers in the field. Graduates find employment in a variety of areas, such as public relations, advertising, marketing, political communication, health communication, philanthropy and fundraising communication, newspapers, magazines, radio, television, online communications and social media, publication design, photojournalism, and media research.

The school's internship and assessment coordinator helps students seeking career guidance and employment opportunities. The school compiles and publicizes notices of professional jobs open to journalism and mass communication students and graduates. It also cooperates with the University's Pomerantz Career Center in providing career guidance and placement services as well as workshops and programs on seeking jobs.

## Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

Students must declare the journalism and mass communication major by the first semester of their sophomore year in order to be eligible for the Four-Year Graduation Plan. The checkpoints below include the required work in journalism and mass communication plus a second area of study, but they do not include the requirements of a second major, since the Four-Year Graduation Plan does not apply to second majors.

**Before the fifth semester begins:** JMC:1100 Introduction to Media Effects or JMC:1200 Introduction to Media and Culture or JMC:1500 Introduction to Social Media, JMC:1300 Introduction to Journalism and Strategic Communication, JMC:1600 Writing Fundamentals, a second area of study chosen, and at least one-quarter of the semester hours required for graduation.

**Before the sixth semester begins:** JMC:2600 Freedom of Expression, JMC:2020 Multimedia Storytelling, and JMC:2010 Reporting and Writing or JMC:2030 Visual Communication and Design.

**Before the seventh semester begins:** JMC:2010 Reporting and Writing or JMC:2030 Visual Communication and Design (if not already taken), JMC:2700 Media Ethics and Diversity,

one managing/planning course or one understanding media course, one writing/storytelling or one designing/producing course, and at least one-half of the semester hours required for graduation.

**During the seventh semester:** two additional writing/storytelling or designing/producing courses, one understanding media course or one managing/planning course, and at least three-quarters of the semester hours required for graduation.

**During the eighth semester:** one writing/storytelling or designing/producing course, one advanced or capstone course, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Journalism and Mass Communication, B.A.

- No Optional Track [p. 781]
- Multimedia Production and Design Track [p. 782]
- Reporting and Writing Track [p. 783]
- Strategic Communication Track [p. 784]

### No Optional Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
JMC:1200 or JMC:1500 or JMC:1100	Introduction to Media and Culture <sup>b, c</sup> or Introduction to Social Media or Introduction to Media Effects	3
JMC:1600	Writing Fundamentals <sup>b</sup>	1
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
JMC:1300	Introduction to Journalism and Strategic Communication <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>		4
GE CLAS Core: World Languages Second Level Proficiency <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>15-17</b>

### Second Year

<b>Fall</b>		
JMC:2010	Reporting and Writing <sup>g</sup>	3
JMC:2030	Visual Communication and Design <sup>h</sup>	3
JMC:2600	Freedom of Expression <sup>c</sup>	3
GE CLAS Core: World Languages Second Level Proficiency <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		2
Choose second area of study by this semester <sup>i</sup>		
<b>Hours</b>		<b>15-16</b>

### Spring

JMC:2020	Multimedia Storytelling <sup>g, h</sup>	3
JMC:2700	Media Ethics and Diversity	3
Major: second area of study course <sup>i</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		2
Internship: apply for summer internships (not required for the degree but strongly encouraged)		
If interested in an optional track for the JMC major, choose one by this semester <sup>j</sup>		
<b>Hours</b>		<b>15-16</b>

### Third Year

<b>Fall</b>		
Major: designing/producing course (prefix JMC, numbered 36XX)		3
Major: writing/storytelling course (prefix JMC, numbered 34XX)		3
Major: second area of study course <sup>i</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>f</sup>		3
GE CLAS Core: Historical Perspectives or Social Sciences or Values and Culture <sup>f, k</sup>		3
<b>Hours</b>		<b>15</b>

### Spring

Major: designing/producing course (prefix JMC, numbered 36XX)		3
Major: writing/storytelling course (prefix JMC, numbered 34XX)		3
Major: second area of study course <sup>i</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>f</sup>		3
GE CLAS Core: Historical Perspectives or Social Sciences or Values and Culture <sup>f, k</sup>		3
Internship: apply for summer internships (not required for the degree but strongly encouraged)		
<b>Hours</b>		<b>15</b>

### Fourth Year

<b>Fall</b>		
Major: advanced or capstone course (prefix JMC, numbered 4100-4400)		3
Major: understanding media course (prefix JMC, numbered 31XX)		3
Major: second area of study course <sup>i</sup>		3
Major: second area of study course or elective <sup>i</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

### Spring

Major: managing/planning course (prefix JMC, numbered 35XX or 3720)		3
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Major: second area of study course <sup>i</sup>	3
Major: second area of study course or elective <sup>i</sup>	3
Major: second area of study course or elective <sup>i</sup>	3
GE CLAS Core: International and Global Issues <sup>f</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>120-126</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students must complete these courses with a C- or higher before taking JMC:2010, JMC:2020, and JMC:2030.

c Fulfills a major requirement and may fulfill a GE requirement.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Students must complete these courses with a C- or higher before taking writing/storytelling courses (JMC:34XX).

h Students must complete these courses with a C- or higher before taking designing/producing courses (JMC:36XX).

i Students must complete a second area of study. There are three options: 1) complete a second major in another department; 2) complete an undergraduate certificate; or 3) complete an undergraduate minor (except the Media Management minor). Students may not double count courses for their JMC major and a certificate or minor being used as their second area of study.

j Students who choose a track will pick from 3000 and 4000-level courses designated for their track.

k Depending on which major introduction course is taken, students must still complete two of the following GE requirements: Historical Perspectives, Social Sciences, Values and Culture.

l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Multimedia Production and Design Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>

## First Year

### Fall

JMC:1300	Introduction to Journalism and Strategic Communication <sup>b</sup>	3
JMC:1600	Writing Fundamentals	1
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>

### Spring

JMC:1100 or JMC:1200 or JMC:1500	Introduction to Media Effects <sup>b, e</sup> or Introduction to Media and Culture or Introduction to Social Media	3
JMC:2600	Freedom of Expression <sup>e</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>

## Second Year

### Fall

JMC:2020	Multimedia Storytelling <sup>f, g</sup>	3
JMC:2030	Visual Communication and Design <sup>g</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>h</sup>		4
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-16</b>

### Spring

JMC:2010	Reporting and Writing <sup>f</sup>	3
Major: designing/producing course (prefix JMC, numbered 36XX) <sup>i</sup>		3
Major: second area of study course <sup>j</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
Internship: apply for summer internships (not required for the degree but strongly encouraged)		
<b>Hours</b>		<b>15-16</b>

## Third Year

### Fall

JMC:2700	Media Ethics and Diversity	3
Major: designing/producing course (prefix JMC, numbered 36XX) <sup>i</sup>		3
Major: second area of study course <sup>j</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>h</sup>		3
GE CLAS Core: Historical Perspectives or Social Sciences or Values and Culture <sup>h, k</sup>		3
<b>Hours</b>		<b>15</b>

### Spring

Major: designing/producing course (prefix JMC, numbered 36XX) <sup>i</sup>		3
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Major: writing/storytelling course (prefix JMC, numbered 34XX) <sup>i</sup>	3
Major: second area of study course <sup>j</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>h</sup>	3
GE CLAS Core: Historical Perspectives or Social Sciences or Values and Culture <sup>h, k</sup>	3
Internship: apply for summer internships (not required for the degree but strongly encouraged)	
<b>Hours</b>	<b>15</b>

**Fourth Year****Fall**

Major: managing/planning course (prefix JMC, numbered 35XX or 3720) <sup>i</sup>	3
Major: understanding media course (prefix JMC, numbered 31XX) <sup>i</sup>	3
Major: second area of study course <sup>j</sup>	3
Major: second area of study course or elective <sup>j</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>h</sup>	3

**Hours** **15**

**Spring**

Major: advanced or capstone course <sup>i</sup>	3
Major: second area of study course <sup>j</sup>	3
Major: second area of study course or elective <sup>j</sup>	3
Major: second area of study course or elective <sup>j</sup>	3
GE CLAS Core: International and Global Issues <sup>h</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	

**Hours** **15**

**Total Hours** **120-126**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students must complete these courses with a C- or higher before taking JMC:2010, JMC:2020, and JMC:2030.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Fulfills a major requirement and may fulfill a GE requirement.

f Students must complete these courses with a C- or higher before taking writing/storytelling courses (JMC:34XX).

g Students must complete these courses with a C- or higher before taking designing/producing courses (JMC:36XX).

h GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

i Choose from list of approved courses for this track.

j Students must complete a second area of study. There are three options: 1) complete a second major in another department; 2) complete an undergraduate certificate; or 3) complete an undergraduate minor (except the Media Management minor). Students may not double count

courses for their JMC major and a certificate or minor being used as their second area of study.

k Depending on which major introduction course is taken, students must still complete two of the following GE requirements: Historical Perspectives, Social Sciences, Values and Culture.

l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Reporting and Writing Track**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
JMC:1300	Introduction to Journalism and Strategic Communication <sup>b</sup>	3
JMC:1600	Writing Fundamentals <sup>b</sup>	1
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
JMC:1100 or JMC:1500 or JMC:1200	Introduction to Media Effects <sup>b, e</sup> or Introduction to Social Media or Introduction to Media and Culture	3
JMC:2600	Freedom of Expression <sup>e</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
JMC:2010	Reporting and Writing <sup>f</sup>	3
JMC:2020	Multimedia Storytelling <sup>f, g</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>h</sup>		4
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
JMC:2030	Visual Communication and Design <sup>g</sup>	3
Major: writing/storytelling course <sup>i</sup>		3
Major: second area of study course <sup>j</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2

Internship: apply for summer internships (not required for the degree but strongly encouraged)

**Hours 15-16**

**Third Year**

**Fall**

JMC:2700	Media Ethics and Diversity	3
Major:	writing/storytelling course <sup>i</sup>	3
Major:	second area of study course <sup>j</sup>	3
GE CLAS Core:	Quantitative or Formal Reasoning <sup>h</sup>	3
GE CLAS Core:	Historical Perspectives or Social Sciences or Values and Culture <sup>h, k</sup>	3

**Hours 15**

**Spring**

Major:	designing/producing course (prefix JMC, numbered 36XX) <sup>i</sup>	3
Major:	writing/storytelling course <sup>i</sup>	3
Major:	second area of study course <sup>j</sup>	3
GE CLAS Core:	Natural Sciences without Lab <sup>h</sup>	3
GE CLAS Core:	Historical Perspectives or Social Sciences or Values and Culture <sup>h, k</sup>	3

Internship: apply for summer internships (not required for the degree but strongly encouraged)

**Hours 15**

**Fourth Year**

**Fall**

Major:	advanced or capstone course <sup>i</sup>	3
Major:	managing/planning course <sup>i</sup>	3
Major:	second area of study course <sup>j</sup>	3
Major:	second area of study course or elective <sup>j</sup>	3
GE CLAS Core:	Literary, Visual, and Performing Arts <sup>h</sup>	3

**Hours 15**

**Spring**

Major:	understanding media course (prefix JMC, numbered 31XX) <sup>i</sup>	3
Major:	second area of study course <sup>j</sup>	3
Major:	second area of study course or elective <sup>j</sup>	3
Major:	second area of study course or elective <sup>j</sup>	3
GE CLAS Core:	International and Global Issues <sup>h</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>

**Hours 15**

**Total Hours 120-126**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students must complete these courses with a C- or higher before taking JMC:2010, JMC:2020, and JMC:2030.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Fulfills a major requirement and may fulfill a GE requirement.

f Students must complete these courses with a C- or higher before taking writing/storytelling courses (JMC:34XX).

g Students must complete these courses with a C- or higher before taking designing/producing courses (JMC:36XX).

h GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

i Choose from list of approved courses for this track.

j Students must complete a second area of study. There are three options: 1) complete a second major in another department; 2) complete an undergraduate certificate; or 3) complete an undergraduate minor (except the Media Management minor). Students may not double count courses for their JMC major and a certificate or minor being used as their second area of study.

k Depending on which major introduction course is taken, students must still complete two of the following GE requirements: Historical Perspectives, Social Sciences, Values and Culture.

l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Strategic Communication Track**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core:	Sustainability <sup>a</sup>	0
<b>Hours</b>		<b>0</b>

**First Year**

**Fall**

JMC:1200 or JMC:1500 or JMC:1100	Introduction to Media and Culture <sup>b, c</sup> or Introduction to Social Media or Introduction to Media Effects	3
JMC:1600	Writing Fundamentals <sup>b</sup>	1
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core:	World Languages First Level Proficiency <sup>d</sup>	4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>e</sup>		2

**Hours 15-17**

**Spring**

JMC:1300	Introduction to Journalism and Strategic Communication <sup>b</sup>	3
JMC:2600	Freedom of Expression <sup>c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core:	World Languages Second Level Proficiency <sup>d</sup>	4 - 5
Elective course <sup>e</sup>		2

**Hours 15-17**



**Second Year****Fall**

JMC:2010	Reporting and Writing <sup>f</sup>	3
JMC:2020	Multimedia Storytelling <sup>f, g</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>h</sup>		4
GE CLAS Core: World Languages Second Level Proficiency <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		1

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**Hours** **15-16**

**Spring**

JMC:2030	Visual Communication and Design <sup>g</sup>	3
JMC:3412	Strategic Communication Writing	3
Major: second area of study course <sup>i</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		2
Internship: apply for summer internships (not required for the degree but strongly encouraged)		

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**Hours** **15-16**

**Third Year****Fall**

Major: designing/producing course (prefix JMC, numbered 36XX) <sup>j</sup>		3
Major: managing/planning course <sup>j</sup>		3
Major: second area of study course <sup>i</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>h</sup>		3
GE CLAS Core: Historical Perspectives or Social Sciences or Values and Culture <sup>h, k</sup>		3

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**Hours** **15**

**Spring**

JMC:2700	Media Ethics and Diversity	3
Major: designing/producing course (prefix JMC, numbered 36XX) <sup>j</sup>		3
Major: second area of study course <sup>i</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>h</sup>		3
GE CLAS Core: Historical Perspectives or Social Sciences or Values and Culture <sup>h, k</sup>		3
Internship: apply for summer internships (not required for the degree but strongly encouraged)		

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**Hours** **15**

**Fourth Year****Fall**

Major: understanding media course (prefix JMC, numbered 31XX) <sup>j</sup>		3
Major: writing/storytelling course <sup>j</sup>		3
Major: second area of study course <sup>i</sup>		3
Major: second area of study course or elective <sup>i</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>h</sup>		3

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**Hours** **15**

**Spring**

Major: advanced or capstone course <sup>j</sup>		3
Major: second area of study course <sup>i</sup>		3
Major: second area of study course or elective <sup>i</sup>		3
Major: second area of study course or elective <sup>i</sup>		3
GE CLAS Core: International and Global Issues <sup>h</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>l</sup>

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**Hours** **15**

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**Total Hours** **120-126**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students must complete these courses with a C- or higher before taking JMC:2010, JMC:2020, and JMC:2030.

c Fulfills a major requirement and may fulfill a GE requirement.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Students must complete these courses with a C- or higher before taking writing/storytelling courses (JMC:34XX).

g Students must complete these courses with a C- or higher before taking designing/producing courses (JMC:36XX).

h GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

i Students must complete a second area of study. There are three options: 1) complete a second major in another department; 2) complete an undergraduate certificate; or 3) complete an undergraduate minor (except the Media Management minor). Students may not double count courses for their JMC major and a certificate or minor being used as their second area of study.

j Choose from list of approved courses for this track.

k Depending on which major introduction course is taken, students must still complete two of the following GE requirements: Historical Perspectives, Social Sciences, Values and Culture.

l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Media Management, Minor

## Requirements

The minor in media management requires a minimum of 15 s.h. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Courses for the minor may not be taken pass/nonpass.

Students may apply a maximum of 6 s.h. toward both the minor in media management and any major, minor, or certificate housed in the School of Journalism and Mass Communication or the John Pappajohn Entrepreneurial Center.

The minor prepares students to work in media industries and areas that focus on audiences and business. They also will have a foundation to pursue advanced degrees related to media management.

The minor in media management requires the following coursework.

## Required Courses

Code	Title	Hours
Both of these:		
JMC:3510	Audience Engagement: Marketing Research in the Digital Age	3
JMC:3520	Business of Media: Profits, People, and Power	3

## Elective Courses

Some of the entrepreneurial management courses (prefix ENTR) have prerequisites; students must complete all of a course's prerequisites before they may register for a course.

Code	Title	Hours
Three of these (9 s.h.), with at least one journalism and mass communication course (prefix JMC):		
JMC:2700	Media Ethics and Diversity	3
JMC:3540	The Business of Sport Communication	3
COMM:2085	Media Industries and Organizations	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Media Management, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The minor in media management requires a minimum of 15 s.h.		
Students must maintain a GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.		
Courses for the minor may not be taken pass/nonpass.		
Students may apply a maximum of 6 s.h. toward both the minor in media management and any major, minor or certificate housed in Journalism and Mass Communication or the John Pappajohn Entrepreneurial Center.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Students typically begin taking courses for the media management minor during spring semester of their second year. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>Second Year</b>		
<b>Spring</b>		
JMC:3520	Business of Media: Profits, People, and Power <sup>b</sup>	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
JMC:3510	Audience Engagement: Marketing Research in the Digital Age	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: elective course <sup>c</sup>		
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
JMC:2700 or JMC:3540	Media Ethics and Diversity or The Business of Sport Communication	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: elective course <sup>c</sup>		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>15</b>

a Some of the entrepreneurial management courses (prefix ENTR) have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

b Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

c See the General Catalog for list of approved courses.

# News and Media Literacy, Minor

## Requirements

The minor in news and media literacy requires a minimum of 15 s.h. in mass communication courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Courses for the minor may not be taken pass/nonpass.

Students may earn the minor in news and media literacy or the journalism and mass communication major, but not both.

The minor provides students with an introduction to news and media literacy; it does not prepare them for careers in media.

The minor in news and media literacy requires the following coursework.

## Required Courses

Code	Title	Hours
One of these:		
JMC:1100	Introduction to Media Effects	3
JMC:1200	Introduction to Media and Culture	3
JMC:1300	Introduction to Journalism and Strategic Communication	3
JMC:1500	Introduction to Social Media	3
One of these:		
JMC:2600	Freedom of Expression	3
JMC:2700	Media Ethics and Diversity	3

## Elective Courses

Code	Title	Hours
Three of these:		
JMC:3116	Media and Global Cultures	3
JMC:3122	Digital and Gaming Culture	3
JMC:3123	Advocacy Communication	3
JMC:3124	Entertainment Media	3
JMC:3135	New Media and the Future of Sport	3
JMC:3142	Social Media for Social Change	3
JMC:3150	Media and Health	3
JMC:3165	African Americans and the Media	3
JMC:3175	Gender and Mass Media	3
JMC:3182	Sport, Scandal, and Strategic Communication in Media Culture	3
JMC:3183	Sport and the Media	3
JMC:3184	Narrative Sports Journalism	3
JMC:3185	Topics in Understanding Media	3
JMC:3500	Topics in Managing/Planning	3
JMC:3510	Audience Engagement: Marketing Research in the Digital Age	3

JMC:3520	Business of Media: Profits, People, and Power	3
JMC:3530	Social Media Marketing	3
JMC:3540	The Business of Sport Communication	3
JMC:3550	Editing	3
JMC:3720	Nonprofit Communications	3

# Mass Communication, M.A.

## Learning Outcomes

A candidate for a research master's degree is expected to demonstrate knowledge in the chosen discipline and to synthesize and create new knowledge, making a contribution to the field in an appropriate timeframe.

- Make a contribution to the scholarship of the field: synthesize existing knowledge, identifying and accessing appropriate resources and other sources of relevant information and critically analyzing and evaluating one's own findings and those of others; apply existing research methodologies, techniques, and technical skills; and communicate in a style appropriate to the discipline.
- Demonstrate commitment to advancing the values of scholarship: keep abreast of current advances within one's field and related areas; show commitment to personal professional development through engagement in professional societies and other knowledge transfer modes; and show a commitment to creating an environment that supports learning through teaching, collaborative inquiry, mentoring, or demonstration.
- Demonstrate professional skills: adhere to ethical standards in the discipline; and listen, give, and receive feedback effectively.

## Requirements

The School of Journalism and Mass Communication offers a Master of Arts in mass communication. The M.A. program requires 34 s.h. with thesis. Students who plan to continue on to doctoral studies in the school can complete the required coursework for the master's degree, plus one additional course, and successfully pass a qualifying examination; a thesis is not required.

Students in the M.A. program in mass communication must complete the following coursework. They are required to take at least two courses in the School of Journalism and Mass Communication selected from the methods, theory, or electives areas.

Code	Title	Hours
All of these:		
JMC:6100	M.A./Ph.D. Seminar (must register for a total of 4 s.h.; should enroll every semester for entire program of study)	4
JMC:6200	Humanistic Approaches to Media Communication	3
JMC:6300	Social Scientific Approaches to Media Communication	3
JMC:6999	Dissertation (must register for at least 3 s.h.)	3
RHET:5100	Practicum: College Teaching and Professional Development for Teaching Assistants	1
Additional professionalization courses		2
Methods area courses		3
Theory area courses		3

Concentration area courses	6
Electives	6

For a more detailed description of the M.A. program in mass communication, contact the School of Journalism and Mass Communication.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Admission to the program is for fall entry.

## Financial Support

The School of Journalism and Mass Communication offers research and teaching assistantships; preference is given to Ph.D. students. Students have been successful in winning competitive fellowships open to all graduate students; applicants must be nominated by the graduate committee.

## Career Advancement

This is an academically oriented degree that prepares students for doctoral studies or a career in research.

The M.A. program is designed to meet the needs of:

- journalism and mass communication students who have earned a bachelor's degree and wish to continue their education; M.A. students can be considered for admission into the doctoral program after completion of all their M.A. degree requirements; and
- experienced journalists or communicators who wish to prepare themselves for teaching by earning the M.A., possibly continuing on to earn their Ph.D. degree.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Mass Communication, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
34 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
JMC:6200	Humanistic Approaches to Media Communication	3
Methods, Theory, Concentration, or Elective course <sup>b, c</sup>		3
Methods, Theory, Concentration, or Elective course <sup>b, c</sup>		3

RHET:5100	Practicum: College Teaching and Professional Development for Teaching Assistants <sup>d</sup>	1
JMC:6100	M.A./Ph.D. Seminar <sup>e</sup>	1
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
JMC:6300	Social Scientific Approaches to Media Communication	3
Methods, Theory, Concentration, or Elective course <sup>b, c</sup>		3
Methods, Theory, Concentration, or Elective course <sup>b, c</sup>		3
JMC:6100	M.A./Ph.D. Seminar <sup>e</sup>	1
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
Methods, Theory, Concentration, or Elective course <sup>b, c</sup>		3
Methods, Theory, Concentration, or Elective course <sup>b, c</sup>		3
Additional Professionalization course <sup>d</sup>		2
JMC:6100	M.A./Ph.D. Seminar <sup>e</sup>	1
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>c, f</sup>		3
JMC:6100	M.A./Ph.D. Seminar <sup>e</sup>	1
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>34</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Students are required to complete 3 s.h. of methods area, 3 s.h. of theory area, 6 s.h. of concentration area, and 6 s.h. of elective coursework.

c Work with faculty advisor to determine appropriate graduate coursework; see the General Catalog and department website for specifics.

d Students are required to take a total of 3 s.h. of professionalization courses including RHET:5100; consult with faculty advisor to determine which courses best align with career goals.

e Registration required every semester.

f Non-thesis option requires the completion of one additional course instead of a thesis.

g Must complete the master's curriculum with one additional course instead of a thesis; successful completion of qualifying exam in the fourth semester of the program.

# Strategic Communication, M.A.

## Learning Outcomes

A candidate for a research master's degree is expected to demonstrate knowledge in the chosen discipline and to synthesize and create new knowledge, making a contribution to the field in an appropriate timeframe.

- Make a contribution to the scholarship of the field: synthesize existing knowledge, identifying and accessing appropriate resources and other sources of relevant information and critically analyzing and evaluating one's own findings and those of others; apply existing research methodologies, techniques, and technical skills; and communicate in a style appropriate to the discipline.
- Demonstrate commitment to advancing the values of scholarship: keep abreast of current advances within one's field and related areas; show commitment to personal professional development through engagement in professional societies and other knowledge transfer modes; and show a commitment to creating an environment that supports learning through teaching, collaborative inquiry, mentoring, or demonstration.
- Demonstrate professional skills: adhere to ethical standards in the discipline; and listen, give, and receive feedback effectively.

## Requirements

The Master of Arts program in strategic communication requires a minimum of 30 s.h. of graduate credit. Courses for the program are offered online.

The curriculum consists of core courses, electives, and a capstone project in place of a thesis. In most courses, students are encouraged to introduce case studies and projects from their workplace.

The M.A. with a major in strategic communication requires the following coursework.

## Core Courses

Code	Title	Hours
All of these:		
JMC:5235	Strategic Communications Research	3
JMC:5240	Digital Strategic Communication	3
JMC:5300	Foundations of Strategic Communication	3
JMC:5400	Strategic Communication Writing	3
JMC:5950	Capstone Project in Strategic Communication	3

## Electives

In consultation with their advisors, students earn 15 s.h. in elective coursework chosen from the list below. They also may choose other electives that are appropriate for their individual programs, drawing from courses offered by the School of Journalism and Mass Communication and by other University of Iowa departments and programs.

Code	Title	Hours
JMC:5200	Topics in Strategic Communication	3
JMC:5237	Financial and Budget Fundamentals for Communicators	3
JMC:5238	Strategic Communication Campaigns	3
JMC:5243	Copywriting for Strategic Communication	3
JMC:5248	Strategic Political Communication	3
JMC:5250	Strategic Communication for Nonprofits	3
JMC:5255	Strategic Global Communication	3
JMC:5260	Digital Analytics for Strategic Communication	3
JMC:5266	Risk Communication	3
JMC:5267	Strategic Health Care Communication	3
JMC:5269	Media Management for Strategic Communicators	3
JMC:5270	Leadership Communication	3
JMC:5285	Strategic Communication Externship	3

For a more detailed description of the M.A. in strategic communication, contact the School of Journalism and Mass Communication.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applications for admission to the program are accepted all year.

## Career Advancement

The strategic communication program is designed for professionals in a wide variety of areas, such as corporate and organizational communication, public relations, integrated marketing communication, advertising, political and public affairs communication, health communication, event management, risk communication, and professional writing. The program focuses on the skills, knowledge, and experience that working professionals need, including the ability to anticipate and meet the challenges of radical change in the media landscape.

## Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Strategic Communication, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Maintain a cumulative GPA of at least 2.75.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
JMC:5300	Foundations of Strategic Communication <sup>c, d</sup>	3
Required Core or Elective <sup>c, d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
JMC:5400	Strategic Communication Writing <sup>c, d</sup>	3
Required Core or Elective <sup>c, d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Summer</b>		
JMC:5200	Topics in Strategic Communication <sup>e</sup>	3
<b>Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
Required Core or Elective <sup>c, d</sup>		3
Required Core or Elective <sup>c, d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
Required Core or Elective <sup>c, d</sup>		3
Required Core or Elective <sup>c, d</sup>		3
JMC:5950	Capstone Project in Strategic Communication	3
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>30</b>

a Note: Most students take 2 courses per semester with some summer courses; program courses are offered online, so most students work full-time jobs.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Students must complete JMC:5235, JMC:5240, JMC:5300, JMC:5400, JMC:5950; work with faculty advisor to determine required core coursework and sequence.

d Students may complete graduate elective coursework based on their specific career goals; electives (3000 level or above) may be taken from within the program or across the university. Work with faculty advisor to determine elective coursework and sequence.

e SJMC usually offers a JMC:5200 Topics course in summer. Students may also opt to take an elective across the university.

# Mass Communication, Ph.D.

## Learning Outcomes

A candidate for a doctoral degree is expected to demonstrate mastery of knowledge in the field of communication and to synthesize and create new knowledge, making an original and substantial contribution to the discipline in an appropriate time frame.

- Make an original and substantial contribution to the discipline: think originally and independently to develop concepts and methodologies; and identify new research opportunities within the field of communication.
- Demonstrate advanced research skills: synthesize existing knowledge, identifying and accessing appropriate resources and other sources of relevant information and critically analyzing and evaluating one's own findings and those of others; master application of existing research methodologies, techniques, and technical skills; and communicate in a style appropriate to the field of communication.
- Demonstrate commitment to advancing the values of scholarship: keep abreast of current advances within one's field and related areas; show commitment to personal professional development through engagement in professional societies and other knowledge transfer modes; and show a commitment to creating an environment that supports learning through teaching, collaborative inquiry, mentoring, or demonstration.
- Demonstrate professional skills: adhere to ethical standards in the discipline; and listen, give, and receive feedback effectively.

## Requirements

The Doctor of Philosophy program in mass communication requires 72 s.h. of graduate credit. The program provides training in research methods, communication theory, and teaching skills.

The program emphasizes interdisciplinary studies, with coursework and research tailored to each student's interests under the guidance of faculty members. The school offers several areas of strength to support graduate student research in both traditional and digital media:

- critical and cultural studies,
- sports and media,
- international/development studies,
- health and science communication,
- journalism studies, and
- history of media and media institutions.

Students in the Ph.D. program in mass communication must complete the following curriculum.

Code	Title	Hours
JMC:6100	M.A./Ph.D. Seminar (must register for a total of 8 s.h.; should enroll every semester for entire program of study)	8
JMC:6200	Humanistic Approaches to Media Communication	3

JMC:6300	Social Scientific Approaches to Media Communication	3
JMC:6920	Ph.D. Research (for guided reading)	3
JMC:6999	Dissertation (must register for at least 4 s.h.)	4
RHET:5100	Practicum: College Teaching and Professional Development for Teaching Assistants	1
Additional professionalization courses		2
Methods area courses		3
Theory area courses		3
Concentration courses		6
Electives		6
Credit from master's degree and/or additional Ph.D. courses		30

For a more detailed description of the Ph.D. program, contact the School of Journalism and Mass Communication.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Admission to the program is for fall entry.

## Financial Support

The School of Journalism and Mass Communication offers research and teaching assistantships for graduate students; preference is given to Ph.D. students. Students have been successful in winning competitive fellowships open to all graduate students; applicants must be nominated by the graduate committee.

## Career Advancement

Students in this program prepare for careers as teachers and industry researchers.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Mass Communication, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; maximum of 30 s.h. of graduate transfer credits from master's allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>



**First Year****Fall**

JMC:6300	Social Scientific Approaches to Media Communication	3
Methods, Theory, Concentration, or Elective course <sup>c, d</sup>		3
RHET:5100	Practicum: College Teaching and Professional Development for Teaching Assistants <sup>e</sup>	1
JMC:6100	M.A./Ph.D. Seminar <sup>f</sup>	1
<b>Hours</b>		<b>8</b>

**Spring**

JMC:6200	Humanistic Approaches to Media Communication	3
Methods, Theory, Concentration, or Elective course <sup>c, d</sup>		3
Methods, Theory, Concentration, or Elective course <sup>c, d</sup>		3
JMC:6100	M.A./Ph.D. Seminar <sup>f</sup>	1
Qualifying Exam <sup>g</sup>		
<b>Hours</b>		<b>10</b>

**Second Year****Fall**

Methods, Theory, Concentration, or Elective course <sup>c, d</sup>		3
Methods, Theory, Concentration, or Elective course <sup>c, d</sup>		3
Additional Professionalization course <sup>e</sup>		2
JMC:6100	M.A./Ph.D. Seminar <sup>f</sup>	1
<b>Hours</b>		<b>9</b>

**Spring**

Methods, Theory, Concentration, or Elective course <sup>c, d</sup>		3
JMC:6920	Ph.D. Research <sup>h</sup>	3
JMC:6100	M.A./Ph.D. Seminar <sup>f</sup>	1
<b>Hours</b>		<b>7</b>

**Third Year****Fall**

Comprehensive Exam <sup>i</sup>		
Present Dissertation Proposal at PhD Seminar		
JMC:6999	Dissertation <sup>j</sup>	1
JMC:6100	M.A./Ph.D. Seminar <sup>f</sup>	1
<b>Hours</b>		<b>2</b>

**Spring**

JMC:6999	Dissertation <sup>j</sup>	1
JMC:6100	M.A./Ph.D. Seminar <sup>f</sup>	1
<b>Hours</b>		<b>2</b>

**Fourth Year****Fall**

JMC:6999	Dissertation <sup>j</sup>	1
JMC:6100	M.A./Ph.D. Seminar <sup>f</sup>	1
<b>Hours</b>		<b>2</b>

**Spring**

JMC:6999	Dissertation <sup>j</sup>	1
JMC:6100	M.A./Ph.D. Seminar <sup>f</sup>	1

Final Exam<sup>k</sup>

<b>Hours</b>	<b>2</b>
<b>Total Hours</b>	<b>42</b>

- a Students entering with a bachelor's degree must work with their faculty advisor to complete 30 s.h. of appropriate graduate coursework. Students entering with fewer than 30 s.h. of coursework from the master's degree must work with their faculty advisor to complete the needed appropriate graduate coursework.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Students are required to complete 3 s.h. of methods area, 3 s.h. of theory area, 6 s.h. of concentration area, and 6 s.h. of elective coursework.
- d Work with faculty advisor to determine appropriate graduate coursework; see the General Catalog and department website for specifics.
- e Students are required to take a total of 3 s.h. of professionalization courses including RHET:5100; consult with faculty advisor to determine which courses best align with career goals.
- f Registration required every semester.
- g Completed at the end of first year to directly assess understanding of content from two approaches courses.
- h Prior to comprehensive exam, work with faculty advisor and committee to build the proposals literature review; see the General Catalog and department website for specifics.
- i Writing and defending the dissertation proposal satisfies the comprehensive exam requirement. The dissertation proposal must clearly indicate the logical steps necessary for the completion of the project and suggest a plan of action.
- j Minimum total of 4 s.h. of thesis credit required.
- k Dissertation defense.

# Latham Science Engagement Initiative

## Chair, Department of Biology

- Jodie M. Plumert

## Program Director, Latham Science Engagement Initiative

- Lori Adams (Biology)

**Faculty:** <https://latham.uiowa.edu/people/faculty>

**Website:** <https://latham.uiowa.edu/>

The Latham Science Engagement Initiative provides the opportunity to engage highly talented undergraduate students across science disciplines in community outreach. The program enhances research opportunities for selected undergraduate students with the goal to position students with scientific and creative ability for graduate work.

The program prepares students to communicate science in the public sphere, work in interdisciplinary settings, and demonstrate the broader impact of scientific research. Students experience the strength of interdisciplinary interactions through exposure to research in other disciplines and work with students in other science majors on group projects. In addition, they develop fluency in communicating to diverse audiences in the community.

Students selected for the program complete two courses, design and implement an outreach project, and participate in an event that highlights their achievements.

The Latham Science Engagement Initiative is administered by the Department of Biology [p. 188]. For additional information, contact the Latham Science Engagement Initiative Fellowship Program.

## Admission

Students must apply for this program. Requirements include first-year, sophomore, or junior standing in the College of Liberal Arts and Sciences; a g.p.a. of at least 3.00; a minimum of one semester of undergraduate research experience; and an interest in speaking about science in a public forum.

## Courses

### Latham Science Engagement Initiative Courses

#### **LATH:3000 Latham Fellows: Science Communication Skill Building** **1-2 s.h.**

Provide Latham Fellows with various communication skills needed to explain scientific research to varied audiences.

#### **LATH:3001 Latham Fellows: Science Outreach Project** **2 s.h.**

Guidance to Latham Fellows as they implement one individual and one group project proposed the previous fall.

Prerequisites: LATH:3000. Requirements: Latham Fellow standing.

#### **LATH:4900 Science Communication and Engagement** **0 s.h.**

Independent science outreach and engagement project through the Latham Science Engagement Initiative. Prerequisites: LATH:3000 and LATH:3001. Requirements: admission to the Latham Science Engagement Fellows Program.

#### **LATH:4990 Science Communication and Engagement** **1-3 s.h.**

Independent science outreach and engagement project through the Latham Science Engagement Initiative. Prerequisites: LATH:3000 and LATH:3001. Requirements: admission to the Latham Science Engagement Fellows Program.

# Latin American Studies

## Director, Division of World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Director, Latin American Studies

- Amber E. Brian

**Undergraduate minor:** Latin American studies

**Undergraduate certificate:** Latin American studies

**Faculty:** <https://latinamericanstudies.uiowa.edu/people>

**Website:** <https://latinamericanstudies.uiowa.edu/>

The Latin American Studies Program (LASP) is an interdisciplinary curriculum that introduces students to the cultures, arts, languages, histories, and social practices from Mexico, Central and South America, and the Caribbean, and provides students with frameworks for making sense of the social, political, and economic challenges faced in those regions.

Faculty members from across the College of Liberal Arts and Sciences participate in the Latin American Studies Program as affiliated faculty members. Other University of Iowa faculty members occasionally offer courses and participate in the program's research, study, and interdisciplinary activities.

In addition to its instructional activity, LASP sponsors a wide variety of activities, brings scholars of Latin America to campus, and fosters institutional linkages.

Latin American Studies is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 395].

## Study Abroad

The Latin American Studies Program highly recommends, but does not require, that students have an in-depth Latin American cultural experience, usually through study abroad, before completing their undergraduate requirements.

In cooperation with International Programs Study Abroad, LASP faculty members facilitate student participation in programs in many Latin American countries. University of Iowa students may enroll in programs in Argentina, Brazil, Chile, Colombia, Costa Rica, Cuba, the Dominican Republic, Honduras, Mexico, and Uruguay. Programs range from intensive language study to group programs with a special focus. The University of Iowa cosponsors these programs through various consortiums.

Study abroad courses may be counted toward requirements for the certificate and the minor with prior approval from a LASP director.

## Financial Support

Students are encouraged to apply for a Stanley Undergraduate Award for International Research through University of Iowa International Programs. The awards are given to outstanding University of Iowa undergraduates who, in close consultation with a faculty member, propose well-conceived, small-scale research or fieldwork projects that require travel abroad. Students may conduct projects while participating in a study abroad program and may combine the award with other awards and financial assistance. For information regarding other scholarships, contact LASP advisors, International Programs staff, and the LASP director.

## Activities

In addition to its instructional activity, LASP organizes a range of public programming activities each semester, including film series, photography and art exhibits, conferences, round-table discussions, and lectures.

Recent events include an exhibit of mixed media Colombian contemporary art and public lectures on Brazilian black feminist theory, Afro-Brazilian female authorship, and cosmopolitanism in Mexican cinema as part of the annual Charles A. Hale Lectures in Latin American Studies.

## Programs

### Undergraduate Programs of Study

#### Minor

- Minor in Latin American Studies [p. 799]

#### Certificate

- Certificate in Latin American Studies [p. 800]

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC) and five All-In-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignALL lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

## Courses

- Associated Courses [p. 795]
- Latin American Studies Courses [p. 797]

## Associated Courses

The following courses are approved for the Latin American studies certificate and minor. Students may petition to include other courses that have significant Latin American content; consult the Latin American Studies Program.

## Anthropology

Code	Title	Hours
ANTH:2220/ LAS:2220	The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica	3

## Communication Studies

Code	Title	Hours
COMM:4171	Community Media	3

## Dance

Code	Title	Hours
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
DANC:2150	Brazilian Social Dance: The Samba	2

## English

Code	Title	Hours
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3535/ LAS:3535	Topics in Literature and Culture of the Americas (when content is Latin America)	3

## History

Code	Title	Hours
HIST:3217/ LAS:3217/ LATS:3217	Latina/o/x Immigration	3
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3508/ GHS:3508/LAS:3508	Disease and Health in Latin American History	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4505	Topics in Latin American History	3
HIST:4510	Colonial Latin America	3

## Music

Code	Title	Hours
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3163	Intermediate Steel Band	1

## Political Science

Code	Title	Hours
POLI:2415/ LAS:2415	Latin American Politics	3
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3

## Portuguese

Code	Title	Hours
PORT:2850/ LAS:2850/ SPAN:2850	Brazilian Narrative in Translation	3
PORT:3400	Brazilian Literature After 1900	3
PORT:3850/ SPAN:3850	Topics in Cultural Studies	3

PORT:4000	Topics in Luso-Brazilian Literature (when topic is Latin American)	3
PORT:4100	Topics in Luso-Brazilian Culture (when topic is Latin American)	3

## Spanish

Code	Title	Hours
SPAN:1800	Contemporary Spanish American Narrative	3
SPAN:2200/ LAS:2200	Introduction to Spanish American Cultures	3
SPAN:2500	Readings in Spanish American Literature	3
SPAN:2800/ LAS:2800	Screening Latin America	3
SPAN:2900/ LAS:2900	Music of the Hispanic World	3
SPAN:3020/ JMC:3445/LAS:3020	Journalistic Writing in Spanish	3
SPAN:3060	Introductory Workshop on Creative Writing in Spanish	3
SPAN:3200	Latin American Cultural Studies	3
SPAN:3210	Cultural Storytelling	3
SPAN:3215/ LAS:3215	Medellin	3
SPAN:3225/ LAS:3225	Latin American Women Writers	3
SPAN:3230	Modern Mexico	3
SPAN:3240	Mexico City	3
SPAN:3310/ LAS:3310	Spanish American Short Story	3
SPAN:3320	Spanish American Poetry	3
SPAN:3350	Contemporary Spanish American Literature	3
SPAN:4160/ LATS:4160	Language, Justice, and the Law	3
SPAN:4330	Colonial Spanish American Literature	3
SPAN:4390/ LAS:4390	Topics in Spanish American Literature	3
SPAN:4815/ LAS:4815	Lost Childhoods: Marginal Children of Latin America	3
SPAN:4830	The Hispanic World in the Digital Era	3
SPAN:4950	Advanced Workshop on Creative Writing in Spanish	3

## Rotating Topics

The focus of these courses changes from semester to semester. With prior approval, students may use these courses to satisfy requirements for the Latin American studies certificate or minor when the course focuses on Latin America.

Code	Title	Hours
ANTH:3107/ ENGL:3107	Literature and Anthropology	3
CINE:4618	Topics in World Cinemas	3
COMM:4157	Advanced Topics in Communication Studies	3

ENGL:4000	English Honors Seminar	3
HIST:2151	Introduction to the History Major	3
SPAN:3290	Topics in Cinema and Society	3
SPAN:3370	Topics in Literatures and Cultures	3
SPAN:4850	Topics in Cultural Studies	3
SPAN:4910	Topics in Literary Studies	3
SPAN:4920	Topics in Film Studies	3

## Latin American Studies Courses

All Latin American Studies Program courses are approved for the certificate and minor.

**LAS:1150 Brazilian Culture and Carnival** 3 s.h.  
Dance, music, historical, and social contents of Brazilian Carnival production, critical theories of performance, religious backgrounds, and theatre making in carnival parades. GE: Engineering Be Creative; Values and Culture. Same as DANC:1150.

**LAS:2200 Introduction to Spanish American Cultures** 3 s.h.  
Introduction to study of cultural history of Spanish America; topics range from precolombian times to present; for students who are just starting work on the Spanish major or minor. Requirements: SPAN:1502 or SPAN:1503. Same as SPAN:2200.

**LAS:2220 The Olmec, Maya, and Aztecs: Archaeology of Mesoamerica** 3 s.h.  
Archaeological data related to the evolution of civilization in Mesoamerica; sequence from hunter-gatherers to A.D. 1519; emphasis on Central Mexico, Maya area, Oaxaca. Same as ANTH:2220.

**LAS:2311 Music of Latin America and the Caribbean** 3 s.h.  
Folk and popular musical traditions and their social contexts in Latin America, the Caribbean; listening skills; video/film screenings. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as MUS:2311.

**LAS:2415 Latin American Politics** 3 s.h.  
Governmental institutions, major interest groups; focus on area as a whole. GE: International and Global Issues; Social Sciences. Same as POLI:2415.

**LAS:2700 Introduction to Latin American Studies** 3 s.h.  
Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Taught in English. Same as COMM:2800, IS:2700, PORT:2700, SPAN:2700.

**LAS:2800 Screening Latin America** 3 s.h.  
Basic introduction to contemporary Latin American societies and cultures through fiction feature films (i.e., comedies, dramas) and documentaries by major filmmakers; previous knowledge of film analysis not required. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as SPAN:2800.

**LAS:2850 Brazilian Narrative in Translation** 3 s.h.  
Representative readings of modern and contemporary novels, short stories, and other narrative forms; cultural background; focus on major writers. Taught in English. Prerequisites: ENGL:1200. GE: Literary, Visual, and Performing Arts. Same as PORT:2850, SPAN:2850.

**LAS:2900 Music of the Hispanic World** 3 s.h.  
Introduction to music of Spain and Latin America, including the United States; listening skills, music appreciation, continuing development of Spanish language skills. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as SPAN:2900.

**LAS:3020 Journalistic Writing in Spanish** 3 s.h.  
Spanish writing skills; introduction to style and practice of journalistic reporting and writing. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as JMC:3445, SPAN:3020.

**LAS:3104 Immigration Politics** 3 s.h.  
United States immigration policy and political consequences of Latina/o/x population growth; contrast of political experiences of Latina/o/x with groups and ideals of democratic political systems; analyses of past immigration policies; studies of public opinion, voter turnout, and campaign tactics. Same as LATS:3104, POLI:3104.

**LAS:3215 Medellin** 3 s.h.  
Medellin, Colombia has been transformed from one of the most violent places on Earth to an award-winning city of innovation in only 20 years; introduction to the city and its people through literature, music, and a digital map project. Taught in Spanish. Requirements: at least one course numbered SPAN:2000 or above. Same as SPAN:3215.

**LAS:3217 Latina/o/x Immigration** 3 s.h.  
Immigration experiences of people arriving in the United States from other regions of the Americas (e.g., Mexico, Central America, the Caribbean, South America); what has fueled immigration—social, political, and economic developments in the United States and other nations; territorial conquest, colonialism, real and imagined borders, chain migration, formation of immigrant communities, acculturation, circular migration, social networks; how migration restructures gender relations; immigrant communities and pan-Latina/o/x identity in the United States. Same as HIST:3217, LATS:3217.

**LAS:3225 Latin American Women Writers** 3 s.h.  
Focus on long tradition of strong female writers in Latin America; materials may include poetry, theater, fiction, and essay from the Spanish-speaking countries of Mexico, Central America, South America, and Brazil. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as SPAN:3225.

**LAS:3310 Spanish American Short Story** 3 s.h.  
Works by 19th- and 20th-century Spanish American writers; emphasis on reading strategies and historical, cultural, literary backgrounds. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as SPAN:3310.

**LAS:3501 Rebel Island: A History of Cuba** 3 s.h.  
Cuban society and revolutionary movements since the late colonial period, including the years since 1959. Same as HIST:3501.

**LAS:3508 Disease and Health in Latin American History** 3 s.h.  
Survey of major topics in Latin American history in relation to development of medicine and public health. Same as GHS:3508, HIST:3508.

**LAS:3515 Introduction to Modern Latin America 3 s.h.**

Introduction to modern history of Latin America from independence movements of the early 19th century to present; topics include race and ethnicity, slave emancipation, gender, labor relations, and foreign interventions; exploration of relationship between economic, social, and political structures over time to explain difference and commonality between Latin American people and societies; focus on topics pertaining to histories of Mexico, Central America, the Caribbean, and South America. Same as HIST:3515.

**LAS:3535 Topics in Literature and Culture of the Americas 3 s.h.**

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3535.

**LAS:4216 Mexican American History 3 s.h.**

Survey of Chicana/o (Mexican American) history from 18th century to present; Mexican American society's diverse nature, explored through class, ethnic, gender, and regional divisions. Same as HIST:4216.

**LAS:4390 Topics in Spanish American Literature 3 s.h.**

Taught in Spanish. Requirements: one literature course in Spanish numbered SPAN:3200 or above. Same as SPAN:4390.

**LAS:4502 History of Mexico 3 s.h.**

Mexican history since the eve of the Spanish invasion, with focus on the national period; may include ethnic groups, conquest and demographic disaster, Native survival, labor and migration, social protest and rebellions, nationhood, regional differences, religions, popular culture, economic growth and distribution, state building, international relations; survey. Same as HIST:4502, NAIS:4502.

**LAS:4700 Latin American Studies Seminar 3-4 s.h.**

Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, HIST:4504, PORT:4700, SPAN:4900.

**LAS:4815 Lost Childhoods: Marginal Children of Latin America 3 s.h.**

Focus on lost childhoods from a cultural studies perspective; analysis of marginal perspectives that emerge from a globalized urban landscape; evolution of literary, artistic (art, photography, comics), and film productions about dispossessed children, the construction of childhood by nongovernmental and nonprofit organizations, and how these cultural productions denounce social violence. Taught in Spanish. Requirements: two courses numbered SPAN:3000 or above. Same as SPAN:4815.

**LAS:4990 Independent Project in Latin American Studies arr.**

Independent work completed under the supervision of Latin American studies faculty.

# Latin American Studies, Minor

## Requirements

The undergraduate minor in Latin American studies requires a minimum of 15 s.h. in Latin American Studies Program approved courses (see "Associated Courses" and "Latin American Studies Courses" under Courses [p. 795] in this section of the Catalog), including at least 12 s.h. of credit earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students may count a total of 6 s.h. earned for majors, certificates, and other minors toward the Latin American studies minor. Since the minor is interdisciplinary, it may include a maximum of 6 s.h. of credit from any single department or program. However, a student earning the minor in Latin American studies may not earn the Certificate in Latin American Studies.

Students are strongly encouraged to take either or both of these for the minor.

Code	Title	Hours
LAS:2700	Introduction to Latin American Studies	3
LAS:4700	Latin American Studies Seminar	3

## Career Advancement

The Latin American Studies Program minor prepares students for a range of careers and graduate programs related to Latin America, including bilingual/bicultural education, business, government, and international work.

# Latin American Studies, Certificate

## Requirements

The undergraduate Certificate in Latin American Studies requires a minimum of 18 s.h. The 18 s.h. required for the certificate must be earned in Latin American Studies Program approved courses (see "Associated Courses" and "Latin American Studies Courses" under Courses [p. 795] in this section of the Catalog), including at least 12 s.h. of credit earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in certificate courses.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary. However, a student earning the Certificate in Latin American Studies may not earn the minor in Latin American studies.

All students develop an individual certificate plan of study in close cooperation with a LASP advisor. In some cases, students may be able to count certificate courses toward certain GE CLAS Core [p. 20] requirements.

The Certificate in Latin American Studies requires the following coursework.

Code	Title	Hours
LAS:2700	Introduction to Latin American Studies	3
LAS:4700	Latin American Studies Seminar	3
	Spanish and Portuguese Courses	6
	Additional Courses (excluding Spanish or Portuguese courses)	6
<b>Total Hours</b>		<b>18</b>

Students who complete the required 6 s.h. of Spanish and Portuguese coursework at the University of Iowa must choose courses from the "Associated Courses" list under Courses [p. 795] in this section of the Catalog. Students also may use 6 s.h. of Spanish or Portuguese language study at any level if those hours are earned through an approved study abroad program in Latin America. Contact the Latin American Studies Program for prior approval of a study abroad program.

The required 6 s.h. of additional courses also must be chosen from the "Associated Courses" and "Latin American Studies Courses" lists under Courses [p. 795] in this section of the Catalog. They may not include Spanish or Portuguese courses (prefix PORT or SPAN).

## Study Abroad

The program highly recommends study abroad in Latin America. Students must have prior approval to apply credit from a study abroad program toward the certificate requirements; contact the Latin American Studies Program.

## Career Advancement

The Latin American Studies Program certificate prepares students for a range of careers and graduate programs

related to Latin America, including bilingual/bicultural education, business, government, and international work.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Latin American Studies, Certificate

Course	Title	Hours
<b>First Year</b>		
<b>Spring</b>		
LAS:2700	Introduction to Latin American Studies	3
<b>Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
	Certificate: Spanish or Portuguese course (prefix SPAN or PORT) from the Latin American Studies Program approved list in the General Catalog, or any level Spanish/Portuguese language credit through an approved study abroad program in Latin America	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
	Certificate: Spanish or Portuguese course (prefix SPAN or PORT) from the Latin American Studies Program approved list in the General Catalog, or any level Spanish/Portuguese language credit through an approved study abroad program in Latin America	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
	Certificate: additional course from the Latin American Studies Program approved list in the General Catalog (excluding Spanish or Portuguese courses) <sup>a</sup>	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
	Certificate: additional course from the Latin American Studies Program approved list in the General Catalog (excluding Spanish or Portuguese courses) <sup>a</sup>	3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Spring</b>		
LAS:4700	Latin American Studies Seminar	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>18</b>

<sup>a</sup> The 18 s.h. required for the Certificate in Latin American Studies must be earned in Latin American Studies Program-approved courses and must include at least 12 s.h. of credit earned at the University of Iowa. If all other coursework is completed at the University of Iowa, then 6 s.h. of additional courses may be satisfied through coursework completed in a pre-approved study abroad program in Latin America. Contact the LASP academic advisor for pre-approval.



# Latina/o/x Studies

## Director, Division of Interdisciplinary Programs

- Cornelia C. Lang (Physics and Astronomy)

## Director, Latina/o/x Studies

- Rene R. Rocha

**Undergraduate minor:** Latina/o/x studies

**Faculty:** <https://latinxstudies.uiowa.edu/people>

**Website:** <https://latinxstudies.uiowa.edu/>

Latina/o/x studies offers an interdisciplinary perspective on the history, culture, politics, and experiences of the Latina/o/x population in the United States. This population is now the largest minority group in the United States, and by the year 2060, it is expected that approximately one third of the U.S. population will be Latina/o/x. Courses in Latina/o/x studies introduce the peoples who have had a long-term presence in the United States and in the Midwest and who are increasingly neighbors, classmates, and coworkers.

The Latina/o/x studies minor helps to prepare undergraduates for careers in medicine, public health, social work, business, education, and the arts, and to respond to the changing demographics of the United States.

Latina/o/x studies is one of the academic units in the Division of Interdisciplinary Programs [p. 392].

## Cocurricular Activities

### Latino Native American Cultural Center

Latina/o/x studies collaborates with the Latino Native American Cultural Center (LNACC). LNACC was founded in 1971 and is the home to important University of Iowa student organizations that sponsor conferences, pow-wows, study groups and educational programs.

### Unidos Living Learning Community

Latina/o/x studies works with University Housing and Dining to support the Unidos Living Learning Community. Founded in 2020, Unidos welcomes all Latinx-identifying students and those who seek to learn and engage more in the cultural background. Unidos members are required to enroll in a Latina/o/x studies course that introduces them to the minor.

### Community Engagement

In addition to their instructional activity, Latina/o/x studies faculty participate in a range of public programming activities each semester, such as film series, conferences, round table discussions, and lectures. Most recently, Latina/o/x studies faculty have contributed their time and expertise in support of campus and community organizations such as Iowa Public Radio, the League of United Latin American Citizens (LULAC), the Iowa City Foreign Relations Council, the UI Latinx Council, and the Obermann Center for Advanced Studies.

## Programs

### Undergraduate Program of Study Minor

- Minor in Latina/o/x Studies [p. 803]

## Courses

### Latina/o/x Studies Courses

#### LATS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, field trips). Requirements: first- or second-semester standing.

#### LATS:1600 War Stories 3 s.h.

Exploration of the history of U.S. conflicts from Vietnam to the War on Terror through novels, film, and other cultural forms; specific focus on how U.S. social structures influence experiences of war. Same as AMST:1600, SJUS:1600.

#### LATS:1700 Latina/o/x Literature in the United States 3 s.h.

Introduction to growing cultural production of varied Latina/o/x communities (e.g., Chicano, Puerto Rican American/Nuyorican, Cuban American) that have a strong presence in the United States; recent cultural production from borderland transcultural spaces with physical, cultural, economic, political, and mythical elements; visions of the United States from contemporary Latin American writers who recently have become U.S. residents. Taught in English. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as SPAN:1700.

#### LATS:1765 U.S. Latina/o/x Religions 3 s.h.

Beliefs and practices of U.S. Latina/o/x, ways that their beliefs and practices are unique and where they overlap with mainstream U.S. society; beliefs, symbols, and practices among U.S. Latina/o/x on national and local level; field visits to local churches and religious sites; class visitors share insights. Same as RELS:1765.

#### LATS:1898 Introduction to Latina/o/x Communication and Culture 3 s.h.

Introduction to fundamentals of communication by and about Latina/o/x in the U.S.; Latina/o/x as one of the fastest growing demographics; how Latina/o/x history, politics, and culture remain little understood despite a longstanding and growing presence in Iowa and across the nation; historical orientation; Latina/o/x social movement and protest (e.g., Chicana/o/x movements, Young Lords Organization), institutional discourses (e.g., congressional, presidential, legal discourses), and Latina/o/x in popular culture (film, television, music, sports). GE: Diversity and Inclusion. Same as COMM:1898.

#### LATS:2280 Introduction to Latina/o/x Studies 3 s.h.

Introduction to field of Latina/o/x studies through interdisciplinary readings from literature, history, sociology, political science, urban studies, and anthropology; commonalities and differences among long-standing Latina/o/x populations (i.e., Mexican Americans, Puerto Ricans, Cuban Americans); challenges faced by newer arrivals (i.e., Dominican Americans, Salvadoran Americans, Guatemalan Americans, Central and South American immigrants). Taught in English. GE: Diversity and Inclusion. Same as HIST:2280, SPAN:2280.

#### LATS:2400 Health, Intersectionality, and Diversity 3 s.h.

Exploration of intersectionality related to gender and health disparities, particularly as they impact diverse populations in the United States. Same as CPH:2240, GWSS:2400.

#### LATS:3100 Latinx Community Engagement 3 s.h.

Focus on Latinx engagement in local communities.

- LATS:3104 Immigration Politics** 3 s.h.  
United States immigration policy and political consequences of Latina/o/x population growth; contrast of political experiences of Latina/o/x with groups and ideals of democratic political systems; analyses of past immigration policies; studies of public opinion, voter turnout, and campaign tactics. Same as LAS:3104, POLI:3104.
- LATS:3217 Latina/o/x Immigration** 3 s.h.  
Immigration experiences of people arriving in the United States from other regions of the Americas (e.g., Mexico, Central America, the Caribbean, South America); what has fueled immigration—social, political, and economic developments in the United States and other nations; territorial conquest, colonialism, real and imagined borders, chain migration, formation of immigrant communities, acculturation, circular migration, social networks; how migration restructures gender relations; immigrant communities and pan-Latina/o/x identity in the United States. Same as HIST:3217, LAS:3217.
- LATS:3400 Chicano Literature and Culture** 3 s.h.  
Recent fiction and poetry by Chicano and Chicana writers; readings in Spanish and English. Taught in English. Requirements: satisfaction of GE CLAS Core Interpretation of Literature, or LATS:2280 or SPAN:2280 or HIST:2280. Same as SPAN:3400.
- LATS:3410 Undocumented America: Citizenship, Race, and Immigration** 3 s.h.  
Examination of how literature and culture responds to and rearticulates culture, history, legal logic, and economic parameters that frame who is "legal" and "illegal" and how undocumented immigrants document and contest their lack of rights; how designations of immigrant's illegal or undocumented status depend on and maintain U.S. discourse about race and ethnicity. Same as AMST:3410.
- LATS:3415 Latina/o/x Protest, Movement, Resistance** 3 s.h.  
Examination of history, form, and function of protest, social movement, and resistance by Latina/o/x peoples in the United States. Same as AMST:3415, SJUS:3415.
- LATS:3420 Latinas/os/x and the Law** 3 s.h.  
Introduction and survey of Latina/o/x legal history; topics include segregation, educational rights, immigration, voting rights, citizenship, and the criminal justice system. Same as AMST:3420, POLI:3427, SJUS:3420.
- LATS:3430 Queer Latina/o/x Studies** 3 s.h.  
Relationship of Latina/o/x culture with gender, sexuality, and queerness. Same as AMST:3450, SJUS:3430.
- LATS:3435 Intersectional Identities: Writing About the Twenty-first-Century Self** 3 s.h.  
Analysis of intersections between systems of oppression, domination, and discrimination; focus on how writers of color represent those connections and critical articulation of students' lived experience of them. Same as WRIT:3435.
- LATS:3440 Topics in Latina/o/x Literature and Culture** 3 s.h.  
Examination of special topics in interdisciplinary field of Latina/o/x studies. Taught in Spanish or English. Requirements: one course taught in Spanish at the 2000 level or above, or LATS:2280 or SPAN:2280 or HIST:2280. Same as SPAN:3440.
- LATS:3467 Latina/o/x Literatures and Cultures** 3 s.h.  
Exploration of major themes and research topics in Latina/o/x literatures and cultures. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3467.
- LATS:3550 Topics in Latina/o/x Studies: History and Culture** 1-3 s.h.  
Historical and cultural approaches; topics vary.
- LATS:3551 Topics in Latina/o/x Studies: Comparative and Transnational** 1-3 s.h.  
Comparative and transnational approaches; topics vary.
- LATS:4160 Language, Justice, and the Law** 3 s.h.  
Focus on language policy, immigrants' linguistic rights, and cultural communication in context of U.S. law; development of Spanish language skills in legal and cultural contexts. Taught in Spanish. Requirements: two courses in Spanish numbered 3000 or above. Same as SPAN:4160.
- LATS:4800 Latina/o/x Popular Culture** 3 s.h.  
Role of Latina/o/x popular culture as a site of contemporary social practice and cultural politics in both local and global contexts; specific attention to notions of citizenship, identity, and culture. Taught in English. Same as AMST:4800, SPAN:4820.
- LATS:4805 Chicano Cinema** 3 s.h.  
History of Chicano independent and industry film and television production since the Chicano political and cultural movement began in the 1960s. Taught in English. Requirements: one Spanish literature or culture course numbered SPAN:3200 or above, or one film studies course numbered above CINE:2100. Same as CINE:4705, SPAN:4805.
- LATS:4990 Independent Project in Latina/o/x Studies** arr.  
Independent work under the supervision of Latina/o/x studies faculty.

# Latina/o/x Studies, Minor

## Requirements

The undergraduate minor in Latina/o/x studies (Latina/Latino/Latinx studies) requires a minimum of 15 s.h. Additionally, 12 s.h. of coursework must be taken at the University of Iowa, with a maximum of 3 s.h. accepted as transfer credit from another institution. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. A maximum of 6 s.h. of work for another University of Iowa major, minor, or certificate may be counted toward the minor.

The minor in Latina/o/x studies requires the following coursework.

Code	Title	Hours
	Foundation Course	3
	Historical and Cultural Approaches Courses	9
	Comparative and Transnational Topics Course	3
<b>Total Hours</b>		<b>15</b>

## Foundation Course

Code	Title	Hours
This course:		
LATS:2280/ HIST:2280/ SPAN:2280	Introduction to Latina/o/x Studies	3

## Historical and Cultural Approaches

Code	Title	Hours
At least 9 s.h. from these:		
AMST:1600/ LATS:1600/ SJUS:1600	War Stories	3
COMM:1898/ LATS:1898	Introduction to Latina/o/x Communication and Culture	3
ENGL:3467/ LATS:3467	Latina/o/x Literatures and Cultures	3
GWSS:2400/ CPH:2240/ LATS:2400	Health, Intersectionality, and Diversity	3
HIST:3217/ LAS:3217/ LATS:3217	Latina/o/x Immigration	3
HIST:4216/ LAS:4216	Mexican American History	3
LATS:1000	First-Year Seminar	1
LATS:3100	Latinx Community Engagement	3
LATS:3104/ LAS:3104/ POLI:3104	Immigration Politics	3
LATS:3410/ AMST:3410	Undocumented America: Citizenship, Race, and Immigration	3
LATS:3415/ AMST:3415/ SJUS:3415	Latina/o/x Protest, Movement, Resistance	3

LATS:3420/ AMST:3420/ POLI:3427/ SJUS:3420	Latinas/os/x and the Law	3
LATS:3430/ AMST:3450/ SJUS:3430	Queer Latina/o/x Studies	3
LATS:3435/ WRIT:3435	Intersectional Identities: Writing About the Twenty-first-Century Self	3
LATS:3550	Topics in Latina/o/x Studies: History and Culture	1-3
LATS:4800/ AMST:4800/ SPAN:4820	Latina/o/x Popular Culture	3
RELS:1765/ LATS:1765	U.S. Latina/o/x Religions	3
SPAN:1700/ LATS:1700	Latina/o/x Literature in the United States	3
SPAN:3400/ LATS:3400	Chicano Literature and Culture	3
SPAN:3440/ LATS:3440	Topics in Latina/o/x Literature and Culture	3
SPAN:4160/ LATS:4160	Language, Justice, and the Law	3
SPAN:4805/ CINE:4705/ LATS:4805	Chicano Cinema	3

## Comparative and Transnational Topics

Code	Title	Hours
One of these:		
AFAM:2770/ GHS:2770/ SOC:2770	Black and White Community Politics	3
AFAM:3100/ AMST:3100/ SOC:3100	Critical Race Theory: Culture, Power, and Society	3
AFAM:3110/ SOC:3110	Race, Organizations, and Workplace	3
AFAM:3630/ SOC:3630	The Racial Wealth Gap: Black Debt, White Debt	3
AMST:2025	Diversity in American Culture	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3
COMM:2076/ AFAM:2076	Race, Ethnicity, and Media	3
ENGL:3525	Literature and Culture of the Americas	3
ENGL:3535/ LAS:3535	Topics in Literature and Culture of the Americas	3
GWSS:2650/ GHS:2650	Global Reproduction	3
LATS:3551	Topics in Latina/o/x Studies: Comparative and Transnational	3
NAIS:2294/ HIST:2294/ SJUS:2294	Indigenous Art Activism and Social Justice	3

PHIL:3342	Multiculturalism and Toleration	3
POLI:1900	Introduction to the Politics of Race	3
SJUS:2250/ GWSS:2250/ HIST:2250	The History of Social Justice Movements	3
SJUS:3550/ GWSS:3550/ RELS:3550	Social Justice, Religion, and Spirituality: Faith and Belief Ignited	3
SOC:2830	Race and Ethnicity	3
SPAN:2050	Spanish in the United States	3
SPAN:3045/ GHS:3045	Spanish Health Narratives	3
SPAN:3130	Introduction to Bilingualism	3

# Linguistics

## Director, Division of World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Chair, Department of Linguistics

- Sarah Fagan

**Undergraduate major:** linguistics (B.A.)

**Undergraduate minor:** linguistics

**Graduate degrees:** M.A. in linguistics; Ph.D. in linguistics

**Faculty:** <https://linguistics.uiowa.edu/people/faculty>

**Website:** <https://linguistics.uiowa.edu/>

Linguistics is the scientific study of human languages, which are highly complex systems. Areas of study include word structure (morphology), speech sounds (phonetics) and their patterns of combination and contrast (phonology), sentence structure (syntax), and meaning relations (semantics).

Linguists study well-known and familiar languages, such as English, Spanish, Russian, and Chinese. They also study less well-known languages and even those languages about which little has been discovered. While human languages are different from one another in many ways, there are broad similarities among them, supporting the idea that the capacity for language is part of human cognitive functions.

The description of formal patterns of human language has a number of applications. Linguistics is connected to psychology and to speech and hearing, in studying how children learn language, how speakers process and interpret language, and how injuries and disorders affect both production and perception of speech. Linguistics also is linked with anthropology and other social sciences in studying how language use relates to culture, region, class, and gender. Linguists collaborate with computer scientists to construct computational representations of syntax and semantics for processing natural languages.

Linguistics has important ties with instruction in world languages and in English as a second language (ESL). Studies of how languages are learned are based in part on analysis of the languages in question. They also are grounded strongly in theories of second language acquisition, which in turn are related to theories of how linguistic knowledge is represented in the mind.

People with linguistic training teach ESL and help clinicians retrain people with linguistic disabilities. Some help design school programs for minority groups or intelligence and achievement tests. Linguists also work in occupations related to law, the computer industry, and world languages.

High scores on verbal, analytic, and quantitative aptitude tests are indicators of success in linguistics. Although few aspects of the field deal with numbers, students must be able to reason logically and explicitly and deal with formulas and abstract symbols.

The Department of Linguistics is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 395].

## Related Certificate

### Cognitive Science of Language

The Graduate College offers the graduate Certificate in Cognitive Science of Language. Designed to complement doctoral study, the certificate program ensures that students have training in interdisciplinary approaches to the study of language along with strong theoretical grounding in their Ph.D. discipline. See the Certificate in Cognitive Science of Language [p. 1729] in the Catalog for more information.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Linguistics (Bachelor of Arts) [p. 809]

#### Minor

- Minor in Linguistics [p. 813]

### Graduate Programs of Study

#### Majors

- Master of Arts in Linguistics [p. 814]
- Doctor of Philosophy in Linguistics [p. 816]

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC) and five All-In-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignALL lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

## Courses

### Linguistics Courses

#### LING:1000 First-Year Seminar

**1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

- LING:1003 English Grammar** 3 s.h.  
Recognizing nouns, verbs, adverbs, adjectives, and other parts of speech; sentence analysis; subjects, objects; types of sentences; passives, relative clauses; for students with little or no background in English grammar study. Does not count toward the linguistics major. Same as WRIT:1003.
- LING:1010 Language and Society** 3 s.h.  
Correlations between social and linguistic behavior; methods for discovering and describing socially significant language behavior; educational and political implications of findings. GE: Social Sciences.
- LING:1030 English Words** 3 s.h.  
English word formation, basic units of English vocabulary; vocabulary skill expansion; word structure. Same as WRIT:1030.
- LING:1040 Language Rights** 3 s.h.  
Language minorities and linguistic human rights in the United States and worldwide; language and identity, culture, power; case studies of language rights deprivation. GE: International and Global Issues. Same as ANTH:1040.
- LING:1050 Language and Formal Reasoning** 3 s.h.  
Semantics and sentence structure of English; word meanings, meaning connected to truth conditions, reasoning based on logical connectives and quantifiers, evaluation of valid and invalid arguments. GE: Quantitative or Formal Reasoning.
- LING:1060 Languages of the World** 3 s.h.  
Overview of structural similarities and differences in human language; survey of the world's major language families; emphasis on sentence and word structure, sound systems, and modes of classification. GE: Social Sciences.
- LING:1070 Language Attitudes: Is How You Sound How You Are Seen?** 3 s.h.  
Pretend that you are making a phone call to ask about ordering a textbook and the person who answers is a stranger to you; you will immediately start to form opinions about that person (and about any other talkers you interact with) based upon the way they speak—where they are from, whether they are a native speaker of English, and even how well educated they are—and whether you are aware or not, these opinions and impressions you have will influence your interaction with that person and are based in language ideologies that all people have regarding how others sound; students explore common language ideologies and reflect upon their own. Taught in English. GE: Diversity and Inclusion.
- LING:2010 Research Practicum** arr.  
Individual participation in faculty research projects.
- LING:2090 Special Project** arr.
- LING:2248 The Invention of Writing: From Cuneiform to Computers** 3 s.h.  
Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, TRNS:2248, WLLC:2248.
- LING:2900 Language, Gender, and Sexuality** 3 s.h.  
Gender-related language variation; current research on gender-specific linguistic forms and usage in the United States and other language communities; introduction to relevant principles of linguistic theory and analysis. GE: Values and Culture.
- LING:3001 Introduction to Linguistics** 3 s.h.  
Introduction to the study of human language: sounds and their contrasts and variation, words and meaningful subunits, sentence structure, historical change.
- LING:3005 Articulatory and Acoustic Phonetics** 3 s.h.  
Production and transcription of sounds in human languages; physics of sound, computer analysis of speech sounds. Offered fall semesters. Same as SLA:3400.
- LING:3010 Syntactic Analysis** 3 s.h.  
Introduction to sentence structures and basic abstract relations that characterize them, including word category, word order, hierarchical organization; problem sets from English and other languages as basis for discussion, analysis. Offered spring semesters. Prerequisites: LING:3001.
- LING:3020 Phonological Analysis** 3 s.h.  
Introduction to analysis of sound systems; generative phonological theory; practice in phonological analysis using data from a variety of languages. Offered spring semesters. Prerequisites: LING:3001 and LING:3005.
- LING:3030 Child Language-Linguistic Perspectives** 3 s.h.  
Linguistic theory as applied to first-language learning, including acquisition of sounds, syntax and word meaning, acquisition strategies, properties of input, theories of first-language acquisition. Prerequisites: LING:3001.
- LING:3040 Topics in Linguistics** 3 s.h.  
Varied topics in linguistics; for undergraduates. Requirements: LING:3001 or LING:3020 or LING:3080 or LING:5020.
- LING:3080 History of the English Language** 3 s.h.  
Development of phonological and grammatical structure of English, from Old to Modern English; selected issues in the history of England. Same as WRIT:3080.
- LING:3101 Introduction to Korean Linguistics** 3 s.h.  
Introduction to various topics in Korean linguistics including sentence structures, sound patterns, word formation, discourse structures, and historical background of Korean language. Taught in English. Recommendations: two years of Korean language study. Same as KORE:3100.
- LING:3105 Linguistic Aspects of the Lusophone World** 3-4 s.h.  
Introduction to Portuguese incorporating formal (theoretical), historical, and sociolinguistic perspectives; linguistic analysis of phonetics/phonology, morphology, and syntax; origins of Portuguese and its expansion to Africa, Asia, and Latin America. Taught in English. Same as PORT:3105, SPAN:3105.
- LING:3116 Basic Neuroscience for Speech and Hearing** 3 s.h.  
Basic anatomy, physiology of central nervous system; emphasis on neural systems involved in normal and disordered communication. Offered fall semesters. Requirements: biology, zoology, or physiology course. Same as CSD:3116.
- LING:3117 Psychology of Language** 3 s.h.  
Introduction to scientific study of language use; language approached from a multidisciplinary perspective, integrating theories and methods of psycholinguistics, neuropsychology, and communication sciences and disorders. GE: Social Sciences. Same as CSD:3117.

- LING:3118 Language Acquisition** 1-3 s.h.  
Models of children's language acquisition; child language/communication development from infancy through school age, in context of current developmental research. Requirements: for CSD:3118—LING:3001 and PSY:1001; for LING:3118—LING:3001 or LING:3117. GE: Social Sciences. Same as CSD:3118.
- LING:3190 Psycholinguistic Aspects of Bilingualism** 3-4 s.h.  
Interaction of two languages in a bilingual in terms of sound system, words, and grammar; different meanings of bilingualism, how bilingualism and multilingualism can change across lifespan. Taught in English. Requirements: linguistics or language acquisition course. Same as SPAN:3190.
- LING:3195 Linguistics Lab I** 3 s.h.  
Hands-on research experience collecting and analyzing linguistic data. Requirements: at least one linguistics course.
- LING:3290 Statistical and Experimental Methods in Linguistics** 3 s.h.  
Introduction to basic experimental design; critical analysis of scientific claims; overview of common methods in experimental linguistics; introduction to statistics with emphasis on common data types in linguistics. Prerequisites: (LING:3010 or LING:5010) and (LING:3020 or LING:5020). Requirements: advanced standing in linguistics program and completion of core courses in syntax and phonetics/phonology at undergraduate or graduate level.
- LING:3302 Introduction to Chinese Linguistics** 3 s.h.  
Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as CHIN:3302, SLA:3302.
- LING:3410 Exploring TESL for Fulbright Students** 1 s.h.  
Introduction to second language acquisition, structure of English, and methods of teaching English to speakers of other languages; opportunities to observe theory in action; students read and discuss articles, observe a variety of teachers and skills, and reflect on their experiences and how they can prepare for future teaching assignments during the Fulbright experience. Taught in English. Requirements: application to Fulbright program. Recommendations: prior or concurrent enrollment in LING:3001.
- LING:3670 Language Processes** 3 s.h.  
Psychological processes involved in using languages, including speech perception and production, the meaning of words, understanding and producing sentences, and basics of discourse and pragmatics; developmental and neural bases of language processes. Prerequisites: (PSY:2811 with a minimum grade of C- and PSY:2601 with a minimum grade of C-) or CSD:1015 or LING:3001. Same as PSY:3670.
- LING:3860 German Language and Society** 3 s.h.  
Introduction to sociolinguistics in context of German-speaking countries; major topics include German dialects, regional and social variation in contemporary German, minority and immigrant languages in German-speaking countries, language and national identity, multilingualism, educational policies related to language teaching and learning, linguistic purism, language use in digital contexts, and language change. Taught in German. Requirements: GRMN:2002, GRMN:2020, or a higher-level course in German. Same as GRMN:3860.
- LING:4010 Undergraduate Practicum in Teaching English as a Second Language** 3 s.h.  
Practicum experience for undergraduate linguistics majors with an emphasis in teaching English as a second language (TESL); readings and reflection on academic writing, international student writing, and providing feedback on written work; training in the policies and procedures of the Department of Rhetoric's Writing Center; mentored experience in working with international student writers. Prerequisites: LING:3005 and LING:4040. Corequisites: LING:4050. Requirements: undergraduate major in linguistics with TESL emphasis.
- LING:4020 Morphology** 3 s.h.  
Lexicon and principles of word formation; principal processes of inflection, derivation, and compounding found in the world's languages; relation to phonology, syntax; practice in morphological analysis from a variety of languages. Prerequisites: LING:3001.
- LING:4040 The Structure of English** 3 s.h.  
Descriptive analysis of English, including word and sentence structure; focus on relevance to teaching English as a second language. Offered fall semesters. Prerequisites: LING:3001.
- LING:4050 Methods of Teaching English as a Second Language** 3 s.h.  
Observations of ESL and intensive English classes at the University; design and presentation of short lessons, text evaluation, demonstrations of innovative approaches of the last decade; materials. Offered spring semesters. Prerequisites: LING:3005 and LING:4040. Same as SLA:4401.
- LING:4070 Introduction to the Study of Meaning** 3 s.h.  
Introduction to the study of meanings and language use in context; meaning outside the literal semantic interpretation of words used including presuppositions and goals of speaker, expectation of listener, speech acts, conversational implicatures, deixis, discourse functions, and other relevant topics. Taught in English. Prerequisites: LING:3001. Same as FREN:4070.
- LING:4090 Practical Phonetics** 3 s.h.  
Contemporary articulatory and acoustic research, including second-language acquisition, elicitation and computer analysis of primary linguistic data. Prerequisites: LING:3005.
- LING:4195 Linguistics Lab II** 3 s.h.  
Hands-on research experience collecting and analyzing linguistic data. Requirements: at least one linguistics course.
- LING:4589 Philosophy of Language** 3 s.h.  
Main issues in contemporary philosophy of language; topics may include theories of meaning, truth, belief, interpretation, translation, speech acts, performatives, rule following, reference, naming, propositional attitudes, metaphor. Same as PHIL:4589.
- LING:4900 Honors: Research and Thesis** arr.  
Guided independent research to earn departmental honors. Prerequisites: LING:3001 and LING:3005. Corequisites: LING:3010 and LING:3020. Requirements: permission from departmental honors advisor.
- LING:5000 Proseminar: Morphosyntax** 1 s.h.  
Basic morphological analysis of languages other than English; morphological markers of syntactic relations (morphosyntax), such as case/agreement, possession, switch reference and other inflectional marking. Corequisites: LING:5010.

- LING:5010 Introduction to Syntax** 3 s.h.  
Methods and argumentation for formal analysis of sentence structure through induction from language data of central concepts and relations; hypothesis testing, empirical bases of theoretical concepts. Corequisites: LING:5000. Same as SLA:5010.
- LING:5020 Introduction to Phonology** 3 s.h.  
Analysis of sound systems, focus on early generative phonological theory; extensive practice in analysis using data from a variety of languages; linguistic argumentation. Prerequisites: LING:3005. Same as SLA:5020.
- LING:5030 First Language Acquisition** 3 s.h.  
Child language from a crosslinguistic perspective. Prerequisites: LING:3005 and (LING:4040 or LING:5010). Same as SLA:5401.
- LING:5050 Principles of Language Creation: Introduction to Constructed Languages** 3 s.h.  
Introduction to language construction (conlanging) with consideration to the task of building a language from a number of different perspectives—structure, evolution, development, typology, and social function; students apply these ideas, with their knowledge of existing languages and historical, social, and grammatical processes they display, to construct their own languages. Requirements: graduate standing or completion of linguistics upper-level undergraduate coursework.
- LING:5070 Practicum in Teaching English as a Second Language** 2-3 s.h.  
Introduction to assessment design and practice for English as a second language (ESL) classrooms; practical experience in teaching English as a second language through observation and participation in ESL classes; design and teaching of ESL classes under supervision. Prerequisites: LING:4050.
- LING:5090 Special Projects** arr.  
Theoretical and applied topics.
- LING:6010 Syntactic Theory** 3 s.h.  
Current syntactic theory examined through analysis of data sets, readings in recent research; emphasis on argument construction, statement of formal principles. Offered spring semesters. Prerequisites: LING:5010. Same as SLA:6010.
- LING:6020 Phonological Theory** 3 s.h.  
Post-SPE phonological theory, including autosegmental phonology, feature geometry, the syllable, optimality theory. Prerequisites: LING:5020. Same as SLA:6011.
- LING:6040 Linguistic Structures** 3 s.h.  
Grammatical and/or phonological structure of a selected language or language family.
- LING:6050 Language Universals Linguistic Typology** 3 s.h.  
Proposed universal principles of linguistic structure; approaches to typological classification of languages; patterns in syntactic and morphological structure and constraints on cross-linguistic variation. Prerequisites: LING:5010.
- LING:6080 Topics in Second Language Acquisition** 3 s.h.  
Overview of current second-language acquisition research in the generative linguistic framework; focus on characterizing second language learners' linguistic competence and how it is constrained by principles of universal grammar. Offered fall semesters. Prerequisites: (LING:3010 or LING:5010) and (LING:3020 or LING:5020). Same as SLA:6452.
- LING:6101 Cognitive Science of Language Proseminar I** 3 s.h.  
Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6101, PSY:6101.
- LING:6102 Cognitive Science of Language Proseminar II** 3 s.h.  
Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6102, PSY:6102.
- LING:6190 Topics in Comparative Romance Linguistics** 3 s.h.  
Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Taught in English. Recommendations: additional graduate coursework in linguistics. Same as SLA:6302, SPAN:6190.
- LING:6415 Seminar: Language, Gender, and Sexuality** 3 s.h.  
Role of language and discourse in cultural constructions of gender identities and relations, including domination and subordination; theoretical perspective and methodological approaches that have shaped thought on the language/gender nexus. Same as ANTH:6415, GWSS:6415.
- LING:6483 Multilingual Education and Applied Linguistics** 3 s.h.  
Introduction to research in language teaching and learning; theories and research in applied linguistics, sociolinguistics, anthropology, and psychology; fundamentals of second language acquisition, educational linguistics, applied linguistics, and methods used in teaching and learning second/foreign languages; consideration of applications and implications of research when reviewing multilingual education policy and practice.
- LING:6900 Master's Thesis** arr.
- LING:7000 Seminar: Spanish Linguistics** 3 s.h.  
Taught in Spanish. Same as SPAN:7000.
- LING:7010 Advanced Syntactic Theory** 2-3 s.h.  
Recent developments in syntax; comparison of theories, argumentation, and uses of data. Prerequisites: LING:6010. Same as SLA:7401.
- LING:7040 Topics in Linguistic Theory** 2-3 s.h.  
Varied topics in linguistic theory; for graduate students.
- LING:7090 Seminar: Problems in Linguistics** 2-3 s.h.  
Intensive study of theoretical and practical problems. Same as SLA:7404.
- LING:7100 Special Projects** arr.
- LING:7900 Ph.D. Thesis** arr.



## Linguistics, B.A.

Linguistics as a discipline inquires into the fundamental nature of human language. The ability to learn and speak a language is unique to humans, and language is intrinsic to the human mind, as well as integral to human society. The study of linguistics at the undergraduate level teaches students how to analyze languages, which are highly structured in ways that most people are not consciously aware of.

Undergraduate courses in the linguistics major teach a vocabulary of concepts and notation for analyzing language, and a process of analytical reasoning for applying the concepts to forms from specific languages. Students who major in linguistics achieve an informed awareness of language which has applications to many other fields, as well as preparation for continuing in linguistics and other fields which focus on language. The curriculum also provides an introduction to the kind of arguments used in scientific reasoning, using data and techniques that are perhaps more easily accessible to undergraduates than the kind used in laboratory sciences.

Depending on their vocational goals, students planning to major in linguistics should consider pursuing their studies either through the M.A. in linguistics with a professional focus or through the Ph.D., or they should complete a second major. Appropriate companion fields include languages, anthropology, computer science, English, mathematics, philosophy, psychology, sociology, speech pathology, and elementary and secondary education.

### Learning Outcomes

Students will have the:

- ability to identify generalizations in language data,
- ability to apply theoretical concepts to the analysis of language,
- understanding of and ability to use scientific method,
- ability to present a valid and sound argument, and
- ability to identify the empirical shortfalls of a linguistic analysis and think creatively about alternative solutions.

### Requirements

The Bachelor of Arts with a major in linguistics requires a minimum of 120 s.h., including 30 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major in linguistics prepares students to do basic language analysis in syntax-semantics (sentence patterns and their relation to meanings) and phonology (sound patterns). Elective courses in a variety of subspecialties enable students to tailor the program to their own interests.

The B.A. with a major in linguistics requires the following coursework.

Code	Title	Hours
Major Courses		15
Electives		15
<b>Total Hours</b>		<b>30</b>

## Major Courses

Students must complete no fewer than 15 s.h. of requirements for the major at the University of Iowa, including LING:3005 Articulatory and Acoustic Phonetics, LING:3010 Syntactic Analysis, and LING:3020 Phonological Analysis.

The course LING:1003 English Grammar does not count toward the linguistics major.

Code	Title	Hours
All of these:		
LING:3001	Introduction to Linguistics	3
LING:3005	Articulatory and Acoustic Phonetics	3
LING:3010	Syntactic Analysis	3
LING:3020	Phonological Analysis	3
One of these:		
A course in language history, such as LING:3080		3
A course in an old language (classical Greek, Latin, Old English, Sanskrit)		3

## Electives

Electives are chosen in consultation with a faculty advisor (15 s.h.), bringing the total credit in the major to 30 s.h.

## TESL Emphasis

As part of the major in linguistics, students may complete an emphasis in Teaching English as a Second Language (TESL). The TESL emphasis can prepare students to teach English to non-native speakers abroad. It also is excellent preparation for graduate work in second language acquisition. TESL emphasis students complete the requirements for the linguistics major listed above, using the following coursework to partially satisfy the electives requirement.

Code	Title	Hours
Both of these:		
LING:4040	The Structure of English	3
LING:4050	Methods of Teaching English as a Second Language	3
One of these:		
LING:3030	Child Language-Linguistic Perspectives	3
LING:3670	Language Processes	3
LING:4010	Undergraduate Practicum in Teaching English as a Second Language	3
LING:4090	Practical Phonetics	3

## Combined Programs

### B.A./M.A. in Linguistics (TESL Subprogram)

Undergraduate linguistics majors who plan to earn a master's degree in linguistics with a teaching English as a second language (TESL) subprogram have the opportunity to enroll in the Bachelor of Arts/Master of Arts in linguistics degree program. Students in the B.A./M.A. program take selected graduate-level courses while they are still undergraduates and may count 12 s.h. of advanced coursework toward both degrees. Once students complete the requirements for the

bachelor's degree, they are granted the B.A., and they usually complete the M.A. one year later.

As part of the undergraduate major with TESL subprogram, B.A./M.A. students take LING:4040 The Structure of English, a course in language history, LING:3001 Introduction to Linguistics, and LING:3005 Articulatory and Acoustic Phonetics.

Students substitute some graduate-level coursework for typical undergraduate requirements. Instead of taking LING:3010 Syntactic Analysis to fulfill the B.A. syntax requirement, they take LING:5010 Introduction to Syntax, the first course in the mandatory two-course syntax sequence for M.A. students. Instead of taking LING:3020 Phonological Analysis to fulfill the B.A. phonology requirement, they take LING:5020 Introduction to Phonology, the first in the graduate two-course phonology sequence.

In addition, LING:4050 Methods of Teaching English as a Second Language and LING:6010 Syntactic Theory count toward both degrees and usually are taken during the senior year.

To be admitted to the program, students must be working toward an undergraduate major in linguistics, must have completed at least 80 s.h. of undergraduate coursework (typically by the end of their fifth semester), and must have a g.p.a. of at least 3.50.

## Honors

### Honors in the Major

Students majoring in linguistics have the opportunity to graduate with honors in the major. Departmental honors students must complete the required coursework for the major and must prepare an honors thesis, working in consultation with their academic advisor.

The College of Liberal Arts and Sciences requires that students who earn honors in the major maintain a minimum University of Iowa cumulative g.p.a. of 3.33. Additional g.p.a. standards and requirements are set by each department or program.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the linguistics major.

## Career Advancement

Linguistics majors have found work teaching English as a second language overseas. Unique teaching opportunities worth exploring include those with the Peace Corps and Teach For America.

A number of companies, such as Microsoft, Xerox, Apple, Hewlett-Packard, and other high-tech firms, regularly hire employees with linguistics degrees. Opportunities also exist for government work, for example, as a special agent linguist for the FBI.

Some graduates choose to pursue advanced study in linguistics or other disciplines. Graduates with bachelor's degrees in linguistics may be admitted to certain graduate programs without additional academic preparation, such as anthropology, English literature, world language specializations, law, library science, philosophy, psychology, and sociology.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** LING:3001 Introduction to Linguistics and one additional linguistics course.

**Before the seventh semester begins:** three more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

- Linguistics, B.A. [p. 810]
- Teaching English as a Second Language Emphasis [p. 811]

## Linguistics, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
LING:1010	Language and Society <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
Elective course <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
LING:3001	Introduction to Linguistics	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
GE CLAS Core: Values and Culture <sup>c</sup>		3

Elective course <sup>d</sup>	2
<b>Hours</b>	<b>15-16</b>

**Second Year****Fall**

LING:3005	Articulatory and Acoustic Phonetics	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c, e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

<b>Hours</b>	<b>16-17</b>
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**Spring**

LING:3010	Syntactic Analysis	3
GE CLAS Core: International and Global Issues <sup>c, g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

<b>Hours</b>	<b>16-17</b>
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**Third Year****Fall**

Major: old language course (classical Greek, Latin, Old English, Sanskrit) or LING:3080 History of the English Language		3
Major: linguistics elective <sup>b</sup>		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5

<b>Hours</b>	<b>16-17</b>
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**Spring**

LING:3020	Phonological Analysis	3
Major: linguistics elective <sup>b</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

<b>Hours</b>	<b>16-17</b>
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**Fourth Year****Fall**

Major: linguistics elective <sup>b</sup>		3
Major: linguistics elective <sup>b</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

<b>Hours</b>	<b>15</b>
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**Spring**

Major: linguistics elective <sup>b</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>123-129</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students complete linguistics electives (prefix LING) chosen in consultation with an advisor, bringing total credit in the major to 30 s.h. LING:1003 may not be used as an elective course.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students may choose to take LING:1050 to fulfill this GE requirement.

f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

g Students may choose to take LING:1040 to fulfill this GE requirement.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Teaching English as a Second Language Emphasis

Course	Title	Hours
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**Academic Career**

GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		<b>0</b>

**First Year****Fall**

LING:1010	Language and Society <sup>b</sup>	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
Elective course <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>

**Spring**

LING:3001	Introduction to Linguistics	3
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
GE CLAS Core: Values and Culture <sup>c</sup>		3

Elective course <sup>d</sup>	2
<b>Hours</b>	<b>15-16</b>

**Second Year****Fall**

LING:3005	Articulatory and Acoustic Phonetics	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c, e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>

**Spring**

LING:3010	Syntactic Analysis	3
GE CLAS Core: International and Global Issues <sup>c, g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>

**Third Year****Fall**

LING:4040	The Structure of English	3
Major: old language course (classical Greek, Latin, Old English, Sanskrit) or LING:3080 History of the English Language		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>

**Spring**

LING:3020	Phonological Analysis	3
LING:4050	Methods of Teaching English as a Second Language	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>

**Fourth Year****Fall**

Major: additional TESL emphasis requirement <sup>h</sup>		3
Major: linguistics elective <sup>b</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

Major: linguistics elective <sup>b</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>123-129</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students complete linguistics electives (prefix LING) chosen in consultation with an advisor, bringing total credit in the major to 30 s.h. LING:1003 may not be used as an elective course.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students may choose to take LING:1050 to fulfill this GE requirement.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students may choose to take LING:1040 to fulfill this GE requirement.
- h Choose one of these: LING:3030, LING:3670, LING:4010, or LING:4090.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Linguistics, Minor

## Requirements

The undergraduate minor in linguistics requires a minimum of 15 s.h. in linguistics courses, including at least 12 s.h. in University of Iowa courses. The minor must include the courses listed below. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The minor in linguistics requires the following coursework.

## Required Courses

Code	Title	Hours
LING:3001	Introduction to Linguistics	3
LING:3005	Articulatory and Acoustic Phonetics	3
LING:3010	Syntactic Analysis	3
LING:3020	Phonological Analysis	3
Additional approved course numbered 3000 or above		3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Linguistics, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in linguistics requires a minimum of 15 s.h. in linguistics courses, including at least 12 s.h. in University of Iowa courses.		
Students must maintain a cumulative GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.		
Coursework in the minor may not be taken pass/nonpass.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
LING:3001	Introduction to Linguistics	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
LING:3005	Articulatory and Acoustic Phonetics	3
<b>Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
LING:3010	Syntactic Analysis	3
<b>Hours</b>		<b>3</b>

### Spring

LING:3020	Phonological Analysis	3
<b>Hours</b>		<b>3</b>

### Third Year

#### Fall

Minor: additional approved course numbered 3000 or above <sup>a</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>15</b>

<sup>a</sup> Please see academic advisor for approved courses to fulfill this requirement.

# Linguistics, M.A.

Graduate programs in the Department of Linguistics emphasize theory and research. Students interested in non-university careers also may take courses in applied linguistics and other fields as an option in the M.A. program.

The University of Iowa Department of Linguistics has particular strengths in phonology, syntax, and second language acquisition (SLA).

The phonology curriculum emphasizes current theoretical perspectives, including optimality theory, and the collection, description, and interpretation of novel phonological and phonetic data. Courses feature extensive work in data analysis and problem solving, focusing on construction and evaluation of phonological theories, particularly in light of new empirical data.

The syntax curriculum includes the dual emphases of empirical and theoretical perspectives. It offers a variety of foundational courses that build analytic and argumentation skills, as well as specialized coursework on current issues in syntactic theory. The courses consist of intensive work in problem solving. They combine discovery and description of new linguistic data with exploration of the implications of such facts in testing and constructing syntactic theories.

The curriculum in second language acquisition includes courses that provide an overview and analysis of current SLA research. Work focuses on experimental research investigating the influence of the first language, environmental and contextual factors, and related topics.

## Learning Outcomes

The master's degree in linguistics is intended for two different student groups. The M.A. with the Teaching English as a Second Language (TESL) focus is intended for students who wish to work as TESL professionals at the college or community college level. The M.A. degree targets students who want to pursue a Ph.D. in linguistics or are interested in linguistics-related professional areas. Unless otherwise stated, the student learning outcomes are for both the M.A. degree and the M.A. degree with a TESL focus.

Students are expected to:

- be familiar with the basics of theoretical linguistic approaches to phonology and syntax, be able to analyze linguistic data using formal theoretical linguistics approaches, and be familiar with the basics of applied phonetics and approaches to multilingual language acquisition research;
- be familiar with the basics of empirical research in linguistics and be able to use appropriate software and methods to understand original research;
- be able to write a formal research paper in syntax and phonology demonstrating a critical evaluation of a particular problem or issue they have investigated;
- be familiar with the basics of multilingual language acquisition from a theoretical and empirical perspective;
- formulate a research project by the end of their third semester if they have articulated the goal of continuing to a Ph.D. program in linguistics;
- possibly explore course options in areas related to their professional development if they are not planning on continuing to a Ph.D. program in linguistics; and

- be able to teach English as a second language (ESL) to adult learners and understand the theory and practice behind ESL teaching and evaluation if they are TESL trained.

## Requirements

The Master of Arts program in linguistics requires a minimum of 37 s.h. of graduate credit. A student's advisor must approve all courses that count toward the degree. Students must maintain a cumulative g.p.a. of at least 2.75.

A student with a linguistics background may waive up to 6 s.h. of coursework if the department determines that the student completed comparable work before enrolling in the program.

## Core Courses

All M.A. students complete the following set of required core courses in phonetics, phonology, syntax, and language acquisition (total of 22 s.h.).

Code	Title	Hours
All of these:		
LING:3005	Articulatory and Acoustic Phonetics	3
LING:5000	Proseminar: Morphosyntax	1
LING:5010	Introduction to Syntax	3
LING:5020	Introduction to Phonology	3
LING:6010	Syntactic Theory	3
LING:6020	Phonological Theory	3
LING:6080	Topics in Second Language Acquisition	3
One of these:		
LING:6040	Linguistic Structures	3
LING:6050	Language Universals Linguistic Typology	3

## Electives

Students also complete 15 s.h. of Department of Linguistics coursework, which may include a 9 s.h. focus (e.g., teaching English as a second language).

## Admission

Applicants to the M.A. program in linguistics must complete an application form, submit Graduate Record Examination (GRE) General Test scores, and have three letters of recommendation sent to the Department of Linguistics. Applications for admission should be submitted as early as possible for the following academic year.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Applications should be received by January 15 for the following academic year in order to have priority in consideration for financial aid. Applications received after

January 15 are considered for remaining aid. Early submission of an application is strongly encouraged.

Applications for awards are considered only for students whose application for admission is complete.

## Career Advancement

A master's degree with teaching English as a second language (TESL) emphasis qualifies graduates to teach English as a second language in the United States or overseas. Unique teaching opportunities worth exploring include those with the Peace Corps and Teach For America.

A number of companies, such as Microsoft, Xerox, Apple, Hewlett-Packard, and other high-tech firms, regularly hire employees with linguistics degrees. Opportunities also exist for government work, for example, as a special agent linguist for the FBI.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Linguistics, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
37 s.h. must be graduate level coursework; all coursework including up to a maximum of 6 s.h. of graduate transfer credits require approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
LING:3005	Articulatory and Acoustic Phonetics	3
LING:5000	Proseminar: Morphosyntax	1
LING:5010	Introduction to Syntax	3
Elective or Focus course <sup>b</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
LING:5020	Introduction to Phonology	3
LING:6010	Syntactic Theory	3
Elective or Focus course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
LING:6020	Phonological Theory	3
LING:6080	Topics in Second Language Acquisition	3
Elective or Focus course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>

### Spring

LING:6050	Language Universals Linguistic	3
or LING:6040	Typology or Linguistic Structures	
Elective or Focus course <sup>b</sup>		3
Elective or Focus course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>37</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Complete 15 s.h. which may include a 9 s.h. focus. Work with faculty advisor to determine coursework and sequence.

## Linguistics, Ph.D.

The Department of Linguistics has particular strengths in multilingual language acquisition, phonology, and syntax. Students are encouraged to take courses in a wide variety of departments and programs across the university.

The phonology curriculum emphasizes current theoretical perspectives, including optimality theory, and the collection, description, and interpretation of novel phonological and phonetic data. Students also may study phonological acquisition and development. Courses feature extensive work in data analysis and problem solving, focusing on construction and evaluation of phonological theories, particularly in light of new empirical data.

The syntax curriculum includes the dual emphases of empirical and theoretical perspectives. It offers a variety of foundational courses that build analytic and argumentation skills, as well as specialized coursework on current issues in syntactic theory. The courses consist of intensive work in problem solving. They combine discovery and description of new linguistic data with exploration of the implications of such facts in testing and constructing syntactic theories.

The acquisition curriculum emphasizes multilingual language syntax and phonological development in simultaneous, sequential, and late learners across a variety of learning contexts. Students have research opportunities that provide an overview and analysis of current language acquisition research.

Ph.D. students enroll in the Certificate in Cognitive Science of Language [p. 1729] program of study offered through the Graduate College. This certificate provides students with multidisciplinary training in cognitive science—a field that complements linguistics in many diverse ways—and the opportunity to work closely with faculty and graduate students from other departments across campus.

### Learning Outcomes

Students will:

- be familiar with the fundamental concepts of phonology, syntax, and an additional specialization area typically focused on an aspect of language acquisition in multilingual populations;
- conduct original research in the field of linguistics by writing two comprehensive exam papers, of publishable quality, to be presented to the department no later than year three;
- conduct original research that will culminate in a dissertation, defended by an oral exam;
- gain experience with experimental methods and analysis through participation in faculty-run labs and discussion groups across campus that focus on language acquisition and development;
- expand their understanding of how the fundamental concepts of linguistics relate to those of cognate areas determined with their advisor, such as psychology, education, anthropology, and computer science, providing them with a broad perspective on human language;
- take courses in statistical methods and have a clear understanding of how to carry out and interpret statistical analyses at an intermediate to advanced level;
- be encouraged to submit abstracts to conferences (national and international) to disseminate their research

and to work towards publishing their comprehensive papers before graduation; and

- be encouraged to participate in cocurricular activities outside of their regular coursework.

### Requirements

The Doctor of Philosophy program in linguistics requires a minimum of 72 s.h. of graduate credit, or 73 s.h. for graduates of the M.A. nonthesis program. Students must maintain a cumulative g.p.a. of at least 3.00. The highly selective program provides students with a strong foundation in theoretical linguistics and helps them develop the skills they will need to explore the close relationship between linguistics and related disciplines.

The Ph.D. with a major in linguistics requires the following coursework.

### Core Courses

Code	Title	Hours
All of these (18 s.h.):		
	One upper-level syntax course	
	One upper-level phonology course	
	Two or more courses numbered 5000 or above, as approved by advisor	

### Specialty Area Courses

An approved specialty area (18 s.h.) also is required. In addition, students whose work is focused on a particular language are strongly encouraged to take courses in or on that language (e.g., French, Spanish, Japanese, Chinese, Korean linguistics), in consultation with their advisor.

### Additional Requirements

To pass the comprehensive examination for the Ph.D., a student must gain approval for two papers of publishable quality. One must be in phonology or syntax. The other should be in an area of the student's choosing and must be distinct from the area of the first paper.

An oral defense of the dissertation and three years in residence at the University of Iowa are required. In addition, all candidates are required to gain supervised experience in teaching and research.

### Admission

Applicants to the graduate program in linguistics must complete an application form, submit Graduate Record Examination (GRE) General Test scores, and have three letters of recommendation sent to the Department of Linguistics. They must submit a statement of purpose outlining their goals, planned area of research, and state the faculty member(s) with whom the student would like to work.

Applicants must provide written evidence of the ability to do advanced work in linguistics. This may include one or more of the following:

- a short squib style paper (short notes consisting of 5,000 words maximum) that makes a specific point by calling attention to a theoretically unexpected observation about language without the need for a developed analysis or solution,
- a final course paper, and



- a research project outlining the area of investigation the applicant wishes to pursue.

Applications must be received no later than January 15.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

All applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Applications should be received by January 15 for the following academic year in order to have priority in consideration for financial aid. Applications received after January 15 are considered for remaining aid. Early submission of an application is strongly encouraged.

Applications for awards are considered only for students whose application for admission is complete.

## Career Advancement

Linguistics majors have found work teaching English as a second language overseas. Unique teaching opportunities worth exploring include those with the Peace Corps and Teach For America.

A number of companies, such as Amazon, Microsoft, Xerox, Apple, Hewlett-Packard, and other high-tech firms, regularly hire employees with linguistics degrees. Opportunities also exist for government work, for example, as a special agent linguist for the FBI.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Linguistics, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework (73 s.h. for students entering with a nonthesis MA). More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
LING:6101	Cognitive Science of Language Proseminar I	3
	Advanced syntax/phonology course <sup>c</sup>	3
	Elective course <sup>d</sup>	3
<b>Hours</b>		<b>9</b>

### Spring

LING:6102	Cognitive Science of Language Proseminar II	3
LING:7100	Special Projects <sup>e, f</sup>	3
	Elective course <sup>d</sup>	3
<b>Hours</b>		<b>9</b>

### Second Year

#### Fall

	Advanced syntax/phonology course <sup>c</sup>	3
	Elective course <sup>d</sup>	3
	Elective course <sup>d</sup>	3
	Present first Comprehensive Exam paper	
<b>Hours</b>		<b>9</b>

#### Spring

LING:7100	Special Projects <sup>e, g</sup>	3
	Elective course <sup>d</sup>	3
	Elective course <sup>d</sup>	3
<b>Hours</b>		<b>9</b>

### Third Year

#### Fall

LING:7100	Special Projects <sup>h, i</sup>	3
	Elective course <sup>d</sup>	3
	Elective course <sup>d</sup>	3
	Present second Comprehensive Exam paper <sup>j</sup>	
<b>Hours</b>		<b>9</b>

#### Spring

LING:7100	Special Projects <sup>k</sup>	3
	Elective course <sup>d</sup>	3
	Elective course <sup>d</sup>	3
	Present and defend Dissertation Prospectus <sup>l</sup>	
<b>Hours</b>		<b>9</b>

### Fourth Year

#### Fall

	Elective course <sup>d</sup>	3
	Elective course <sup>d</sup>	3
<b>Hours</b>		<b>6</b>

#### Spring

	Elective course <sup>d</sup>	3
	Elective course <sup>d</sup>	3
<b>Hours</b>		<b>6</b>

### Fifth Year

#### Fall

LING:7900	Ph.D. Thesis	3
<b>Hours</b>		<b>3</b>

#### Spring

LING:7900	Ph.D. Thesis	3
	Final Exam <sup>m</sup>	
<b>Hours</b>		<b>3</b>

**Total Hours** **72**

a Beyond the MA degree course requirements, the PhD program in linguistics has few set requirements. Upon acceptance to the program, students work closely with their faculty advisor to determine and select appropriate graduate level coursework that best suits their goals.

b Students must complete specific requirements in the University of Iowa Graduate College after program

- admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Work with faculty advisor to determine appropriate coursework and sequence.
  - d 18 s.h. must be in an approved specialty area; if relevant to research, students may complete coursework in an additional language. Work with faculty advisor to determine appropriate elective coursework and sequence.
  - e To pass the Comprehensive Exam for the PhD, a student must submit two papers of publishable quality and present each orally as part of the departmental colloquium. One must be in phonology or syntax. The other should be in an area of the student's choosing and must be distinct from the area of the first paper.
  - f Prepare first Comprehensive Exam paper.
  - g Prepare second Comprehensive Exam paper.
  - h Begin preparing Dissertation Prospectus in consultation with Dissertation Committee.
  - i In the semester following the Comprehensive Exam, but no later than the sixth semester of enrollment in the PhD program, the student presents a Dissertation Prospectus to the Dissertation Committee.
  - j Set-up Dissertation Committee in consultation with faculty advisor.
  - k Prepare Dissertation Prospectus defense.
  - l Must be approved by Dissertation Committee.
  - m Oral dissertation defense.

# Magid Center for Undergraduate Writing

## Director, Magid Center for Undergraduate Writing

- Daniel E. Khalastchi

## Director, Iowa Summer Writing Festival

- Amy Margolis

## Director, Iowa Young Writers' Studio

- Stephen P. Lovely

## Director, Iowa Youth Writing Project

- Mallory R. Hellman

**Undergraduate certificate:** writing

**Faculty:** <https://magidcenter.uiowa.edu/people>

**Website:** <https://magidcenter.uiowa.edu/>

The Magid Center for Undergraduate Writing takes seriously its mission to offer all undergraduate students at the University of Iowa (regardless of major or area of study) the unique opportunity to enhance their academic, creative, and professional communication skills by focusing on the written word. In addition to sponsoring the Certificate in Writing [p. 822], the center also publishes the student literary magazines Ink Lit Mag and Earthwords; advises and coordinates the publication of Fools Magazine and Boundless; supports the Iowa Writers Living Learning Community (in association with University Housing and Dining); and is home to the Iowa Youth Writing Project (a nonprofit K-12 literacy outreach endeavor), the Iowa Young Writers' Studio (a selective summer camp for aspiring high school writers), and the Iowa Summer Writing Festival (a noncredit, open enrollment creative writing program for adult learners).

The Magid Center for Undergraduate Writing was established in 2011 through a gift from Marilyn Y. Magid and family, in the name of the late Frank Magid, who believed that writing was a key component of a liberal arts and sciences education and a successful career.

The Certificate in Writing and the Iowa Young Writers' Studio are administered by the College of Liberal Arts and Sciences [p. 17].

Learn more about the University's wealth of writing resources by visiting The Writing University website, and read about the University's central role in Iowa City's designation as a UNESCO City of Literature.

## College Program

### Certificate in Writing

The Certificate in Writing [p. 822] (offered on campus and online) enables all undergraduate and nondegree-seeking students the opportunity to benefit from the University's wide-ranging writing programs and resources by pursuing a concentration in writing related to their academic success, career goals, or personal interests.

## Precollege Program

### Iowa Young Writers' Studio

**Website:** <https://iyws.clas.uiowa.edu/>

The Iowa Young Writers' Studio is a creative writing program for high school students at the University of Iowa, housed in the Magid Center for Undergraduate Writing. The Summer Residential Program gives promising high school-age creative writers the opportunity to spend two weeks studying writing (primarily fiction, poetry, and creative nonfiction) at the University of Iowa, in the thriving literary community of Iowa City, with teachers and counselors from the Iowa Writers' Workshop and other renowned UI writing programs.

Students in the Summer Residential Program share their writing with teachers and peers, receive constructive critique, participate in writing exercises and activities, and attend readings and literary events. The Iowa Young Writers' Studio operates under the philosophy that the study of creative writing is essential not only to students who want to pursue writing as a career, but to any student hoping to function effectively in a writing-centric world. The studio encourages students to explore different genres and approaches, and to express themselves freely, without censorship. Students are taught to be generous, respectful critics.

Students who have completed grade 10, 11, or 12 are eligible to attend the Summer Residential Program. Those interested submit an application, a creative writing sample, a statement of purpose, a high school transcript, and a letter of recommendation. Applications are taken online during the first week of February for the following summer.

The Iowa Young Writers' Studio also offers six-week online creative writing courses for high school students. These courses are offered in January-February and in late June-early August. The courses are asynchronous, so students can complete the assignments and participate in the discussions on their own schedules. The courses offer students the chance to study creative writing with graduates of the Iowa Writers' Workshop and other UI writing programs, and to connect with other high school-age writers around the country and the world. Students who complete the course and meet all the requirements will receive a certificate of completion. Applicants must be enrolled in high school and have a g.p.a. of 3.00 or higher. Applicants must submit a statement of purpose, a teacher statement of support, a parental permission form, and a transcript. Applications are taken online in the fall (for January-February courses) and in the spring (for June-August courses).

Visit the Iowa Young Writers' Studio website for detailed information about the summer program and online courses.

## K-12 Opportunities

### Iowa Youth Writing Project

**Website:** <https://iywp.org/>

The Iowa Youth Writing Project (IYWP) is an arts outreach organization based at the University of Iowa that empowers, inspires, and engages K-12 youth throughout the state using language arts and creative thinking.

For more information or to get involved, contact the Iowa Youth Writing Project.

## Adult Opportunities

### Iowa Summer Writing Festival

**Website:** <https://iowasummerwritingfestival.org>

The Iowa Summer Writing Festival is a noncredit creative writing program for adults. The festival brings some 1,200 writers to the University of Iowa campus each summer to

participate in weeklong, two-week, and weekend workshops across the genres, as well as online workshops offered throughout the year. Writers at all levels are welcome.

Participants choose from more than 140 workshops in novel writing, short fiction, hybrid forms, poetry, memoirs, essays, playwriting, screenwriting, travel writing, humor, writing for children, and more. Festival classes are conducted as workshops, where the primary texts are participants' own creative work.

Weeklong workshops meet for three hours each day, Monday through Friday, and include individual student/instructor conferences. Weeklong sessions feature a daily lecture series on aspects of literary craft, as well as evening readings and other events. Weekend sessions meet for eight hours over two days. Visit the Iowa Summer Writing Festival website for information about workshops, schedules, and registration. Program information for the coming summer is posted in mid-January.

## Programs

### Precollege Program of Study

The Iowa Young Writers' Studio is a residential creative writing program offered during the summer for high school students who have completed grade 10, 11, or 12. See "Precollege Program" in the Magid Center for Undergraduate Writing introductory section of the Catalog.

### Undergraduate Program of Study Certificate

- Certificate in Writing [p. 822]

## Courses

### Magid Center for Undergraduate Writing Courses

**WRIT:1003 English Grammar** 3 s.h.  
Recognizing nouns, verbs, adverbs, adjectives, and other parts of speech; sentence analysis; subjects, objects; types of sentences; passives, relative clauses; for students with little or no background in English grammar study. Does not count toward the linguistics major. Same as LING:1003.

**WRIT:1030 English Words** 3 s.h.  
English word formation, basic units of English vocabulary; vocabulary skill expansion; word structure. Same as LING:1030.

**WRIT:1500 Writing Commons: A Community of Writers** 1-3 s.h.  
Varied topics focused on building community and enhancing writing skills through generative exercises, long-form essay and hybrid assignments, workshops, sharing work in public, reading and discussing works of published authors.

**WRIT:1600 Fast Fixes: Improving Your Writing in Six Short Weeks** 1 s.h.  
Varied topics focused on improving common writing problems or specific aspects of craft. Prerequisites: (RHET:1040 and RHET:1060) or RHET:1030.

### WRIT:1740 Writing Strategies: Word Origins and Word Choice

 3 s.h.

Study of words, their meanings, and their origins combined with writing; words and word histories; role of English language in the world. GE: Literary, Visual, and Performing Arts. Same as CLSA:1740.

### WRIT:2100 Writing and Community Outreach

 3 s.h.

Service-learning course offered in coordination with Iowa Youth Writing Project (IYWP); students create lesson plans, lead creative writing workshops in area schools and after-school programs, and collaborate to publish a final chapbook of writing from their teaching sites; assigned readings on creative writing pedagogy, teaching life, community outreach, social justice; relationships between self and community enhance interdisciplinary perspectives; weekly written reflections on teaching experiences featured on IYWP blog. GE: Diversity and Inclusion.

### WRIT:2101 Writers in the Community

 1 s.h.

Experiential, hands-on learning opportunities organized by the Iowa Youth Writing Project; introduction to the community at large; fun and meaningful activities with elementary and junior high school students; designing creative writing lessons, discussion of teaching tips and tricks, leading creative writing workshops for children in the Iowa City community, writing reflective essays about experiences; for those interested in education, creative writing, volunteerism, nonprofit work, or community engagement.

### WRIT:2300 Writing Toward Empathy

 3 s.h.

Students practice personal narrative, research writing, and professional communication skills to actively understand relevant social justice issues in Iowa; diversity, equity, and inclusion-based writing course offered in coordination with the Iowa Youth Writing Project.

### WRIT:2600 Science Communication I: Fundamentals of Science Communication

 2 s.h.

Bringing science to varied audiences; focus on writing and presenting research story, analogies, connecting with audiences, collaborating with others from science and film/writing disciplines; first of a two-course sequence culminating in a group outreach project and print product.

### WRIT:2601 Science Communication II: Science Outreach and Engagement

 2 s.h.

Bringing science to varied audiences; focus on writing and presenting research story, analogies, connecting with audiences, collaborating with others from science and film/writing disciplines; second of a two-course sequence culminating in a group outreach project and print product. Prerequisites: WRIT:2600.

### WRIT:2900 Book Design for Publishing

 3 s.h.

Introduction to the major aspects of book design, including typography, layout, standard industry software, discussion of trends in the field. Same as ARTS:2900, ENGL:2900, UICB:2900.

### WRIT:2991 Publishing I: Introduction to Literary Publishing

 3 s.h.

Introduction to major aspects of book and literary publishing, including evaluating submissions, copy editing, production calendars, and planning marketing campaigns; discussion of industry trends. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Same as CNW:2991.

**WRIT:2992 Publishing II: Advanced Literary Publication****3 s.h.**

Hands-on experience of entire literary publishing process including reading submissions, selecting texts, editing, layout and design, marketing and promotion, and book release.

English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. Prerequisites: CNW:2991. Same as CNW:2992.

**WRIT:3000 Publishing Practicum: The Iowa Chapbook Prize****3 s.h.**

Experiential learning in the field of publishing through the Iowa Chapbook Prize; students gain knowledge in all aspects of publishing world including assessing submissions, selecting manuscripts, editing and proofreading, layout and design, marketing and promotion, and book release.

**WRIT:3005 Professional and Creative Business Communication****3 s.h.**

Solid foundation for creative and professional communication in today's modern work world; exploration of techniques, strategies, and craft of writing résumés, letters of interest, email and its related etiquette, and organization of ideas into presentable form; semester-long creative project that builds a bridge between office and the world using modern technology and social media; readings and discussions of literature to better understand issues of ethics, leadership, conflict, moral judgment, decision making, and human nature; how to navigate and succeed in business or any professional field. GE: Engineering Be Creative. Same as CW:3005, INTD:3005.

**WRIT:3080 History of the English Language****3 s.h.**

Development of phonological and grammatical structure of English, from Old to Modern English; selected issues in the history of England. Same as LING:3080.

**WRIT:3325 Iowa Writers' Room****3 s.h.**

Experiential learning in television writing field; first-hand experience as part of a traditional television writers' room—selecting material and show topics, pitching ideas, collaboratively breaking story, and writing and workshopping scripts for a limited series television show of student's choosing; includes instruction and class visits by acclaimed industry insiders. Same as THTR:3325.

**WRIT:3435 Intersectional Identities: Writing About the Twenty-first-Century Self****3 s.h.**

Analysis of intersections between systems of oppression, domination, and discrimination; focus on how writers of color represent those connections and critical articulation of students' lived experience of them. Same as LATS:3435.

**WRIT:3526 The Business of Writing****3 s.h.**

Students learn how to hone their writing skills and successfully transition into the workforce; objectives include developing the ability to pitch articles, establish personal brands, and navigate the world of freelance writing and editing; students network with professionals and explore writing-centric jobs. Same as DPA:3526.

**WRIT:3632 Prose Style****3 s.h.**

Sentences: how they work, what they do; how sentences can help writing, expand understanding of prose style, stretch options. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative. Same as CNW:3632.

**WRIT:3742 Word Power: Building English Vocabulary****3 s.h.**

Analysis of unfamiliar English words through knowledge of the history and meaning of word parts. Same as CLSA:3742.

**WRIT:3900 Writing: Undergraduate Internship****1-3 s.h.**

Professional and/or creative experience; students arrange faculty-approved internship. Requirements: undergraduate standing and minimum of 24 s.h. of coursework with at least 12 s.h. in University of Iowa courses.

**WRIT:3910 Iowa Youth Writing Project Internship****1 s.h.**

Internship with the Iowa Youth Writing Project. Requirements: application and acceptance as an Iowa Youth Writing Project intern.

**WRIT:4000 Independent Capstone Project****1-3 s.h.**

Capstone requirement for the Certificate in Writing through Program Option B. Requirements: junior or higher standing.

**WRIT:4001 Guided Capstone Portfolio****1 s.h.**

Capstone requirement for Certificate in Writing through Program Option A. Recommendations: junior or higher standing.

**WRIT:4002 Scientists and Writers****1 s.h.**

Science communication and collaborative skills that are highly sought after by employers in STEM firms including pharmaceutical firms, biotech start-ups, and many others; these same skills essential for reporting on, writing about, or translating science in any area; studio-style format. Same as CHEM:4000, JMC:4000.

**WRIT:4100 Iowa Youth Writing Project Mentorship Practicum****1-3 s.h.**

Mentor new volunteers on a weekly basis at Iowa Youth Writing Project (IYWP) program sites; work one-on-one with volunteers, write and review lesson plans, provide resources and feedback for volunteers, lead workshops for children. Requirements: WRIT:2100 or completion of Iowa Youth Writing Project internship.

**WRIT:4745 The Sentence: Strategies for Writing****3 s.h.**

Writing dynamic, cogent, and grammatically correct sentences; effectively communicating ideas; writing with clarity and confidence; review of grammar and various types of sentences; building complexity by adding adverbial, subordinate, and connective clauses to simple sentences; how rhythm, syntax, and word order expand the meaning of a sentence; application and appreciation. GE: Engineering Be Creative. Same as CW:4745.

**WRIT:4760 The Art of Revision: Rewriting Prose for Clarity and Impact****3 s.h.**

Writing and rewriting of short stories and essays; specific choices to help writing reach its full potential; examination of first drafts and making strategic or radical decisions on what needs to happen in subsequent drafts in order for writing to better match original intentions; students gain insight from peers on where first drafts are succeeding or falling short, and write second and third drafts of short stories and personal narratives; structural and aesthetic choices. GE: Engineering Be Creative. Same as CW:4760.

# Writing, Certificate

## Learning Outcomes

Students who complete the Certificate in Writing develop:

- skills in the craft of writing, such as the ability to write clearly and concisely, control of mechanics and style, and the ability to communicate with particular audiences for specific purposes;
- skills in planning and using strategies to begin writing, overcome obstacles, obtain feedback, revise their work, and present their writing in public venues; and
- competence in discussing writing.

## Requirements

The undergraduate Certificate in Writing requires a minimum of 22 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Certificate students explore and develop their own writing skills in a wide range of genres and for varied purposes, including creative writing (fiction, nonfiction, poetry); writing for the professions, such as the arts, business, journalism, or science; writing for organizations; and writing related to personal interests.

The Certificate in Writing also is available online for students unable to attend classes on campus, including professionals, distance education students, nondegree-seeking students, and international students. More information about the online Certificate in Writing is available at the Magid Center for Undergraduate Writing website. Some courses below are available online; more online courses are added frequently.

Coursework for the certificate includes a minimum of 12 s.h. in core courses, a minimum of 9 s.h. in focused electives, and a minimum of 1 s.h. in a capstone course. Up to 6 s.h. of transfer credit is allowed. For questions regarding the transfer credit policy, contact the director.

Certificate students have the opportunity to participate in the Iowa City writing community through activities such as attending readings and lectures; presenting their own work in public; working with professional journals, newspapers, or other publications; and volunteering or interning with the Iowa Youth Writing Project literacy outreach program.

Certificate in Writing students may not earn the B.A.S. degree with the creative writing emphasis.

See "Professional Track" below for information and requirements regarding the literary publishing track for the Certificate in Writing.

The Certificate in Writing requires the following work.

Code	Title	Hours
Core Courses		12
Focused Electives		9
Capstone Project		1-3
<b>Total Hours</b>		<b>22-24</b>

## Core Courses

Code	Title	Hours
All students must complete this course:		
WRIT:1500	Writing Commons: A Community of Writers (online or on campus)	3
And 9 s.h. from the following list:		
WRIT:1003/ LING:1003	English Grammar (online or on campus)	3
WRIT:1600	Fast Fixes: Improving Your Writing in Six Short Weeks (to count as a core course, must be taken three times for 1 s.h. each with different topics)	3
WRIT:3080/ LING:3080	History of the English Language	3
WRIT:3632/ CNW:3632	Prose Style	3
WRIT:4745/ CW:4745	The Sentence: Strategies for Writing (online or on campus)	3
WRIT:4760/ CW:4760	The Art of Revision: Rewriting Prose for Clarity and Impact (online or on campus)	3
The 9 s.h. may include one of these:		
WRIT:1030/ LING:1030	English Words	3
WRIT:1740/ CLSA:1740	Writing Strategies: Word Origins and Word Choice	3
WRIT:3742/ CLSA:3742	Word Power: Building English Vocabulary (online or on campus)	3

## Focused Electives

Students earn a total of at least 9 s.h. in focused electives, which they select from courses in at least two of the following categories (maximum of 6 s.h. from any one category).

- Writing for the Professions [p. 822]
- Writing and the Literary Arts [p. 823]
- Writing and the Media [p. 824]
- Writing in Context [p. 824]
- Student-Designated Writing-Intensive Course [p. 825]

Each focused elective course may be used to fulfill only one certificate requirement, even if the course is listed in more than one category below. Some of these courses have prerequisites and other requirements for registration; students must complete a course's prerequisites and meet its registration requirements before they may register for the course.

## Writing for the Professions

### Art

Code	Title	Hours
ARTH:1080	How to Write About Art	3
ARTS:3400	Grant Writing in the Arts	3

## Business

Code	Title	Hours
WRIT:3005/ CW:3005/ INTD:3005	Professional and Creative Business Communication (online or on campus)	3
WRIT:3526/ DPA:3526	The Business of Writing	3
BUS:3000	Business Communication and Protocol	3
BUS:3800	Business Writing	3
CNW:3640	Writing for Business	3
COMM:1816	Business and Professional Communication	3
SRM:3300	Writing for Sport and Recreation Managers	3

## Grant/Proposal Writing

Code	Title	Hours
ARTS:3400	Grant Writing in the Arts	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing (online or on campus)	3

## Journalism

Code	Title	Hours
CINE:2600	Writing Film Reviews and Criticism	3
CNW:2780	The Art and Craft of Writing About Sports	3
JMC:2010	Reporting and Writing	3
JMC:3360	Journalism Writing for Nonmajors	3
JMC:3412	Strategic Communication Writing	4
JMC:3415	Writing Across Cultures	4
JMC:3470	Narrative Journalism	4
SPAN:3020/ JMC:3445/LAS:3020	Journalistic Writing in Spanish	3

## Literature, Language, and Translation

Code	Title	Hours
ASIA:3208/ TRNS:3208/ WLLC:3208	Classical Chinese Literature Through Translation	3
GRMN:3200/ TRNS:3200	Literary Translation from German	3
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
SPAN:2000	Spanish Language Skills: Writing	4
SPAN:3000	Cultural Narratives for Heritage Speakers	3
SPAN:3010	Advanced Spanish Speaking and Writing	3
SPAN:3030	Translation Workshop: English to Spanish	3
SPAN:3050	Translation Workshop: Spanish to English	3
SPAN:3060	Introductory Workshop on Creative Writing in Spanish	3
SPAN:4950	Advanced Workshop on Creative Writing in Spanish	3

SPAN:4980	Advanced Translation: Spanish to English	3
TRNS:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3
TRNS:4480	Literature and Translation	3

## Political Science

Code	Title	Hours
CNW:2850	The Art and Craft of Writing About Politics	3
POLI:3107	Writing in Political Science: Writing for "Science" and for "Politics"	3
RHET:3560/ PBAF:3560/ POLI:3560/ SJUS:3560	Public Policy and Persuasion	3

## Publishing

Code	Title	Hours
WRIT:2900/ ARTS:2900/ ENGL:2900/ UICB:2900	Book Design for Publishing	3
WRIT:2991/ CNW:2991	Publishing I: Introduction to Literary Publishing	3
WRIT:2992/ CNW:2992	Publishing II: Advanced Literary Publication	3
WRIT:3000	Publishing Practicum: The Iowa Chapbook Prize	3
HONR:2900	Honors Publications: From Pitch to Print (taken two times, first time for 2 s.h. and second time for 1 s.h. )	3

## Sciences

Code	Title	Hours
CNW:2730	The Art and Craft of Science Writing	3
HHP:3900	Writing for Health and Human Physiology	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3

## Undergraduate Research

Code	Title	Hours
BUS:1999	Introduction to Research in Business	1
BUS:4999	Honors Thesis in Business	arr.
	An undergraduate thesis or writing-based capstone project related to any undergraduate discipline	1-3

## Writing and the Literary Arts

### Creative Writing

Code	Title	Hours
CW:2100	Creative Writing (online or on campus)	3
or CW:1800	Creative Writing Studio Workshop	

CW:3002	Writing and Reading Young Adult Fiction	3
CW:3003	Writing and Reading Science Fiction	3
CW:3004	Writing and Reading Fantasy Fiction	3
CW:4894	Undergraduate Project in Creative Writing	arr.
WLLC:1510/ ASIA:1510	Ghost Stories and Tales of the Weird in Premodern Chinese Literature	3

## Fiction

Code	Title	Hours
CW:2870	Fiction Writing (online or on campus)	3
CW:3870	Advanced Fiction Writing (online or on campus)	3
CW:4870	Undergraduate Writers' Workshop: Fiction	arr.
CW:4897	Novel Writing (online)	3

## Nonfiction

Code	Title	Hours
CNW:1620	Introduction to Creative Nonfiction (online or on campus)	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
CNW:2690	The Art and Craft of Writing About Business	3
CNW:2700	The Art and Craft of Personal Writing	3
CNW:2840	The Art and Craft of Travel Writing	3
CNW:3630	Advanced Nonfiction Writing	3
CNW:3633	Personal Writing	3
CNW:4631	Advanced Essay Workshop	3
CNW:4690	Undergraduate Project in Nonfiction Writing	arr.

## Playwriting

Code	Title	Hours
THTR:2301	Playwriting I (online or on campus)	3
THTR:2320	Playwriting in a Global World	3
THTR:3301	Playwriting II (online or on campus)	3
THTR:3310	Undergraduate Playwriting Workshop	1-3
THTR:3421/ GWSS:3421	Performing Autobiography	3

## Poetry

Code	Title	Hours
CW:2875	Poetry Writing (online or on campus)	3
CW:3875	Advanced Poetry Writing (online or on campus)	3
CW:4875	Undergraduate Writers' Workshop: Poetry	arr.

## Writing and the Media

### Television and Screenwriting

Code	Title	Hours
CINE:1150	Introduction to Screenwriting for Nonmajors	3
CINE:1300	Foundations of Screenwriting (online)	3
CINE:2600	Writing Film Reviews and Criticism	3
CINE:3361	Screenwriting: Short Form	3
CINE:3367	Screenwriting: Long Form	3
CINE:4378	Advanced Screenwriting II	4
COMM:2077	Writing and Producing Television	3
THTR:3320	Writing for Film	3
THTR:6310	Special Topics in Playwriting	3
WRIT:3325/ THTR:3325	Iowa Writers' Room	3

### Other Media

Code	Title	Hours
CNW:2770	The Art and Craft of Writing for New Media	3
CNW:3660	Multimedia Writing	3
CNW:3663	Radio and Writing	3
CW:3218/ INTD:3200	Creative Writing for New Media	3
JMC:3600	Topics in Designing/Producing	3-4
RHET:2070	Persuasive Stories	3

### Writing in Context

Code	Title	Hours
WRIT:2100	Writing and Community Outreach	3
WRIT:2300	Writing Toward Empathy	3
CNW:2710	The Art and Craft of Food Writing	3
CNW:2720	The Art and Craft of Writing About Culture	3
CNW:2740	The Art and Craft of Writing about the Environment	3
CNW:2760	The Art and Craft of Writing for Social Change	3
CNW:2790	The Art and Craft of Humor Writing	3
CNW:3644	Dublin Writing Workshop	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3
CW:4751	Creative Writing for the Musician	3
EDTL:4355/ CNW:4355	Approaches to Teaching Writing	3
GWSS:3138/ SJUS:3138	Writing to Change the World	3
HONR:3220	Honors Writing Fellows: Writing Theory and Practice	3



IWP:3191/ ENGL:3595/ TRNS:3191/ WLLC:3191	International Literature Today	1,3
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## Student-Designated Writing-Intensive Course

Students may petition to count a course not listed above toward their elective requirements. Petitions must be submitted online and receive prior approval from the Certificate in Writing advisor; see Focused Electives on the Magid Center for Undergraduate Writing website.

Students may also request permission to count a maximum of 3 s.h. earned in a non-writing intensive course numbered 3000 or above as credit toward the focused elective requirement. For this option, students must propose a writing-related project that extends the writing focus of their chosen course. They must have the approval of the faculty member teaching the course and the writing certificate advisor.

## Capstone Project

Each student must earn at least 1 s.h. in a capstone course that serves as a culmination of their Certificate in Writing. Students choose one of the following four options for completing their capstone requirement.

### Program Option A

Guided Capstone Portfolio (WRIT:4001, 1 s.h.) is an online, portfolio-based class that allows students the chance to direct their own academic, professional, and creative learning experience by asking them to think critically about where they have come from and where they are headed. Students are guided by a series of prompts, readings, and targeted assignments that lead to a shared final goal—an online portfolio of writing that highlights the work created and the skills gained while pursuing the Certificate in Writing.

### Program Option B

Independent Capstone Project (WRIT:4000, 1-3 s.h.) is an independent writing project of the student's choosing, guided by a faculty mentor. It is available online or on campus.

### Program Option C

Writing: Undergraduate Internship (WRIT:3900, 1-3 s.h.) provides departmental oversight for students completing a writing-related internship and guides students through a series of reflections on their internship experience and how it relates to their academic, professional, and creative goals.

### Program Option D

Students may petition to count an additional 3 s.h. writing course from the core or focused elective courses listed above as their capstone. Petitions are submitted online and must be approved by the certificate advisor.

Visit capstone project information on the Magid Center for Undergraduate Writing website for more information related to registering for a capstone course.

## Professional Track

### Literary Publishing

Students considering a career in literary publishing can learn the ins and outs of the industry and gain a competitive edge by enrolling in the literary publishing track. This unique

educational experience provides a substantial understanding of the editorial, design, and managerial work essential to this profession. Students who enroll in the track complete the certificate's core courses (see "Core Courses" above) and fulfill the focused elective requirement by taking a series of three publishing-specific courses (see "Literary Publishing Track Focused Electives" below). Finally, they complete a publishing-related capstone project; literary publishing students may select WRIT:3000 Publishing Practicum: The Iowa Chapbook Prize as a capstone project or Program Option A, B, C, or D (see "Capstone Project" above).

The literary publishing track, interdisciplinary in scope, is a collaboration between the Magid Center for Undergraduate Writing, the Nonfiction Writing Program in the Department of English, the School of Art and Art History [p. 103], and the University of Iowa Center for the Book [p. 1720]. For more information, contact the Magid Center for Undergraduate Writing.

Students may earn either the Certificate in Writing with the literary publishing track or the Bachelor of Arts in English (publishing track) or the Bachelor of Arts in English and creative writing (publishing track). Students may not earn the publishing track in both the major and in the writing certificate.

## Literary Publishing Track Focused Electives

Code	Title	Hours
WRIT:2900/ ARTS:2900/ ENGL:2900/ UICB:2900	Book Design for Publishing	3
WRIT:2991/ CNW:2991	Publishing I: Introduction to Literary Publishing	3
WRIT:2992/ CNW:2992	Publishing II: Advanced Literary Publication	3

## Career Advancement

Recent Certificate in Writing graduates have gone on to work in various fields that are wide-ranging in scope and background. Graduates have found work as teachers, copywriters, editors and publishers, government administrators, freelance journalists, magazine writers, and more. Additionally, graduates often go on to pursue professional programs of study and advanced degrees in law and writing, among other fields. Finally, many recent graduates have found internships during and after their time in the program with publishing companies and magazines across the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Writing, Certificate

Course	Title	Hours
<b>Second Year</b>		
<b>Any Semester</b>		
WRIT:1500	Writing Commons: A Community of Writers	3
	Certificate: core course (prefix WRIT) <sup>a</sup>	3
	Certificate: core course (prefix WRIT) <sup>a</sup>	3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Any Semester</b>		
	Certificate: core course (prefix WRIT) <sup>a</sup>	3
	Certificate: focused elective <sup>b</sup>	3
	Certificate: focused elective <sup>b</sup>	3
Internship: consider applying for internship with the Iowa Youth Writing Project or another organization (not required to earn the certificate but encouraged)		
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
	Certificate: focused elective <sup>b</sup>	3
	Certificate: capstone project <sup>c</sup>	1 - 3
<b>Hours</b>		<b>4-6</b>
<b>Total Hours</b>		<b>22-24</b>

a Students must complete 9 s.h. of core courses from the list of approved options. See General Catalog for more information.

b Students earn a total of at least 9 s.h. in focused electives, which they select from courses in at least two of the following categories (maximum of 6 s.h. from any one category): Writing for the Professions, Writing and the Literary Arts, Writing and the Media, Writing in Context, and Student-Designated Writing-Intensive Course.

c Students choose from WRIT:4001, WRIT:4000, WRIT:3900, or petition to count an additional 3 s.h. writing course approved as a core or focused elective course as their capstone.

# Mathematics

## Chair

- Weimin Han

**Undergraduate major:** mathematics (B.A., B.S.)

**Undergraduate minor:** mathematics

**Graduate degrees:** M.S. in mathematics; Ph.D. in mathematics

**Faculty:** <https://math.uiowa.edu/people/faculty>

**Website:** <https://math.uiowa.edu>

Mathematics is a basic tool for understanding modern society as well as a crucial requirement for many careers in science, engineering, business, and the professions. Research in this living, dynamic subject is at the highest level in history.

An undergraduate degree in mathematics prepares students for a variety of careers in government and business, for secondary teaching, for graduate study, and with proper planning, for a variety of professional programs. Graduate study is advisable for some business and governmental positions and for college and university teaching and research. The department also offers a minor.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Mathematics (Bachelor of Arts) [p. 834]
- Major in Mathematics (Bachelor of Science) [p. 840]

#### Minor

- Minor in Mathematics [p. 846]

### Graduate Programs of Study

#### Majors

- Master of Science in Mathematics [p. 847]
- Doctor of Philosophy in Mathematics [p. 849]

## Courses

Credit earned in MATH:0100 Basic Algebra I does not count toward graduation.

The sequences MATH:1850 Calculus I and MATH:1860 Calculus II, and MATH:1550 Engineering Mathematics I: Single Variable Calculus and MATH:1560 Engineering Mathematics II: Multivariable Calculus are similar, but they cover the material in a different order and with different emphases. Students who have taken the first semester of one sequence must consult with their advisor before taking the second semester of the other sequence.

Students who consider taking MATH:1860 Calculus II after MATH:1350 Quantitative Reasoning for Business, MATH:1380 Calculus and Matrix Algebra for Business, or MATH:1460 Calculus for the Biological Sciences must consult with their advisor; they also must take a math placement test.

Graduate students may not earn graduate credit in courses numbered below 3000.

Graduate students in mathematics must have departmental approval to earn credit for any of the courses numbered between 3000 and 4999. Analysis and computation graduate students in mathematics may not earn credit for MATH:4010 Basic Analysis and MATH:4020 Basic Abstract Algebra.

Graduate students in other disciplines may earn credit for any course numbered 3000 or above.

## Mathematics Courses

### MATH:0100 Basic Algebra I 3 s.h.

Percents, ratio and proportion, algebraic expressions and operations, simple products, linear and quadratic equations, simultaneous equations, exponents and radicals; emphasis on verbal problems.

### MATH:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

### MATH:1005 College Algebra 4 s.h.

Algebraic techniques, equations and inequalities, functions and graphs, exponential and logarithmic functions, systems of equations and inequalities. Prerequisites: MATH:0100 with a minimum grade of C- or ALEKS score of 30 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course.

### MATH:1010 Trigonometry 3 s.h.

Trigonometric functions, solutions of right and oblique triangles, complex numbers. Prerequisites: MATH:1340 with a minimum grade of C- or MPT Level 3 score of 9 or higher or MATH:1005 with a minimum grade of C- or MATH:1380 with a minimum grade of C- or ALEKS score of 55 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course.

### MATH:1020 Elementary Functions 4 s.h.

Functions, relations, coordinate systems; properties and graphs of algebraic, trigonometric, logarithmic, exponential functions; inverse trigonometric functions; properties of lines, conic sections. Prerequisites: MATH:1010 with a minimum grade of C- or MATH:1005 with a minimum grade of C- or MPT Level 3 score of 9 or higher or ALEKS score of 60 or higher or MATH:1340 with a minimum grade of C-. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

**MATH:1120 Logic of Arithmetic** 4 s.h.

Mathematical and conceptual foundations of the natural numbers used in elementary school arithmetic teaching; multiple algorithmic approaches to arithmetic and its mathematical and contextual relationships, extensions to integers, rational and irrational numbers, multiple representations. Prerequisites: ALEKS score of 30 or higher or MATH:1460 with a minimum grade of C- or MATH:1010 with a minimum grade of C- or MATH:1550 with a minimum grade of C- or MATH:1340 with a minimum grade of C- or MATH:1860 with a minimum grade of C- or MATH:1005 with a minimum grade of C- or MATH:1020 with a minimum grade of C- or MPT Level 3 score of 9 or higher or MATH:1850 with a minimum grade of C- or MATH:1380 with a minimum grade of C- or MATH:1440 with a minimum grade of C- or MATH:0100 with a minimum grade of C-. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

**MATH:1140 Mathematical Basis of Elementary Geometry** 3 s.h.

Points, lines, planes; measurement, two- and three-dimensional coordinate geometry, transformational geometry and vectors; applications of geometry to solve real-world problems. Prerequisites: MPT Level 3 score of 9 or higher or MATH:1850 with a minimum grade of C- or ALEKS score of 30 or higher or MATH:1010 with a minimum grade of C- or MATH:1005 with a minimum grade of C- or MATH:1380 with a minimum grade of C- or MATH:0100 with a minimum grade of C- or MATH:1440 with a minimum grade of C- or MATH:1460 with a minimum grade of C- or MATH:1340 with a minimum grade of C- or MATH:1860 with a minimum grade of C- or MATH:1020 with a minimum grade of C- or MATH:1550 with a minimum grade of C-. Requirements: elementary teacher certificate candidacy or certification. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course.

**MATH:1210 Diverse Perspectives in the Mathematical Sciences** 3 s.h.

Exploration of the wide diversity of cultures and individuals who have contributed to mathematical sciences; experiences and cultural messages that have shaped our own mathematical attitudes; numerous mathematical contributions of women, people of color, and members of other underrepresented groups—their accomplishments, challenges they faced, and factors that led to their success; revisiting and revising our own attitudes toward mathematics in light of what is read to incorporate a larger vision of mathematics and of people who do mathematical work. GE: Diversity and Inclusion.

**MATH:1250 Mathematics for Arts and Humanities** 3 s.h.

Introduction to mathematical concepts via their applications in arts and humanities: mathematical patterns in nature; mathematics in ecology, religion, history, and linguistics; cryptology; modeling with mathematics; *The Matrix* directed by the Wachowskis; and *Star Wars* directed by George Lucas; students solve basic mathematical problems involving quadratic equation, exponential function, matrices, permutations, and combinatorics; application of mathematical logic to solve various mathematical games; application of mathematical concepts to real life problems (e.g., data interpretations); understanding the mathematics behind games, ciphers, and patterns. GE: Quantitative or Formal Reasoning.

**MATH:1260 PokeMath: The Mathematics of Pokemon Go** 3 s.h.

Use of mathematics to take Pokémon Go play to the next level; exposure to a range of topics central to applied mathematics including set theory, functions, probability and statistics, rates of change, and game theory; requires a mobile device with the game Pokémon Go. Pokémon Go is a registered trademark of the Pokémon Company. GE: Quantitative or Formal Reasoning.

**MATH:1340 Mathematics for Business** 4 s.h.

Algebraic techniques, functions and functional models, exponential and logarithmic functions and models, linear programming, informal introduction to calculus; examples and applications from management, economic sciences, related areas. Prerequisites: MATH:1005 with a minimum grade of C- or MPT Level 3 score of 9 or higher or ALEKS score of 45 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

**MATH:1350 Quantitative Reasoning for Business** 4 s.h.

Algebraic techniques and modeling; quantitative methods for treating problems that arise in management and economic sciences; topics include algebra techniques, functions and functional models, exponential and logarithmic functions and models, and a thorough introduction to differential calculus; examples and applications from management, economic sciences, and related areas; for students planning to major in business. Prerequisites: MATH:1005 with a minimum grade of C- or MATH:1340 with a minimum grade of C- or ALEKS score of 55 or higher or MPT Level 3 score of 9 or higher. GE: Quantitative or Formal Reasoning.

**MATH:1380 Calculus and Matrix Algebra for Business** 4 s.h.

Quantitative methods for treating problems arising in management, economic sciences, related areas; introduction to differential and integral calculus, systems of linear equations and matrix operations. Prerequisites: MATH:1340 with a minimum grade of C- or MPT Level 3 score of 9 or higher or MATH:1020 with a minimum grade of C- or ALEKS score of 65 or higher or MATH:1440 with a minimum grade of C- or MATH:1005 with a minimum grade of C-. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

**MATH:1440 Mathematics for the Biological Sciences** 4 s.h.

Relations, functions, coordinate systems, graphing, polynomials, trigonometric functions, logarithmic and exponential functions; discrete mathematics, probability; examples and applications from biological sciences. Prerequisites: MATH:1005 with a minimum grade of C- or MATH:1340 with a minimum grade of C- or ALEKS score of 55 or higher or MATH:1010 with a minimum grade of C- or MPT Level 3 score of 9 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

**MATH:1460 Calculus for the Biological Sciences 4 s.h.**

One-semester survey of calculus for students in biological or life sciences; nontheoretical treatment of differential and integral calculus; brief introduction to differential equations and probability with calculus, with applications to the life sciences. Prerequisites: MATH:1440 with a minimum grade of C- or MATH:1020 with a minimum grade of C- or (MATH:1005 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or ALEKS score of 70 or higher or (ALEKS score of 55 or higher and MATH:1010 with a minimum grade of C-) or (MATH:1010 with a minimum grade of C- and MATH:1340 with a minimum grade of C-) or MPT Level 3 score of 9 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

**MATH:1550 Engineering Mathematics I: Single Variable Calculus 4 s.h.**

Limits, derivatives, max/min, other applications, mean-value theorem, approximating functions, concavity, curve sketching, exponential models; Riemann sums, fundamental theorem; integration techniques, improper integrals, approximations. Prerequisites: (MATH:1010 with a minimum grade of C- and MATH:1005 with a minimum grade of C-) or MPT Level 3 score of 9 or higher or ALEKS score of 75 or higher or (MATH:1380 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or MATH:1020 with a minimum grade of C- or MATH:1460 with a minimum grade of C- or (MATH:1010 with a minimum grade of C- and ALEKS score of 55 or higher) or (MATH:1340 with a minimum grade of C- and MATH:1010 with a minimum grade of C-). Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

**MATH:1560 Engineering Mathematics II: Multivariable Calculus 4 s.h.**

Vector geometry; functions of several variables; polar coordinates; partial derivatives, gradients, directional derivatives; tangent lines and planes; max/min/parametric curves, curvilinear motion; multiple integrals; vector fields, flows; integration on curves, work; divergence, flux, Green's theorem. Prerequisites: MATH:1550 with a minimum grade of C- or MATH:1850 with a minimum grade of C- or MPT Level 3 score of 15 or higher. Requirements: score of 4 or higher on AP Calc (AB) exam, or score of 4 or higher on AP Calc (BC) exam.

**MATH:1850 Calculus I 4 s.h.**

Fundamental concepts, limits, methods, and techniques of differential calculus of a single variable; definite and indefinite integrals, substitution rule, fundamental theorem of calculus; applications including graphing, extreme values, areas, and volumes. Prerequisites: (MATH:1010 with a minimum grade of C- and MATH:1380 with a minimum grade of C-) or MATH:1460 with a minimum grade of C- or ALEKS score of 75 or higher or MPT Level 3 score of 9 or higher or (ALEKS score of 55 or higher and MATH:1010 with a minimum grade of C-) or MATH:1020 with a minimum grade of C- or (MATH:1340 with a minimum grade of C- and MATH:1010 with a minimum grade of C-) or (MATH:1005 with a minimum grade of C- and MATH:1010 with a minimum grade of C-). Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course. GE: Quantitative or Formal Reasoning.

**MATH:1860 Calculus II 4 s.h.**

Techniques of integration including by-parts, trigonometric Integrals, trigonometric substitutions, partial fractions, improper integrals; applications (i.e., arclength), area surfaces of revolutions, application to physics; introduction to differential equations; parametric equations and polar coordinates; infinite sequences and series, convergence tests, power series, Taylor polynomials and series. Prerequisites: MATH:1550 with a minimum grade of C- or MATH:1850 with a minimum grade of C- or MPT Level 3 score of 15 or higher. Recommendations: it is strongly recommended that students whose math placement score is older than one year retake the math placement test for accurate placement and success in the course.

**MATH:2150 Foundations of Geometry 3 s.h.**

Axiomatic development of common foundation for Euclidean, non-Euclidean geometry; constructions of non-Euclidean models, independence of parallel postulate. Prerequisites: MATH:1860 or MATH:1560.

**MATH:2550 Engineering Mathematics III: Matrix Algebra 2 s.h.**

Applications, computers for matrix calculations; matrix, vector arithmetic; linear independence, basis, subspace (in  $R^2$ ,  $R^3$ ); systems of equations, matrix reduction; rank, dimension; determinants, applications; eigenvalues, eigenvectors; diagonalization, principal axis theorem. Prerequisites: MATH:1850 or MATH:1550 or MATH:1860 or MATH:1560 or MPT Level 3 score of 15 or higher.

**MATH:2560 Engineering Mathematics IV: Differential Equations 3 s.h.**

Ordinary differential equations and applications; first-order equations; higher order linear equations; systems of linear equations, Laplace transforms; introduction to nonlinear equations and systems, phase plane, stability. Prerequisites: (MATH:1560 or MATH:1860) and (MATH:2700 or MATH:2550).

**MATH:2700 Introduction to Linear Algebra 4 s.h.**

Vector algebra and geometry of three-dimensional Euclidean space and extensions to n-space and vector spaces; lines and planes, matrices, linear transformations, systems of linear equations, reduction to row echelon form, dimension, rank, determinants, eigenvalues and eigenvectors, diagonalization, Principal Axis Theorem. Prerequisites: MATH:1850 or MATH:1550 or MATH:1860 or MATH:1560 or MPT Level 3 score of 15 or higher.

**MATH:2850 Calculus III 4 s.h.**

Multivariable calculus; vector functions, total differentials, gradient, implicit functions, coordinate systems, Taylor's expansion, extrema, multiple integrals, vector fields, line integrals, surface integrals, and Green's, Stokes', and divergence theorems. Prerequisites: MATH:1860 with a minimum grade of C- or MATH:1560 with a minimum grade of C-.

**MATH:2995 Introduction to Research Opportunities 1 s.h.**

Modern mathematics research areas and activities; seminar. Prerequisites: (MATH:2700 or MATH:2550) and (MATH:1560 or MATH:1860).

- MATH:3550 Engineering Mathematics V: Vector Calculus** 3 s.h.  
 Partial derivatives, max-min problems, integrals along curves, surfaces and solids, vector fields and conservation of energy; curl, divergence, Stokes' theorem and the divergence theorem; the classical partial differential equations and qualitative behavior of their solutions. Prerequisites: MATH:1560 and (MATH:2550 or MATH:2700). Corequisites: MATH:2560.
- MATH:3600 Introduction to Ordinary Differential Equations** 2-3 s.h.  
 First-order ordinary differential equations; second-order linear differential equations; series solutions; higher-order linear and matrix differential equations; existence and uniqueness theorems; may include introduction to basic partial differential equations (PDE) or Laplace Transforms. Prerequisites: (MATH:1560 or MATH:1860) and (MATH:2550 or MATH:2700). Corequisites: MATH:2850 (if not taken as a prerequisite). Requirements: prior or concurrent enrollment in MATH:2850.
- MATH:3700 Introduction to Matrix Theory** 3 s.h.  
 Vector algebra and geometry of three-dimensional Euclidean space and extensions to  $n$ -space and vector spaces; lines and planes, matrices, linear transformations, systems of linear equations, reduction to row-echelon form, dimension, rank, determinants, eigenvalues and eigenvectors, diagonalization, Principal Axis Theorem. Requirements: graduate standing.
- MATH:3720 Introduction to Abstract Algebra I** 4 s.h.  
 Basic logic, proof methods, sets, functions, relations, mathematical induction; gradual transition from familiar number systems to abstract structures—division algorithm, unique factorization theorems; groups, subgroups, quotient groups, homomorphisms. Prerequisites: MATH:2700 or MATH:2550.
- MATH:3750 Classical Analysis** 4 s.h.  
 Multivariable calculus; vector functions, total differentials, gradient, implicit functions, coordinate systems, Taylor's expansion, extrema, multiple integrals, vector fields, line integrals, surface integrals, and Green's, Stokes', and divergence theorems. Requirements: graduate standing and one year of calculus.
- MATH:3770 Fundamental Properties of Spaces and Functions I** 4 s.h.  
 Elementary topological and analytic properties of real numbers; emphasis on ability to handle definitions, theorems, proofs. Prerequisites: MATH:1560 or MATH:1860. Corequisites: MATH:2700. Requirements: second-semester calculus.
- MATH:3800 Introduction to Numerical Methods** 3 s.h.  
 Computer arithmetic, root finding, polynomial approximation, numerical integration, numerical linear algebra, numerical solution of differential equations; use of a higher-level computer language such as Matlab, Python, or Julia. Prerequisites: (MATH:2550 or MATH:2700) and (MATH:1560 or MATH:1860). Same as CS:3700.
- MATH:3900 Introduction to Mathematics Research** 3 s.h.  
 Research experience; students study an elementary topic of active research, then work in groups under faculty supervision. Prerequisites: (MATH:2700 or MATH:2550) and (MATH:1860 or MATH:1560).
- MATH:3995 Topics in Mathematics** 3 s.h.  
 Varied topics. Recommendations: junior, senior, or graduate standing in mathematics, classics, or related fields.
- MATH:3996 Individual Study and Honors in Mathematics** arr.
- MATH:3997 Readings in Mathematics** arr.
- MATH:4010 Basic Analysis** 3 s.h.  
 Elementary topological and analytical properties of real numbers; emphasis on ability to handle definitions, theorems, proofs; same material as MATH:3770 for non-mathematics graduate students. Requirements: graduate standing, one year of calculus, and one semester of linear algebra.
- MATH:4020 Basic Abstract Algebra** 3 s.h.  
 Basic logic, proof methods, sets, functions, relations, mathematical induction; gradual transition from familiar number systems to abstract structures (division algorithm, unique factorization theorems); groups, subgroups, quotient groups, homomorphisms; same material as MATH:3720; for non-mathematics graduate students. Requirements: graduate standing, one year of calculus, and one semester of linear algebra.
- MATH:4040 Matrix Theory** 3 s.h.  
 Vector spaces, linear transformations, matrices, equivalence of matrices, eigenvalues and eigenvectors, canonical forms, similarity, orthogonal transformations, bilinear and quadratic forms. Prerequisites: MATH:2700 or MATH:3700.
- MATH:4050 Introduction to Discrete Mathematics** 3 s.h.  
 Basic methods of enumerative combinatorics, inclusion-exclusion and generating functions, applications of group theory (Polya-Burnside theorem). Offered fall semesters. Prerequisites: (MATH:1860 or MATH:1560) and (MATH:2550 or MATH:2700).
- MATH:4060 Discrete Mathematical Models** 3 s.h.  
 Basic combinatorics and graph theory, their applications (which may include scheduling, matching, optimization); Eulerian and Hamiltonian paths, spanning trees. Offered spring semesters. Prerequisites: MATH:2700 or MATH:2550.
- MATH:4080 Elementary Theory of Numbers** 3 s.h.  
 Factorization, congruence, Diophantine equations, law of quadratic reciprocity. Prerequisites: MATH:1860 and MATH:2700.
- MATH:4090 A Rigorous Introduction to Abstract Algebra** 4 s.h.  
 Rigorous review of groups including homomorphisms and quotient groups; group actions; Sylow's theorems; rigorous review of rings; ideals, ring homomorphisms, quotient rings; polynomial rings; vector spaces and linear transformations; basic field theory; serves as a bridge between MATH:3720 and MATH:5000. Prerequisites: MATH:3720. Requirements: MATH:3720 or graduate standing.
- MATH:4095 Rigorous Introduction to Module Theory and Galois Theory** 4 s.h.  
 Rigorous review of vector spaces and linear transformations; introduction to module theory, including finitely generated modules over principal ideal domains; rigorous introduction to field theory, including existence of algebraic closure and splitting fields; introduction to Galois theory, including solvability by radicals. Prerequisites: MATH:4090 or MATH:5000.
- MATH:4120 History of Mathematics** 3 s.h.  
 May include numerical systems; Babylonian, Egyptian, and Greek mathematics; mathematics of other cultures; calculus; 19th- and 20th-century mathematics. Prerequisites: (MATH:2700 or MATH:2550) and (MATH:1560 or MATH:1860). Requirements: two semesters of calculus and one semester of linear algebra.

- MATH:4200 Complex Variables** 3 s.h.  
Geometry of complex plane, analytic functions; Cauchy-Goursat theorem, applications; Laurent series, residues, elementary conformal mapping. Prerequisites: MATH:2850 or MATH:1560 or MATH:3750.
- MATH:4210 Foundations of Analysis** 4 s.h.  
Introduction to fundamental ideas of analysis; emphasis on understanding and constructing definitions, theorems, and proofs; real and complex numbers, set theory in metric spaces, compactness and connectedness, sequences, Cauchy sequences, series, and continuity; elements of differential and integral calculus; sequences and series of functions; modes of convergence; equicontinuity; serves as a bridge between MATH:3770 and MATH:5200. Prerequisites: MATH:3770. Requirements: MATH:3770 or graduate standing.
- MATH:4250 Introduction to Financial Mathematics** 3 s.h.  
Financial mathematics; option pricing and portfolio optimization, stochastic integration, methods due to Ito and Feynman-Kac, Monte-Carlo simulation. Prerequisites: MATH:2850 or STAT:3120.
- MATH:4500 Introduction to Differential Geometry I** 3 s.h.  
Space curves, Frenet frames, intrinsic and extrinsic geometry of surfaces, first and second fundamental forms, isometries, Gauss map, Gaussian curvature, Theorema Egregium, geodesics, covariant differentiation; may include global theory of curves and Gauss-bonnet theorem. Prerequisites: (MATH:3550 or MATH:2850) and (MATH:2700 or MATH:2550).
- MATH:4510 Introduction to Differential Geometry II** 3 s.h.  
Continuation of MATH:4500; geometry of surfaces in Euclidean space, Gauss-Bonnet theorem and its applications, minimal surfaces, abstract surfaces; may include Riemannian manifolds, connections, elementary Lie groups, applications of differential geometry to other disciplines (physics, engineering). Prerequisites: MATH:4500.
- MATH:4610 Continuous Mathematical Models** 3 s.h.  
Building and analyzing mathematical models involving differential equations for specific problems from engineering and the sciences; modeling project. Prerequisites: MATH:2560 or MATH:3600.
- MATH:4740 Large Data Analysis** 3 s.h.  
Current areas that deal with problem of big data; techniques from computer science, mathematics, statistics; high performance and parallel computing, matrix techniques, cluster analysis, visualization; variety of applications including Google PageRank, seismology, Netflix-type problems, weather forecasting; fusion of data with simulation; projects. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:3800 or CS:3700) and (STAT:3200 or ISE:3760 or IGPI:3200). Same as CS:4740, IGPI:4740, STAT:4740.
- MATH:4750 Introduction to Mathematical Biology** 3 s.h.  
Use and creation of mathematical models in biology, primarily those using continuous dynamical systems ordinary and partial differential equations; may include additional approaches (e.g., game theory, discrete models); modeling approaches—the model as representation—and canonical models in context of example systems drawn from a range of application areas including, but not limited to, neurobiology, electrophysiology, epidemiology, ecology, evolution, demography, and spatiotemporal pattern formation including morphogenesis. Prerequisites: MATH:3600 or MATH:2560.
- MATH:4820 Optimization Techniques** 3 s.h.  
Basic theory of optimization, use of numerical algorithms in solution of optimization problems; linear and nonlinear programming, sensitivity analysis, convexity, optimal control theory, dynamic programming, calculus of variations. Prerequisites: (MATH:2700 or MATH:2550) and (ME:4111 or MATH:3800 or CS:3700) and (MATH:1560 or MATH:2850). Same as CS:4720.
- MATH:4840 Mathematics of Machine Learning** 3 s.h.  
Mathematical aspects of machine learning; regression methods and related issues of overfitting, generalization error, cross-validation; matrix methods for dimension reduction; optimization for support vector machines and neural networks, including convex duality and "kernel trick" for support vector machines; training of neural networks using backpropagation and gradients; reliability of optimization methods for nonconvex optimization; approximation properties of neural networks; convolutions for handling sound and image data; game theory for adversarial networks. Prerequisites: (MATH:2550 or MATH:2700) and (MATH:1560 or MATH:2850 or MATH:3550).
- MATH:4860 High Performance and Parallel Computing** 3 s.h.  
Parallel algorithms presented and implemented with different approaches and libraries (e.g., OpenMP, MPI); various platforms including Message Passing Clusters, Multicore and GPUs, MapReduce (Hadoop), and related current topics; scientific computing and large data analysis projects. Prerequisites: (CS:2210 with a minimum grade of C- or MATH:4050) and CS:2230 with a minimum grade of C-. Same as CS:4700.
- MATH:5000 Abstract Algebra I** 4 s.h.  
Groups and homomorphisms, Sylow Theorems, rings, finitely generated modules over a PID, Galois theory, vector spaces, linear transformations and matrices, canonical forms. Prerequisites: MATH:3720.
- MATH:5010 Abstract Algebra II** 4 s.h.  
Continuation of MATH:5000. Prerequisites: MATH:5000.
- MATH:5200 Introduction to Analysis I** 4 s.h.  
Real numbers, fundamentals of limits and continuity in the context of metric spaces; Lebesgue theory of functions of one real variable. Prerequisites: MATH:3770 or MATH:4210. Requirements: MATH:3770 or graduate standing.
- MATH:5210 Introduction to Analysis II** 4 s.h.  
Local theory of analytic functions of one complex variable, power series, classical transcendental functions; spaces of functions. Prerequisites: MATH:5200.
- MATH:5400 Fundamental Groups and Covering Spaces** 4 s.h.  
Homotopy, homotopy equivalence, homotopy extension property, fundamental group, Van Kampen's theorem, free products of groups, covering spaces, lifting properties, classification of covering spaces, deck transformations and group actions, cell complexes, applications to cell complexes, graphs and free groups; may include simplicial homology and point-set topology topics. Prerequisites: MATH:3770 or MATH:4210.
- MATH:5410 Introduction to Smooth Manifolds** 4 s.h.  
Calculus on smooth manifolds; smooth functions, mean value theorem, chain rule, smooth manifolds, tangent vectors, tangent spaces, inverse and implicit functions theorems, submersions and immersions, vector fields, flows, multilinear algebra, differential forms, Stokes theorem. Prerequisites: MATH:2700 and MATH:2850 and MATH:5400.

- MATH:5600 Nonlinear Dynamics with Numerical Methods** 4 s.h.  
Linear systems of differential equations (fundamental solutions, matrix exponentials, Floquet theory); nonlinear differential equations (theorem for existence and uniqueness, flows, attractors); local nonlinear theory (invariant manifolds, Hartman-Grobman theorem, Poincare maps); global nonlinear theory (Poincare-Bendixson criterion, Lyapunov functions, gradient systems, Hamiltonian systems); bifurcations (saddle-node, pitchfork, transcritical, Hopf); introduction to chaos theory (Lorenz equations); computational methods to solve numerically differential equations and to draw phase planes and trajectories. Prerequisites: MATH:3600 and (MATH:3770 or MATH:4210).
- MATH:5700 Introduction to Partial Differential Equations** 4 s.h.  
Diffusion, Laplace, and wave equations; scalar conservation laws; weak solutions and energy methods. Prerequisites: MATH:2850 and MATH:3600 and (MATH:3770 or MATH:4210).
- MATH:5750 Mathematical Biology I** 4 s.h.  
Topics in mathematical biology; canonical mathematical modeling and analysis of problems in the biological sciences; first of a two-semester sequence. Prerequisites: MATH:5600 and MATH:5700.
- MATH:5760 Mathematical Biology II** 4 s.h.  
Topics in mathematical biology; canonical mathematical modeling and analysis of problems in the biological sciences; second of a two-semester sequence. Corequisites: MATH:5600 and MATH:5700, if not taken as prerequisites.
- MATH:5800 Numerical Methods I** 4 s.h.  
Root finding for nonlinear equations; polynomial interpolation; polynomial approximation of functions; numerical integration. Prerequisites: MATH:2700 and (MATH:2850 or MATH:3550). Requirements: knowledge of computer programming. Same as CS:5710.
- MATH:5810 Numerical Methods II** 4 s.h.  
Numerical methods for initial value problems for ordinary differential equations; direct and iterative methods for linear systems of equations; eigenvalue problems for matrices. Prerequisites: MATH:2700 and MATH:5800 and (MATH:2850 or MATH:3550) and (MATH:3600 or MATH:2560). Requirements: knowledge of computer programming. Same as CS:5720.
- MATH:5900 First-Year Graduate Seminar** 1 s.h.  
Introduction to mathematics graduate program. Requirements: first-year graduate standing in mathematics.
- MATH:5950 Qualifying Exam Preparation Seminars** 0 s.h.  
Exam preparation in pure and applied mathematics.
- MATH:6000 Categories and Modules** 3 s.h.  
Introduction to categories and functors; emphasis on module categories, products and coproducts, hom functors and tensor product functors, exact sequences, projective/injective/flat modules, Noetherian and Artinian rings and modules, composition series and Jordan-Hölder theorem, Jacobson radical, Nakayama's lemma, semisimple rings and modules, and Artin-Wedderburn structure theorem. Prerequisites: MATH:5010.
- MATH:6010 Commutative Algebra and Representation Theory** 3 s.h.  
Fundamental notions in commutative algebra and representation theory; specific topics may include Gröbner bases, associated primes, primary decomposition, valuation rings, affine and projective varieties, group representations, characters, orthogonality relations, and other branches of representation theory. Prerequisites: MATH:5010.
- MATH:6200 Analysis I** 3 s.h.  
Lebesgue measure and integral, fundamental theorem of calculus, abstract measures and integration, Fubini's theorem, Radon-Nikodym theorem, Riesz representation theorem, L-p spaces. Prerequisites: MATH:5210.
- MATH:6210 Analysis II** 3 s.h.  
Hilbert space, Banach space techniques; Hahn-Banach theorem, open mapping theorem, principle of uniform boundedness; reflexivity, H-p spaces, Paley-Wiener theorem, space of functions analytic on the open unit disk. Prerequisites: MATH:6200.
- MATH:6400 Algebraic Topology** 3 s.h.  
Singular homology, relative homology, homotopy invariance, exact sequences and excision, cellular homology, Mayer-Vietoris sequences, homology with coefficients, axioms for homology, Hurewicz theorem, cohomology groups, universal coefficient theorem, cup product, cohomology ring, fundamental class, Poincaré duality. Prerequisites: MATH:5400.
- MATH:6410 Introduction to Differential Topology** 3 s.h.  
Manifolds, functions: tangent bundle, Morse-Sard theorem, transversality, submanifolds, tubular neighborhoods, normal bundles, vector fields, degree and intersection theory, fixed-point theory, Morse theory. Prerequisites: MATH:5410.
- MATH:6500 Differential Geometry I** 3 s.h.  
Differentiable manifolds, forms, tensors, Riemannian metrics, isometries, connections, geodesics, curvature, related topics. Prerequisites: MATH:5410.
- MATH:6510 Differential Geometry II** 3 s.h.  
Continuation of MATH:6500; varied topics, may include study of existence and uniqueness of solutions to differential equations and systems related to geometry, indefinite metrics, Lie groups, attributes of manifolds with particular curvature properties, global Riemannian geometry, Kahler geometry, applications of differential geometry to other disciplines. Prerequisites: MATH:6500.
- MATH:6600 Ordinary Differential Equations I** 3 s.h.  
Existence, uniqueness, continuous dependence of solutions to initial value problems, variational calculus, Lagrangian and Hamiltonian systems, differential inequalities, perturbation theory, normal forms, invariant manifolds, KAM theory, bifurcation theory, boundary value problems. Prerequisites: MATH:5210.
- MATH:6610 Ordinary Differential Equations II** 3 s.h.  
Continuation of MATH:6600. Prerequisites: MATH:6600.
- MATH:6700 Partial Differential Equations I** 3 s.h.  
Elliptic equations; potential theory, maximum principle, a priori estimate, Dirichlet problem; initial value problem for parabolic equations; hyperbolic equations; Duhamel's principle, Cauchy problem; nonlinear equations, characteristics, canonical form, first-order systems. Prerequisites: MATH:5210.
- MATH:6710 Partial Differential Equations II** 3 s.h.  
Continuation of MATH:6700. Prerequisites: MATH:6700.



- MATH:6850 Advanced Numerical Methods I** 3 s.h.  
Theoretical foundations of numerical analysis, within framework of functional analysis; application areas including approximation theory, numerical methods for partial differential equations, integral equations; introduction to functional analysis. Prerequisites: MATH:5200 and MATH:5210 and MATH:5800 and MATH:5810.
- MATH:6860 Advanced Numerical Methods II** 3 s.h.  
Continuation of MATH:6850. Prerequisites: MATH:6850.
- MATH:7000 Homological Algebra** 2-3 s.h.  
Fundamental notions in homological algebra, including derived functors (Ext and Tor); specific topics may include group cohomology, spectral sequences, and derived categories. Prerequisites: MATH:6000.
- MATH:7020 Algebraic Number Theory** 3 s.h.  
Topics include integral elements, integrally closed rings, algebraic extensions, norms and traces, the discriminant; number fields and some analogues in positive characteristic, global fields; class groups, unit groups; valuations and local fields; adèle ring and idele group attached to global fields; L-functions (including the Riemann zeta function) and class number formulas. Prerequisites: MATH:5000 and MATH:5010.
- MATH:7030 Topics in Algebra** 2-3 s.h.  
May include algebraic number theory, groups, representation theory, algebras, ideal theory, lattice theory. Prerequisites: MATH:6010.
- MATH:7070 Seminar: Algebra** arr.
- MATH:7080 Seminar: Commutative Ring Theory** arr.
- MATH:7090 Seminar: Representation Theory** arr.
- MATH:7200 Functional Analysis I** 2-3 s.h.  
Locally convex topological vector spaces, duality, tensor products and nuclear spaces; Krein-Millman theorem, Choquet's theory; geometry of Banach spaces, nonlinear functional analysis; operators on Hilbert spaces, spectral theorem, algebras of operators. Prerequisites: MATH:6210.
- MATH:7210 Functional Analysis II** 2-3 s.h.  
Continuation of MATH:7200. Prerequisites: MATH:7200.
- MATH:7250 Topics in Analysis** 2-3 s.h.  
Measure theory, integration, general topology.
- MATH:7290 Seminar: Operator Theory** arr.
- MATH:7400 Current Geometry and Topology I** 3 s.h.  
Introduction to current topics in geometry and topology: Gromov-Witten theory, moduli spaces, Floer theory, mirror symmetry, geometric analysis, conformal geometry, knots and braids, topological data analysis, contact and symplectic topology, mapping class groups, categorification, Heegaard splittings of 3-manifolds, trisections of 4-manifolds, quantum topology, and Skein theory. Prerequisites: MATH:5400 and MATH:5410.
- MATH:7450 Current Geometry and Topology II** 2-3 s.h.  
Introduction to current topics in geometry and topology: Gromov-Witten theory, moduli spaces, Floer theory, mirror symmetry, geometric analysis, conformal geometry, knots and braids, topological data analysis, contact and symplectic topology, mapping class groups, categorification, Heegaard splittings of 3-manifolds, trisections of 4-manifolds, quantum topology, and Skein theory. Prerequisites: MATH:5400 and MATH:5410.
- MATH:7470 Seminar: Topology** arr.
- MATH:7570 Seminar: Differential Geometry** arr.
- MATH:7580 Seminar: Mathematical Physics** arr.
- MATH:7630 Topics in Mathematical Biology** 2-3 s.h.  
Application of mathematics to biology.
- MATH:7660 Seminar: Nonlinear Dynamics and Differential Equations** arr.
- MATH:7670 Seminar: Mathematical Biology** arr.
- MATH:7730 Topics in Partial Differential Equations** 2-3 s.h.  
Regularity theory, nonlinear analysis in partial differential equations, fluid dynamics, harmonic analysis, conservation laws, other topics.
- MATH:7770 Seminar: Partial Differential Equations** arr.
- MATH:7830 Topics in Applied Mathematics** 3 s.h.  
Application of mathematics to other disciplines.
- MATH:7870 Seminar: Numerical Analysis** arr.
- MATH:7990 Reading Research** arr.

# Mathematics, B.A.

Bachelor of Arts students majoring in mathematics enroll in one of three programs: Program A is for students who plan to work in business or government or pursue graduate study in mathematics; Program B is for students who seek secondary school teaching licensure; and Program C is for those seeking specialization in a math-related area, such as actuarial science, biomathematics, biostatistics, business, computer science, economics, engineering, finance, physics, statistics, and so forth. Program C may be especially appropriate for students who plan to seek a math-related job after earning a bachelor's degree, rather than going on to graduate study.

## Learning Outcomes

Math majors will be able to demonstrate the ability to:

- give correct, logical mathematical proofs using mathematical terminology and hypotheses;
- reason logically and quantitatively using algebraic, analytic, and numerical methods;
- incorporate mathematical ideas and reasoning into well-written English; and
- model and analyze problems in pure mathematics and in other disciplines.

## B.A. with Second Major

Students majoring in mathematics may choose to earn a second major in computer science, statistics, actuarial science, or other disciplines. They must satisfy all requirements of Program A, Program B, or Program C in mathematics as well as all requirements for the second major. For more information, consult an advisor and see Declaring or Changing a Major on the College of Liberal Arts and Sciences website.

## Transfer from Engineering to Mathematics

Certain engineering students who have completed MATH:1550 Engineering Mathematics I: Single Variable Calculus, MATH:1560 Engineering Mathematics II: Multivariable Calculus, MATH:2550 Engineering Mathematics III: Matrix Algebra, MATH:2560 Engineering Mathematics IV: Differential Equations, or MATH:3550 Engineering Mathematics V: Vector Calculus may count these courses toward the major in mathematics. See the Department of Mathematics website.

### Requirements

The Bachelor of Arts with a major in mathematics requires a minimum of 120 s.h., including at least 38-48 s.h. (11-12 courses) of work for the major. Total credit for the major depends on a student's choice of Program A, B, or C. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

All students complete the post-calculus mathematics requirement, the upper-level mathematics requirement, and the requirements for Program A, B, or C.

For policies concerning transfer credit, correspondence credit, credit by examination, cumulative grade-point average, general rules relating to regression and duplication, and so

forth, see For Undergraduate Students on the College of Liberal Arts and Sciences website.

For information about duplication, regression, and use of the second-grade-only option for mathematics courses, contact the Department of Mathematics or visit the Department of Mathematics website. The website also provides details about schedule planning and career options for mathematics students. For more information on admission, financial support, employment opportunities, the faculty, facilities, and other topics, visit the Department of Mathematics or the University of Iowa website.

The B.A. with a major in mathematics (Program A, B, or C) requires the following coursework.

Code	Title	Hours
Program Requirements (semester hours vary in Program A, B, or C selection)		38-48
<b>Total Hours</b>		<b>38-48</b>

## Post-Calculus Mathematics Requirement

Students majoring in mathematics must earn at least 15 s.h. in post-calculus mathematical sciences courses offered by the University of Iowa; students may not count transfer courses or credit by exam toward this requirement. At least 12 s.h. of the required 15 s.h. in post-calculus courses must be earned in Department of Mathematics courses (prefix MATH) or in courses cross-listed with the department.

Post-calculus courses in the Department of Mathematics are numbered 2000 or above, excluding these:

Code	Title	Hours
MATH:3700	Introduction to Matrix Theory	3
MATH:3750	Classical Analysis	4
MATH:3995	Topics in Mathematics	3
MATH:3996	Individual Study and Honors in Mathematics	arr.
MATH:3997	Readings in Mathematics	arr.
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3

Post-calculus courses offered by the Department of Computer Science and the Department of Statistics and Actuarial Science must have a calculus prerequisite.

## Upper-Level Mathematics Requirement

Majors must take at least one upper-level mathematics course for the B.A. degree. Upper-level mathematics courses include MATH:3900 Introduction to Mathematics Research and courses numbered 4000 or above, excluding these:

Code	Title	Hours
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3
MATH:4120	History of Mathematics	3

No courses from other departments can be counted as upper-level mathematics courses unless they are cross-listed with an upper-level mathematics course (prefix MATH).

## Program A

Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.

### Program A: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit granted through the Mathematics Incentive Program are accepted for all or part of the calculus requirement.

Students complete the following core courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3600	Introduction to Ordinary Differential Equations	3
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4

More advanced courses may be substituted for the core courses with Department of Mathematics approval.

### Program A: Electives

Students complete four electives (12-16 s.h.), including at least one upper-level mathematics course.

#### Mathematics

Students may choose from mathematics courses numbered MATH:2150 Foundations of Geometry, MATH:3800 Introduction to Numerical Methods or courses above MATH:3800, excluding MATH:4010 Basic Analysis and MATH:4020 Basic Abstract Algebra.

#### Computer Science

Students may choose computer science courses numbered CS:1210 through CS:4740, excluding CS:3210 Programming Languages and Tools, CS:3910 Informatics Project, CS:3980 Topics in Computer Science I, and CS:3990 Honors in Computer Science or Informatics.

#### Statistics and Actuarial Science

Students may choose statistics courses numbered STAT:2020 Probability and Statistics for the Engineering and Physical Sciences, STAT:3100 through STAT:4740, STAT:5100 through STAT:5120, excluding STAT:3510 Biostatistics, STAT:4143 Introduction to Statistical Methods, and STAT:4200 Statistical Methods and Computing.

Among the courses listed above, only one of the following three courses, STAT:2020, STAT:3100, or STAT:3120 can be counted; although none of these courses can be counted if taken after STAT:4100.

Students may choose actuarial science courses numbered ACTS:3080 Mathematics of Finance I and ACTS:4130 through ACTS:4380.

Consult the Department of Mathematics website for a complete list of electives in computer science, and statistics and actuarial science.

## Program B

Program B is intended for students seeking secondary school teaching licensure. Students who wish to earn teaching licensure in addition to earning a Bachelor of Arts with a major in mathematics also must complete the Teacher Education Program (TEP); see "Teacher Licensure" below.

### Program B: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program are accepted for part or all of the calculus requirement. Students complete the following core courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2150	Foundations of Geometry	3
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4
MATH:4050 or MATH:4060	Introduction to Discrete Mathematics Discrete Mathematical Models	3
CS:1210	Computer Science I: Fundamentals	4
STAT:3120	Probability and Statistics	4

More advanced courses may be substituted for the core courses with Department of Mathematics approval.

### Program B: Electives

Students in Program B must take at least one additional Department of Mathematics post-calculus course (3-4 s.h.). The post-calculus courses must be chosen avoiding duplication and regression with the core mathematics courses, particularly when engineering mathematics courses are considered. With the department's approval, capable students are encouraged to substitute more advanced courses in the same subject area for any of the electives. The Department of Mathematics website offers advice on course selection.

### Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

Students who wish to earn teacher licensure should choose Program B; see "Program B" above.

## Program C

Program C enables students to specialize in a mathematics-related subtrack, such as the mathematics of making

optimal business decisions, risk management and insurance, economics, finance, physics, chemistry, biostatistics, biomathematics, computer science, statistics and actuarial science, or all departments within the College of Engineering. In consultation with the faculty advisor, students build on the Program C core to prepare a subtrack plan of study tailored to their interests and academic or career goals. The proposed study plan must be approved by the Department of Mathematics.

Students must file their subtrack plan of study before they begin their senior year; they use the Program C Plan of Study form, available at the Department of Mathematics website. The website has templates for choosing electives in several areas; students may use these or propose other plans.

### Program C: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program are accepted for part or all of the calculus requirement. Students complete the following core mathematics courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
One additional "proofs" course such as MATH:3720 or MATH:3770		4

Some subtracks require additional courses beyond the five core mathematics courses; consult the Department of Mathematics website. These additional required courses count toward electives; some may be from other departments (see "Program C: Electives" below). Students who specialize in engineering should consult the Department of Mathematics website.

More advanced courses may be substituted for the core courses with Department of Mathematics approval.

### Program C: Electives

Students choose six or seven electives beyond the core math courses, depending on their subtrack. All electives must be offered for 3-4 s.h. of credit. At least three of the electives must be offered by the Departments of Computer Science, Mathematics, and Statistics and Actuarial Science (prefixes CS, MATH, and STAT or ACTS). At least two of the three electives must be post-calculus mathematics courses (prefix MATH). All B.A. students must take 15 s.h. of post-calculus mathematics courses at the University of Iowa and at least one upper-level mathematics course; see "Post-Calculus Mathematics Requirement" and "Upper-Level Mathematics Requirement" above.

Some subtracks require additional courses beyond the five core mathematics courses (see "Program C: Core Courses" above). These additional courses count toward electives; some may be from other departments. For a list of suggested subtracks and restrictions on electives as well as the additional required courses (if any) in each subtrack, consult the Department of Mathematics website.

## Combined Programs

### B.A./M.A.T. (Mathematics Education Subprogram)

The College of Liberal Arts and Sciences and the College of Education offer students the opportunity to earn their Bachelor of Arts/Master of Arts in Teaching degree with a mathematics education subprogram in as little as five years. Students can begin work toward the M.A.T. while completing their bachelor's degree. The combined program allows students to count a limited amount of credit toward both the B.A. and M.A.T. degree requirements.

Separate application to each program is required. For more information, see Mathematics Education [p. 1523] in the Master of Arts in Teaching, M.A.T. (College of Education) section in the Catalog.

## Honors

### Honors in the Major

Students majoring in mathematics have the opportunity to graduate with honors in the major. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, as required by the College of Liberal Arts and Sciences; additionally, students must complete all requirements for the major and must maintain a cumulative g.p.a. of at least 3.40 in the major, a g.p.a. set by the Department of Mathematics.

To graduate with honors in the major, students also must complete one of the options below.

#### Option 1

Students complete four of the courses below, including a two-course sequence; and at least one 5000 level course, with a B average for the four courses.

Code	Title	Hours
MATH:3900	Introduction to Mathematics Research	3
MATH:4090	A Rigorous Introduction to Abstract Algebra	4
MATH:4210	Foundations of Analysis	4
MATH:4610	Continuous Mathematical Models	3
MATH:4750	Introduction to Mathematical Biology	3
MATH:4820	Optimization Techniques	3
MATH:4840	Mathematics of Machine Learning	3
MATH:5000 & MATH:5010	Abstract Algebra I-II	8
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5400 & MATH:5410	Fundamental Groups and Covering Spaces - Introduction to Smooth Manifolds	8
MATH:5600 & MATH:5700	Nonlinear Dynamics with Numerical Methods - Introduction to Partial Differential Equations	8

MATH:5750 & Mathematical Biology I-II 8  
MATH:5760

MATH:5800 & Numerical Methods I-II 8  
MATH:5810

Mathematics courses (prefix MATH) numbered 6000 or above, to be approved by the mathematics honors advisor in advance

## Option 2

Students complete an honors project comparable to taking several of the courses above, approved by the mathematics honors advisor and the thesis supervisor. Students who choose this option typically register for MATH:3996 Individual Study and Honors in Mathematics for 3 s.h. or more. They must find a faculty member willing to supervise their project; contact the department for help finding a project supervisor. Contact the Department of Mathematics honors advisor for more information.

It is recommended that students who earn honors in mathematics pursue the B.S. degree.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program. Honors in mathematics is awarded by the Department of Mathematics and is separate from the University of Iowa Honors Program.

Membership in the UI Honors Program is not required to earn honors in the mathematics major. However, honors in mathematics can be applied toward UI Honors Program requirements.

### Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Many mathematics courses must be taken in sequence, so students must begin major requirements as early as possible, and individual plans of study must be constructed carefully. The major typically requires 11 or 12 courses. Students must choose Program A, B, or C by the end of the third semester and must remain in their chosen program until they graduate in order to stay on track for the four-year graduation plan.

**Before the third semester begins:** coursework in the major through second-semester calculus.

**Before the fifth semester begins:** two or three more courses in the major.

**Before the seventh semester begins:** three or four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two or three more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Mathematics, B.A.

- Program A [p. 837]
- Program B [p. 838]

### Program A

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.		
GE CLAS Core: Sustainability <sup>a</sup>		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1850	Calculus I <sup>b</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>d</sup>		2
CSI:1600	Success at Iowa	2
		<b>14-15</b>
<b>Spring</b>		
MATH:1860	Calculus II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
Elective course <sup>d</sup>		2
		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
GE CLAS Core: Social Sciences <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>d</sup>		1
		<b>16-17</b>
<b>Spring</b>		
MATH:3600	Introduction to Ordinary Differential Equations	3
MATH:3720	Introduction to Abstract Algebra I	4
GE CLAS Core: Historical Perspectives <sup>c</sup>		3

GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>	4 - 5
Elective course <sup>d</sup>	2

**Hours 16-17**

### Third Year

#### Fall

MATH:3770 Fundamental Properties of Spaces and Functions <sup>l</sup>	4
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Major: required post-calculus math elective course <sup>f</sup>	3
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GE CLAS Core: Natural Sciences with Lab <sup>c</sup>	4
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GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>	4 - 5
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Elective course <sup>d</sup>	1
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**Hours 16-17**

#### Spring

Major: required post-calculus math elective course <sup>f</sup>	3
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GE CLAS Core: Natural Sciences without Lab <sup>c</sup>	3
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GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>	4 - 5
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Elective course <sup>d, g</sup>	3
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Elective course <sup>d, g</sup>	3
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**Hours 16-17**

### Fourth Year

#### Fall

Major: required upper-level math elective course <sup>h</sup>	3
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GE CLAS Core: International and Global Issues <sup>c</sup>	3
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Elective course <sup>d, g</sup>	3
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Elective course <sup>d, g</sup>	3
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Elective course <sup>d, g</sup>	3
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**Hours 15**

#### Spring

Major: required post-calculus math elective course <sup>f</sup>	3
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Elective course <sup>d, g</sup>	3
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Elective course <sup>d, g</sup>	3
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Elective course <sup>d, g</sup>	3
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Elective course <sup>d, g</sup>	3
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Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	
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**Hours 15**

**Total Hours 123-129**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Students must earn at least 15 s.h. in post-calculus mathematical sciences courses offered by the University of Iowa. Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020. Required mathematical electives must include at least one upper-level math course (prefix MATH). Some statistics, actuarial science and computer sciences courses can be included among post-calculus electives only. See advisor for list of acceptable courses in MATH, STAT, ACTS, and CS.

g Electives may also be used to complete additional hours in the major up to a total of 56 s.h.

h Required mathematical electives must include at least one upper-level math course. These include: MATH:3900 and math courses (MATH prefix) numbered 4000 and higher, but not MATH:4010, MATH:4020 and MATH:4120. Each upper-level math course is offered at most once per year; choose when to complete the upper-level requirement according to spring or fall offerings for desired courses.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Program B

Course	Title	Hours
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### Academic Career

#### Any Semester

Program B is intended for students seeking secondary school teaching licensure.

Completion of mathematics (program B) BA, Teacher Education Program, and all general education requirements exceeds the minimum 120 s.h. required for graduation. Students should expect to take higher than average number of semester hours per term, take summer classes, and/or extend graduation time frame beyond four years.

Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please consult an advisor for the College of Education.

GE CLAS Core: Sustainability<sup>a</sup>

**Hours 0**

### First Year

#### Fall

MATH:1850	Calculus I <sup>b, c</sup>	4
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ENGL:1200	The Interpretation of Literature or RHET:1030 or Rhetoric	3 - 4
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GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
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CSI:1600	Success at Iowa	2
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**Hours 13-15**

#### Spring

MATH:1860	Calculus II <sup>b</sup>	4
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RHET:1030	Rhetoric or ENGL:1200 or The Interpretation of Literature	3 - 4
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GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
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Course(s) required for second degree - consult sample plan for BA in mathematics education 3  
 10-hour pre-admission school field experience<sup>b, e</sup>

**Hours 14-16**

### Summer

GE CLAS Core: International and Global Issues<sup>f</sup> 3

GE CLAS Core: Natural Sciences without Lab<sup>f</sup> 3

Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation)<sup>g</sup>

**Hours 6**

### Second Year

#### Fall

MATH:2700 Introduction to Linear Algebra 4

MATH:2850 Calculus III 4

GE CLAS Core: World Languages Second Level Proficiency or elective course<sup>d</sup> 4 - 5

Course(s) required for second degree - consult sample plan for BA in mathematics education 3

Admission Application: apply to the Teacher Education Program<sup>g</sup>

**Hours 15-16**

#### Spring

MATH:2150 Foundations of Geometry<sup>h</sup> 3

GE CLAS Core: Social Sciences<sup>f</sup> 3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>d</sup> 4 - 5

Course(s) required for second degree - consult sample plan for BA in mathematics education 6

**Hours 16-17**

#### Summer

GE CLAS Core: Natural Sciences with Lab<sup>f</sup> 4

**Hours 4**

### Third Year

#### Fall

MATH:3720 Introduction to Abstract Algebra I 4

MATH:4050 Introduction to Discrete Mathematics<sup>i</sup> 3

GE CLAS Core: Historical Perspectives<sup>f</sup> 3

Course(s) required for second degree, including a course that satisfies the GE CLAS Core Diversity and Inclusion area - consult sample plan for BA in mathematics education 6

**Hours 16**

#### Spring

MATH:3770 Fundamental Properties of Spaces and Functions I 4

STAT:3120 Probability and Statistics 4

Course(s) required for second degree, including a course that satisfies the GE CLAS Core Values and Culture area - consult sample plan for BA in mathematics education 6

Apply for student teaching (see the College of Education website for application instructions and deadlines)

**Hours 14**

### Fourth Year

#### Fall

CS:1210 Computer Science I: Fundamentals 4

Major: required post-calculus math elective course<sup>j</sup> 3 - 4

GE CLAS Core: Literary, Visual, and Performing Arts<sup>f</sup> 3

Course(s) required for second degree - consult sample plan for BA in mathematics education 3

**Hours 13-14**

### Spring

Course(s) required for second degree - consult sample plan for BA in mathematics education 15

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>k</sup>

Exam: edTPA<sup>l</sup>

**Hours 15**

**Total Hours 126-133**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Required for admission into the Teacher Education Program.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.

f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.

h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

i Students must complete MATH:4050, a fall-only course, or MATH:4060, a spring-only course.

j Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020.

k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

l As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The assessment is required before recommendation for licensure or certification to any state.

# Mathematics, B.S.

Bachelor of Science students majoring in mathematics enroll in one of three programs: Program A is for students who plan to work in business or government or pursue graduate study in mathematics; Program B is for students who seek secondary school teaching licensure; and Program C is for those seeking specialization in a mathematics-related area, such as actuarial science, biomathematics, biostatistics, business, computer science, economics, engineering, finance, physics, statistics, and so forth. Program C may be especially appropriate for students who plan to seek a mathematics-related job after earning a bachelor's degree, rather than going on to graduate study.

## Learning Outcomes

Math majors will be able to demonstrate the ability to:

- give correct, logical mathematical proofs using mathematical terminology and hypotheses;
- reason logically and quantitatively using algebraic, analytic, and numerical methods;
- incorporate mathematical ideas and reasoning into well-written English; and
- model and analyze problems in pure mathematics and in other disciplines.

## B.S. with Second Major

Students majoring in mathematics may choose to earn a second major in computer science, statistics, actuarial science, or other disciplines. They must satisfy all requirements of Program A, Program B, or Program C in mathematics as well as all requirements for the second major. For more information, consult an advisor and see Declaring or Changing a Major on the College of Liberal Arts and Sciences website.

## Transfer from Engineering to Mathematics

Certain engineering students who have completed MATH:1550 Engineering Mathematics I: Single Variable Calculus, MATH:1560 Engineering Mathematics II: Multivariable Calculus, MATH:2550 Engineering Mathematics III: Matrix Algebra, MATH:2560 Engineering Mathematics IV: Differential Equations, or MATH:3550 Engineering Mathematics V: Vector Calculus may count these courses toward the major in mathematics. See the Department of Mathematics website.

### Requirements

The Bachelor of Science with a major in mathematics requires a minimum of 120 s.h., including at least 44-56 s.h. (13-14 courses) of work for the major. Total credit for the major depends on a student's choice of Program A, B, or C. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

All students complete the post-calculus mathematics requirement, the upper-level mathematics requirement, and the requirements for Program A, B, or C.

For policies concerning transfer credit, correspondence credit, credit by examination, cumulative grade-point average, general rules relating to regression and duplication, and so

forth, see For Undergraduate Students on the College of Liberal Arts and Sciences website.

For information about duplication, regression, and use of the second-grade-only option for mathematics courses, contact the Department of Mathematics or visit the Department of Mathematics website. The website also provides details about schedule planning and career options for mathematics students. For more information on admission, financial support, employment opportunities, the faculty, facilities, and other topics, visit the Department of Mathematics or the University of Iowa website.

The B.S. with a major in mathematics (Program A, B, or C) requires the following coursework.

Code	Title	Hours
Program Requirements (semester hours vary in Program A, B, or C selection)		44-56
<b>Total Hours</b>		<b>44-56</b>

## Post-Calculus Mathematics Requirement

Students majoring in mathematics must earn at least 15 s.h. in post-calculus mathematical sciences courses offered by the University of Iowa; students may not count transfer courses or credit by exam toward this requirement. At least 12 s.h. of the required 15 s.h. in post-calculus courses must be earned in Department of Mathematics courses (prefix MATH) or in courses cross-listed with the department.

Post-calculus courses in the Department of Mathematics are numbered 2000 or above, excluding these:

Code	Title	Hours
MATH:3700	Introduction to Matrix Theory	3
MATH:3750	Classical Analysis	4
MATH:3995	Topics in Mathematics	3
MATH:3996	Individual Study and Honors in Mathematics	arr.
MATH:3997	Readings in Mathematics	arr.
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3

Post-calculus courses offered by the Department of Computer Science, and the Department of Statistics and Actuarial Science must have a calculus prerequisite.

## Upper-Level Mathematics Requirement

Mathematics majors must take at least two upper-level mathematics courses (three in Program A) for the B.S. degree. Upper-level mathematics courses include MATH:3900 Introduction to Mathematics Research and courses numbered 4000 or above, excluding these:

Code	Title	Hours
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3
MATH:4120	History of Mathematics	3

No courses from other departments can be counted as upper-level mathematics courses, unless they are cross-listed with an upper-level mathematics course (prefix MATH).



## Program A

Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.

### Program A: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit granted through the Mathematics Incentive Program are accepted for all or part of the calculus requirement.

Students complete the following core courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3600	Introduction to Ordinary Differential Equations	3
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4

More advanced courses may be substituted for the core courses with Department of Mathematics approval.

### Program A: Electives

Students complete six electives (18-24 s.h.), including at least three upper-level mathematics courses.

#### Mathematics

Students may choose from mathematics courses numbered MATH:2150 Foundations of Geometry, MATH:3800 Introduction to Numerical Methods or courses above MATH:3800, excluding MATH:4010 Basic Analysis and MATH:4020 Basic Abstract Algebra.

#### Computer Science

Students may choose computer science courses numbered CS:1210 through CS:4740, excluding CS:3210 Programming Languages and Tools, CS:3910 Informatics Project, CS:3980 Topics in Computer Science I, and CS:3990 Honors in Computer Science or Informatics.

#### Statistics and Actuarial Science

Students may choose statistics courses numbered STAT:2020 Probability and Statistics for the Engineering and Physical Sciences, STAT:3100 through STAT:4740, STAT:5100 through STAT:5120, excluding STAT:3510 Biostatistics, STAT:4143 Introduction to Statistical Methods, and STAT:4200 Statistical Methods and Computing.

Among the courses listed above, only one of the following three courses, STAT:2020, STAT:3100, or STAT:3120 can be counted; although none of these courses can be counted if taken after STAT:4100.

Students may choose actuarial science courses numbered ACTS:3080 Mathematics of Finance I and ACTS:4130 through ACTS:4380.

Consult the Department of Mathematics website for a complete list of electives in computer science, and statistics and actuarial science.

## Program B

Program B is intended for students seeking secondary school teaching licensure. Students who wish to earn teaching licensure in addition to earning a Bachelor of Science with a major in mathematics also must complete the Teacher Education Program (TEP); see "Teacher Licensure" below.

### Program B: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program are accepted for part or all of the calculus requirement. Students complete the following core courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2150	Foundations of Geometry	3
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4
MATH:4050 or MATH:4060	Introduction to Discrete Mathematics Discrete Mathematical Models	3
CS:1210	Computer Science I: Fundamentals	4
STAT:3120	Probability and Statistics	4

More advanced courses may be substituted for the core courses with Department of Mathematics approval.

### Program B: Electives

Students in Program B must take at least three additional Department of Mathematics post-calculus courses (9-12 s.h.), including two chosen from MATH:3900 Introduction to Mathematics Research and courses numbered 4000 or above, excluding MATH:4010 Basic Analysis and MATH:4020 Basic Abstract Algebra. The post-calculus courses must be chosen avoiding duplication and regression with the core math courses, particularly when engineering mathematics courses are considered. With the department's approval, capable students are encouraged to substitute more advanced courses in the same subject area for any of the electives. The Department of Mathematics website offers advice on course selection.

### Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

Students who wish to earn teacher licensure should choose Program B; see "Program B" above.

## Program C

Program C enables students to specialize in a mathematics-related subtrack, such as the mathematics of making optimal business decisions, risk management and insurance, economics, finance, physics, chemistry, biostatistics, biomathematics, computer science, statistics and actuarial science, or all departments within the College of Engineering. In consultation with the faculty advisor, students build on the Program C core to prepare a subtrack plan of study tailor-made to their interests and academic or career goals. The proposed study plan must be approved by the Department of Mathematics.

Students must file their subtrack plan of study before they begin their senior year; they use the Program C Plan of Study form, available at the Department of Mathematics website. The website has templates for choosing electives in several areas; students may use these or propose other plans.

### Program C: Core Courses

Students must complete a two-semester sequence of calculus I-II. Advanced placement credit, CLEP credit, and credit earned through the Mathematics Incentive Program are accepted for part or all of the calculus requirement. Students complete the following core math courses.

Code	Title	Hours
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
One additional "proofs" course such as MATH:3720 or MATH:3770		4

Some subtracks require additional courses beyond the five core mathematics courses; consult the Department of Mathematics website. These additional required courses count toward electives; some may be from other departments (see "Program C: Electives" below). Students who specialize in engineering should consult the Department of Mathematics website.

More advanced courses may be substituted for the core courses with Department of Mathematics approval.

### Program C: Electives

Students choose eight or nine approved electives. All electives must be offered for 3-4 s.h. of credit. At least three of the electives must be post-calculus mathematics courses (prefix MATH). All B.S. mathematics majors must take 15 s.h. of post-calculus mathematics courses at the University of Iowa and at least two upper-level mathematics courses; see "Post-Calculus Mathematics Requirement" and "Upper-Level Mathematics Requirement" above.

Some subtracks require additional required courses beyond the five core mathematics courses (see "Program C: Core Courses" above). These additional courses count toward electives; some may be from other departments. For a list of suggested subtracks and restrictions on electives as well as the additional required courses (if any) in each subtrack, consult the Department of Mathematics website.

## Honors

### Honors in the Major

Students majoring in mathematics have the opportunity to graduate with honors in the major. Students must maintain a cumulative University of Iowa g.p.a. of at least 3.33, as required by the College of Liberal Arts and Sciences; additionally, students must maintain a cumulative g.p.a. of at least 3.40 in the major, a g.p.a. set by the Department of Mathematics.

To graduate with honors in the major, students also must complete one of the options below.

#### Option 1

Students complete four of the courses below, including a two-course sequence; and at least one 5000 level course, with a B average for the four courses.

Code	Title	Hours
MATH:3900	Introduction to Mathematics Research	3
MATH:4090	A Rigorous Introduction to Abstract Algebra	4
MATH:4210	Foundations of Analysis	4
MATH:4610	Continuous Mathematical Models	3
MATH:4750	Introduction to Mathematical Biology	3
MATH:4820	Optimization Techniques	3
MATH:4840	Mathematics of Machine Learning	3
MATH:5000 & MATH:5010	Abstract Algebra I-II	8
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5400 & MATH:5410	Fundamental Groups and Covering Spaces - Introduction to Smooth Manifolds	8
MATH:5600 & MATH:5700	Nonlinear Dynamics with Numerical Methods - Introduction to Partial Differential Equations	8
MATH:5750 & MATH:5760	Mathematical Biology I-II	8
MATH:5800 & MATH:5810	Numerical Methods I-II	8

Mathematics courses (prefix MATH) numbered 6000 or above, to be approved by the mathematics honors advisor in advance

#### Option 2

Students complete an honors project comparable to taking several of the courses above, approved by the mathematics honors advisor and the thesis supervisor. Students who choose this option typically register for MATH:3996 Individual Study and Honors in Mathematics for 3 s.h. or more. They must find a faculty member willing to supervise their project; contact the department for help finding a project supervisor. Contact the Department of Mathematics honors advisor for more information.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program. Honors in mathematics is awarded by the Department of Mathematics and is separate from the University of Iowa Honors Program.

Membership in the UI Honors Program is not required to earn honors in the mathematics major. However, honors in mathematics can be applied toward UI Honors Program requirements.

### Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Many mathematics courses must be taken in sequence, so students must begin major requirements as early as possible, and individual plans of study must be constructed carefully. The major typically requires 13 or 14 courses. Students must choose Program A, B, or C by the end of the third semester and must remain in their chosen program until they graduate in order to stay on track for the four-year graduation plan.

**Before the third semester begins:** coursework in the major through second-semester calculus.

**Before the fifth semester begins:** three or four more courses in the major.

**Before the seventh semester begins:** three or four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two or three more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Mathematics, B.S.

- Program A [p. 843]
- Program B [p. 844]

## Program A

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Program A is primarily for students who plan to work in business or government or to pursue graduate study in mathematics.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1850	Calculus I <sup>b</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>		3
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
MATH:2850	Calculus III	4
MATH:3600	Introduction to Ordinary Differential Equations	3
GE CLAS Core: Social Sciences <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
MATH:3720	Introduction to Abstract Algebra I	4
Major: required post-calculus math elective course <sup>f</sup>		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
MATH:3770	Fundamental Properties of Spaces and Functions I	4
Major: required post-calculus math elective course <sup>f</sup>		3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
Major: required post-calculus math elective course <sup>f</sup>		3 - 4
Major: required upper-level math elective course <sup>g</sup>		3

GE CLAS Core: Natural Sciences without Lab <sup>c</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>	4 - 5
Elective course <sup>d</sup>	3
<b>Hours</b>	<b>16-18</b>

**Fourth Year****Fall**

Major: required upper-level math elective course <sup>g</sup>	3
GE CLAS Core: International and Global Issues <sup>c</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
<b>Hours</b>	<b>15</b>

**Spring**

Major: required upper-level math elective course <sup>g</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>123-131</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Students must earn at least 15 s.h. in post-calculus mathematical sciences courses offered by the University of Iowa. Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020. Required mathematical electives must include at least three upper-level math courses (prefix MATH). Some statistics, actuarial science and computer sciences courses can be included among post-calculus electives only. See advisor for list of acceptable courses in MATH, STAT, ACTS, and CS.

g Required mathematical electives must include at least three upper-level math courses. These include: MATH:3900 and math courses (MATH prefix) numbered 4000 and higher, but not MATH:4010, MATH:4020 and MATH:4120. Each upper-level math course is offered at most once per year; choose when to complete the upper-level requirement according to spring or fall offerings for desired courses.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Program B**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Program B is intended for students seeking secondary school teaching licensure.		
Completion of mathematics (program B) BS, Teacher Education Program, and all general education requirements exceeds the minimum 120 s.h. required for graduation. Students should expect to take higher than average number of semester hours per term, take summer classes, and/or extend graduation time frame beyond four years.		
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please consult an advisor for the College of Education.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>

**First Year****Fall**

MATH:1850	Calculus I <sup>b, c</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>13-15</b>

**Spring**

MATH:1860	Calculus II <sup>b</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Course(s) required for second degree - consult sample plan for BA in mathematics education		3
10-hour pre-admission school field experience <sup>b, e</sup>		
<b>Hours</b>		<b>14-16</b>

**Summer**

GE CLAS Core: International and Global Issues <sup>f</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>f</sup>		3
Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation) <sup>g</sup>		
<b>Hours</b>		<b>6</b>

**Second Year****Fall**

MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5

Course(s) required for second degree - consult sample plan for BA in mathematics education 3

Admission Application: apply to the Teacher Education Program <sup>g</sup>

**Hours 15-16**

**Spring**

MATH:2150 Foundations of Geometry <sup>h</sup> 3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup> 4 - 5

GE CLAS Core: Social Sciences <sup>f</sup> 3

Course(s) required for second degree - consult sample plan for BA in mathematics education 6

**Hours 16-17**

**Summer**

GE CLAS Core: Natural Sciences with Lab <sup>f</sup> 4

**Hours 4**

**Third Year**

**Fall**

MATH:3720 Introduction to Abstract Algebra I 4

MATH:4050 Introduction to Discrete Mathematics <sup>l</sup> 3

GE CLAS Core: Historical Perspectives <sup>f</sup> 3

Course(s) required for second degree, including a course that satisfies the GE CLAS Core Diversity and Inclusion area - consult sample plan for BA in mathematics education 6

**Hours 16**

**Spring**

MATH:3770 Fundamental Properties of Spaces and Functions I 4

STAT:3120 Probability and Statistics 4

Major: required post-calculus math elective course <sup>j</sup> 3 - 4

Course(s) required for second degree, including a course that satisfies the GE CLAS Core Values and Culture area - consult sample plan for BA in mathematics education 6

Apply for student teaching (see the College of Education website for application instructions and deadlines)

**Hours 17-18**

**Fourth Year**

**Fall**

CS:1210 Computer Science I: Fundamentals 4

Major: required upper-level math elective course <sup>k</sup> 3 - 4

Major: required upper-level math elective course <sup>k</sup> 3 - 4

GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup> 3

Course(s) required for second degree - consult sample plan for BA in mathematics education 3

**Hours 16-18**

**Spring**

Course(s) required for second degree - consult sample plan for BA in mathematics education 15

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>l</sup>

Exam: edTPA <sup>m</sup>

**Hours 15**

**Total Hours 132-141**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Required for admission into the Teacher Education Program.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.

f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.

h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

i Students must complete MATH:4050, a fall-only course, or MATH:4060, a spring-only course.

j Post-calculus courses are numbered 2000 or above, excluding: MATH:3700, MATH:3750, MATH:3995, MATH:3996, MATH:3997, MATH:4010, and MATH:4020.

k Upper-level electives include MATH:3900 or any MATH prefix courses numbered 4000 or above, excluding MATH:4010 and MATH:4020.

l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

mAs a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The assessment is required before recommendation for licensure or certification to any state.

# Mathematics, Minor

## Requirements

The undergraduate minor in mathematics requires a minimum of 15 s.h. of credit earned in mathematics courses. At least 12 of the 15 s.h. must be equivalent to post-calculus math courses (prefix MATH) offered by the Department of Mathematics; credit by examination does not count toward the 12 s.h. requirement. The mathematics course, MATH:1210 Diverse Perspectives in the Mathematical Sciences, does not count toward the minor. At least 9 of the 12 s.h. in post-calculus math courses must be taken at the University of Iowa. No more than one transfer course can be counted toward the post-calculus requirement.

Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Courses numbered 2000 or above are considered post-calculus, excluding these:

Code	Title	Hours
MATH:3700	Introduction to Matrix Theory	3
MATH:3750	Classical Analysis	4
MATH:3995	Topics in Mathematics	3
MATH:3996	Individual Study and Honors in Mathematics	arr.
MATH:3997	Readings in Mathematics	arr.
MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3

Post-calculus courses must be chosen to avoid duplication and regression with the core mathematics courses, particularly when the engineering mathematics courses are considered.

## Special Rules for Engineering

Students who have taken the engineering math courses—MATH:1560 Engineering Mathematics II: Multivariable Calculus, MATH:2550 Engineering Mathematics III: Matrix Algebra, MATH:2560 Engineering Mathematics IV: Differential Equations, and MATH:3550 Engineering Mathematics V: Vector Calculus—may satisfy the post-calculus requirement by taking an additional 3 s.h. course from the list below.

Substituting a 3 s.h. post-calculus math course (prefix MATH) for any of these—MATH:1560, MATH:2550, MATH:2560, or MATH:3550—is allowed as long as there is no regression or duplication.

At least four of these courses must be taken at the University of Iowa: MATH:1560, MATH:2550, MATH:2560, MATH:3550, or the additional 3 s.h. post-calculus math course; no more than one transfer course will count.

Students can choose the additional 3 s.h. course from MATH:2150 or from courses numbered MATH:3720 or above, excluding these:

Code	Title	Hours
MATH:3750	Classical Analysis	4
MATH:3995	Topics in Mathematics	3
MATH:3996	Individual Study and Honors in Mathematics	arr.
MATH:3997	Readings in Mathematics	arr.

MATH:4010	Basic Analysis	3
MATH:4020	Basic Abstract Algebra	3

For more information, see the Department of Mathematics website.

# Mathematics, M.S.

## Learning Outcomes

Students:

- have a broad foundational knowledge of mathematics, preparing them to teach a wide variety of mathematics courses at any four-year college or university in the United States, can work in a wide variety of business, industry, and government positions, and hold leadership positions in these organizations;
- can identify and develop new lines of investigation that push forward frontiers of research;
- can bring together problem-solving tools to make new discoveries, including locating and understanding the most current research literature, and working with interdisciplinary collaborators; and
- can communicate mathematics via professional writings and presentations, at a level appropriate to the audience, from general public to technical experts.

## Requirements

The Master of Science program in mathematics requires a minimum of 30 s.h. of graduate credit. Students earn the degree through courses and comprehensive examinations. There is no M.S. thesis. Requirements (courses and comprehensive examination areas) may be modified with the department's consent.

Four different programs (I, II, III, and IV) lead to the M.S. in mathematics.

### Program I

Program I prepares students for further study of pure and applied mathematics and for employment in government and business. Students in Program I take several courses and pass two comprehensive examinations. They must earn a grade of B-minus or higher in six of the courses and maintain a g.p.a. of at least 2.75 in all mathematics courses taken for the degree.

Program I requires the following courses.

Code	Title	Hours
MATH:5000 & MATH:5010	Abstract Algebra I-II	8
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5400	Fundamental Groups and Covering Spaces	4
MATH:5410	Introduction to Smooth Manifolds	4
MATH:5600	Nonlinear Dynamics with Numerical Methods	4
MATH:5700	Introduction to Partial Differential Equations	4

The two comprehensive examinations are chosen from algebra, analysis, differential equations, and topology.

### Program II

Program II is designed for secondary school teachers. Program II requirements are similar to those for Programs I and III, but Program II students complete two mathematics

education courses and a minimum of 24 s.h. in Department of Mathematics courses. The following courses may be used to satisfy the program II mathematics course requirements.

Code	Title	Hours
MATH:3600	Introduction to Ordinary Differential Equations	2-3

Mathematics courses (prefix MATH) numbered 4000 or above

Students are encouraged to consult with the mathematics education faculty when planning their course of study.

### Program III

Program III focuses on applied mathematics. Students in Program III take several courses and pass two comprehensive examinations. Students must earn a grade of B-minus or higher in six of the courses and maintain a g.p.a. of at least 2.75 in all mathematics courses taken for the degree.

Program III requires the following courses.

Code	Title	Hours
All of these:		
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5600	Nonlinear Dynamics with Numerical Methods	4
MATH:5700	Introduction to Partial Differential Equations	4
MATH:5800	Numerical Methods I	4
MATH:5810	Numerical Methods II	4
Two elective courses from these:		
MATH:4060	Discrete Mathematical Models	3
MATH:4610	Continuous Mathematical Models	3
MATH:4820	Optimization Techniques	3
MATH:5400	Fundamental Groups and Covering Spaces	4
MATH:5410	Introduction to Smooth Manifolds	4
MATH:5750	Mathematical Biology I	4
MATH:5760	Mathematical Biology II	4

The two comprehensive examinations are chosen from analysis, differential equations, numerical analysis, and topology.

### Program IV

Program IV is designed for nondepartmental students working toward a Ph.D. in areas of study that require mathematical knowledge. The program has no specific required courses.

Students in Program IV are considered to have passed the comprehensive examination for the master's degree in mathematics if they have maintained a g.p.a. of at least 3.00 in all mathematics courses taken for the M.S. in mathematics and have successfully completed the Ph.D. comprehensive examination in their area of study.

Students in Program IV are assigned a mathematics advisor, who works with them and their major advisor to plan an appropriate curriculum for the M.S. in mathematics. A suitable program of study should be approved by a mathematics advisor before the student takes the Ph.D. comprehensive examination, and a member of the mathematics faculty

should serve on the Ph.D. comprehensive examination committee.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. Applicants to the Ph.D. program have preference for admission and funding.

Admission to Programs I, II, and III is competitive and based on a combination of undergraduate coursework and grades, letters of recommendation, and test scores. Numerical standards change every year or so; exceptions may be made to the following guidelines.

Applicants must have completed work in an undergraduate program equivalent to the major in mathematics offered by the University of Iowa Department of Mathematics with an undergraduate g.p.a. of at least 3.20. Relevance and difficulty of courses are considered when evaluating grades; grades of C or lower in mathematics courses must be balanced by grades of A. Individuals whose preparation does not meet this requirement may be admitted conditionally and are asked to take specific courses that cover deficiencies.

All applicants must submit three letters of recommendation.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL). English proficiency demonstrated by a score of at least 100 (internet-based) on TOEFL is expected. The International English Language Testing System (IELTS) with an overall score of 7 with no subscore less than 6 or the Duolingo English Test (DET) with a score of 105 or above also are accepted.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.



# Mathematics, Ph.D.

## Learning Outcomes

Students:

- have a broad foundational knowledge of mathematics, preparing them to teach a wide variety of mathematics courses at any four-year college or university in the United States, can work in a wide variety of business, industry, and government positions, and hold leadership positions in these organizations;
- can identify and develop new lines of investigation that push forward frontiers of research;
- can bring together problem-solving tools to make new discoveries, including locating and understanding the most current research literature, and working with interdisciplinary collaborators; and
- can communicate mathematics via professional writings and presentations, at a level appropriate to the audience, from general public to technical experts.

## Requirements

The Doctor of Philosophy program in mathematics requires a minimum of 72 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00. The program places strong emphasis on preparation for research and teaching. The department maintains no division between pure and applied mathematics. It cooperates in interdisciplinary doctoral programs with the College of Education (see Teaching and Learning [p. 1466] in the Catalog) and the Program in Applied Mathematical and Computational Sciences [p. 1699] (Graduate College).

Ph.D. students in mathematics must satisfy the following requirements for coursework (credits and breadth), examinations, foreign language, and the Ph.D. thesis.

Students must spend at least three years in residence at a graduate college, including at least one year at the University of Iowa. They also should enroll in specific courses designated as preparatory for the Ph.D. examinations; consult the Department of Mathematics graduate studies director.

To further encourage mathematical breadth, students must earn at least 27 s.h. of graduate credit in regular courses equivalent to or more advanced than Ph.D. comprehensive examination preparatory courses. For a list of accepted Department of Mathematics courses and rules to ensure proper distribution, contact the department.

The Ph.D. examinations consist of a qualifying exam and a comprehensive exam. Students choose three areas from the department's list of qualifying examination areas: algebra, analysis, differential equations, numerical analysis, and topology. For each qualifying area, there is a two-semester course sequence numbered 5000 or above that is designated as preparatory, although exams may differ from course content. Parts of the qualifying exam are taken over a two-week period. An exam committee gives one grade (pass, fail, conditional pass) on each part of the qualifying examination.

The Ph.D. comprehensive exam tests students on research-related topics. Candidates also take an oral final examination on their dissertation material.

Ph.D. students are required to demonstrate reading proficiency in French, German, or Russian by passing a

reading test administered by the Department of Mathematics. Consult the department for details.

The most distinctive aspect of a Ph.D. is the thesis. The department expects the thesis to be an original mathematical work comparable in content and writing quality to that found in standard published research journals. The thesis is written under the supervision of a mathematics department faculty member and must be approved by the Ph.D. defense committee.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. Applicants to the Ph.D. program have preference for admission and funding.

Admission to the Ph.D. program is competitive and based on a combination of undergraduate or graduate coursework and grades, letters of recommendation, and test scores. Required scores on the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), and the Duolingo English Test (DET) are the same as those for admission to the M.S. program, but applicants to the Ph.D. program must have an undergraduate or graduate g.p.a. of at least 3.40.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Medieval Studies

## Chair

- Craig A. Gibson (Classics)

## Coordinator, Medieval Studies

- Jonathan Wilcox (English)

**Undergraduate certificate:** medieval studies

**Website:** <https://classics.uiowa.edu/undergraduate/certificate-medieval-studies>

Medieval studies is an interdisciplinary program designed to offer students an introduction to the history and culture of the Middle Ages and to provide them with the tools necessary to pursue a more advanced study in a number of disciplines, including languages and literatures, philosophy, history, and art history. The study of Medieval society provides a window to those centuries that span the end of the ancient world and the beginning of the modern era. The Middle Ages saw fascinating global developments in such areas as law, religion, philosophy, language, art, and music.

The Medieval Studies Program offers an undergraduate program of study and a selection of courses open to students in all majors.

## Programs

### Undergraduate Program of Study

#### Certificate

- Certificate in Medieval Studies [p. 851]

## Courses

### Medieval Studies Courses

**MDVL:3226 Literature and Culture of the Middle Ages** 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as ENGL:3226.

**MDVL:3409 Medieval Civilization I** 3 s.h.

Europe from the decline of Roman empire to the eleventh century; cultural, political, economic, artistic and architectural foundations of Western civilization. Same as HIST:3409.

**MDVL:3410 Medieval Civilization II** 3 s.h.

Europe from the eleventh century to the Italian Renaissance; cultural, political, economic, artistic, and architectural foundations of Western civilization. Same as HIST:3410.

**MDVL:3423 Ireland in the Early Middle Ages** 3 s.h.

Ireland and the northern British islands 400-1000 C.E., a region of small kingdoms and thin population, lacking natural resources, far from Rome and ancient centers of Mediterranean culture; development of civilization, including monastic, legal, theological, and scholarly traditions that had a major impact on continental Europe; early medieval Irish history; introduction to the world of historical scholarship. Same as HIST:3423.

**MDVL:4412 History of the Medieval Church** 3 s.h.

Development of Christianity to end of great schism; rise of Roman primacy, development of monasticism, orthodox and heterodox groups. Same as HIST:4412.

**MDVL:4415 European Intellectual History Medieval to Modern** 3 s.h.

Long view of European intellectual life from Middle Ages to modern times; students learn about key thinkers of the medieval period before expanding focus to include Renaissance and Early Modern thinkers (e.g., Cusanus, Giordano Bruno, Vico); exploration of modern European philosophical and historiographical tradition—intertwining patterns of sociology, philosophy, and history including Hans Jonas, Hannah Arendt, and Ernst Cassirer; understanding these thinkers within broader context of European cultural and political history. Same as HIST:4415.

**MDVL:4419 Ancient and Medieval Science** 3 s.h.

Greeks' initiation of scientific inquiry; developments in astronomy, cosmology, optics, mathematics, physics, medicine, psychology in ancient and medieval societies of Middle East, Europe. Same as HIST:4419.

# Medieval Studies, Certificate

The Certificate in Medieval Studies program enables students to combine study in three or more disciplines into an organized investigation of the Middle Ages, a rich historical period that continues to influence today's culture.

Students may earn the Certificate in Medieval Studies as a distinct interest or combine it with focused study in areas such as art history; classics; gender, women's, and sexuality studies; languages (e.g., French, German, Italian, Portuguese, Spanish); music; philosophy; religion; and theater.

## Requirements

The undergraduate Certificate in Medieval Studies requires at least 18 s.h. in medieval studies coursework. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Courses used to fulfill GE CLAS Core [p. 20] requirements or the requirements of a major or minor may be counted toward the certificate in most cases. Up to 6 s.h. of transfer credit may be counted toward certificate requirements with the Certificate in Medieval Studies coordinating committee's approval; contact the certificate program's coordinator.

The Certificate in Medieval Studies requires the following coursework.

Code	Title	Hours
Core Course		3
Additional Courses		15
<b>Total Hours</b>		<b>18</b>

## Core Course

Students must complete a core course early in their program of study.

Code	Title	Hours
One of these:		
MDVL:3409	Medieval Civilization I	3
MDVL:3410	Medieval Civilization II	3

## Additional Courses

Remaining courses may be chosen from the "Associated Courses" below or from medieval studies courses (prefix MDVL) under Courses [p. 850] in this section of the Catalog. Students must include courses from at least three different departments; they may count a maximum of 10 s.h. from a single department or program. Students should consult regularly with a medieval studies advisor while planning and completing their program of study.

## Associated Courses

The following courses are approved for the medieval studies certificate. Other courses may be approved for satisfaction of certificate requirements; students who wish to have a course approved should make a request to the Certificate in Medieval

Studies coordinating committee. The coordinating committee revises the list of approved courses as necessary.

## Arabic Language and Literature

Code	Title	Hours
ARAB:2001	Intermediate Modern Standard Arabic I	5
ARAB:2002	Intermediate Modern Standard Arabic II	5

## Art and Art History

Code	Title	Hours
ARTH:2420	Medieval Art from Constantine to Columbus	3
ARTH:3310	Celtic and Viking Art	3
ARTH:3390	Early Medieval Art	3
ARTH:3400	Romanesque and Gothic Art	3
ARTH:3420	Gothic Architecture	3
ARTH:3990	Topics in Art History (when topic is medieval)	3

## Center for the Book

Code	Title	Hours
UICB:4910/ HIST:4910/ SLIS:4910	The Book in the Middle Ages	3
UICB:4920/ HIST:4920/ SLIS:4920	The Transition from Manuscript to Print	3

## Classics

Code	Title	Hours
CLSA:2127/ ASIA:2127/ JPNS:2127	Global Manuscript Cultures	3
CLSL:2001	World of Cicero	3
CLSL:2002	Golden Age of Roman Poetry	3

## English

Code	Title	Hours
ENGL:2216	Selected Works of the Middle Ages	3
ENGL:2236	Selected Early Authors (when topic is medieval)	3
ENGL:3216	Topics in Medieval and Renaissance Literature	3
ENGL:3226/ MDVL:3226	Literature and Culture of the Middle Ages	3
ENGL:3256	Old English Language and Literature	3
ENGL:3257	Old English Beowulf	3
ENGL:3266	Medieval Celtic Literature	3
ENGL:3267	Medieval Norse Literature	3
ENGL:3276/ THTR:3276	Medieval Drama	3
ENGL:3286	Chaucer	3
ENGL:4009	Honors Seminar: Medieval and Early Modern Literature, Early Literature/17th Century	3

## German

Code	Title	Hours
GRMN:2770	Norse Mythology: Gods, Heroes, and Monsters of Northern Europe	3-4

## History

Code	Title	Hours
HIST:2151	Introduction to the History Major (when topic is medieval)	3
HIST:2483	History of Britain: Fall of Rome to the Norman Conquest	3
HIST:3409/ MDVL:3409	Medieval Civilization I	3
HIST:3410/ MDVL:3410	Medieval Civilization II	3
HIST:3423/ MDVL:3423	Ireland in the Early Middle Ages	3
HIST:4412/ MDVL:4412	History of the Medieval Church	3
HIST:4419/ MDVL:4419	Ancient and Medieval Science	3

## Italian

Code	Title	Hours
ITAL:4633	Dante's Inferno	3
ITAL:4634	The Italian Renaissance	3

## Japanese

Code	Title	Hours
JPNS:3202	Traditional Japanese Literature in Translation	3
JPNS:3206	Warriors' Dreams	3
JPNS:4201	The Tale of Genji	3

## Music

Code	Title	Hours
MUS:2301	History of Western Music I	3
MUS:4200	Counterpoint Before 1600	3

## Philosophy

Code	Title	Hours
PHIL:3112/ HIST:3412	Medieval Philosophy	3

## Religious Studies

Code	Title	Hours
RELS:1225/ HIST:1025	Medieval Religion and Culture	3
RELS:3243/ CLSA:3443	Pagans and Christians: The Church from Jesus to Muhammad	3
RELS:4001/ CLSA:4901	Biblical Hebrew I	3-4
RELS:4002/ CLSA:4902	Biblical Hebrew II	4

## Russian

Code	Title	Hours
RUSS:1532	Traces of Ancient Russian Culture (IX-XVII Centuries): Vikings, Mongols, and Tsars	3

## Spanish and Portuguese

Code	Title	Hours
SPAN:4690	Topics in Spanish Literature (when topic is medieval)	3

## Language Courses

The Medieval Studies Program strongly encourages students to complete coursework in a language relevant to the medieval period. Latin is recommended for anyone intending to pursue graduate study in the field. Many language courses have prerequisites, and some are offered irregularly, so students should complete their language coursework as early as possible. The following language courses are approved for the medieval studies certificate.

Code	Title	Hours
ARAB:2001- ARAB:2002	Intermediate Modern Standard Arabic I-II	10
CLSL:2001- CLSL:2002	World of Cicero - Golden Age of Roman Poetry	6
CLSA:4901- CLSA:4902	Biblical Hebrew I-II (same as RELS:4001-RELS:4002)	8
ENGL:3256	Old English Language and Literature	3

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Medieval Studies, Certificate

### General Interest

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate Certificate in Medieval Studies requires at least 18 s.h. in medieval studies coursework.		
This sample plan is a suggestion for students planning graduate work in medieval studies.		
MDVL:3226	Literature and Culture of the Middle Ages <sup>a</sup>	3
MDVL:3410	Medieval Civilization II <sup>a</sup>	3
ARTH:2420	Medieval Art from Constantine to Columbus <sup>a</sup>	3
CLSL:2001	World of Cicero <sup>a</sup>	3
CLSL:2002	Golden Age of Roman Poetry <sup>a</sup>	3
ENGL:3286	Chaucer <sup>a</sup>	3
<b>Hours</b>		<b>18</b>
<b>Total Hours</b>		<b>18</b>

a Students may substitute this course for another approved medieval studies course (refer to the General Catalog for a list of approved courses). Students must include courses from at least three different departments in their work for the certificate; they may count a maximum of 10 s.h. from a single department or program.

# Museum Studies

## Chair, Department of Anthropology

- Katina Lillios

**Undergraduate certificate:** museum studies

**Faculty:** <https://museumstudies.sites.uiowa.edu/contacts>

**Website:** <https://museumstudies.sites.uiowa.edu/>

Museum studies has a long history at the University of Iowa, with courses offered continuously since 1910.

Museums embrace every aspect of human experience. Iowa's Museum Studies Program reflects this multiplicity, and includes students from many fields, including American studies, anthropology and archaeology, art, biology, business, communication studies, earth and environmental sciences, elementary and secondary education, English, world languages, history, and library and information science.

Instructors for museum studies courses reflect the program's interdisciplinary nature. They include faculty members from anthropology, art and art history, business, history, library and information science, and other related fields.

The Museum Studies Program holds academic memberships with the American Association for State and Local History and the Iowa Museum Association. These connections offer museum studies students opportunities for internships, professional networking, and career development. In addition to offering a wide range of on-campus courses, the certificate also can be earned online with a growing number of online courses.

The Museum Studies Program is administered by the Department of Anthropology [p. 74].

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Museum Studies [p. 856]

## Facilities

Museum studies students have access to a wide variety of museums and related resources, including the following University of Iowa museums: the Museum of Natural History, the Stanley Museum of Art, the Old Capitol Museum, the Medical Museum, and the Karro Athletic Hall of Fame.

The Museum Studies Program also maintains close connections with a number of local, community-based museums and organizations.

## Courses

### Museum Studies Courses

#### **MUSM:2850 Museums and Social Justice** 3 s.h.

Exploration of museums as institutions that frame social justice, promote equity of access through social bridging, and at times, address and challenge social ills directly through exhibits and programs; case studies and dialogue.

#### **MUSM:3001 Introduction to Museum Studies** 3 s.h.

Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Stanley Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as ANTH:3001, EDTL:3001, SIED:3001.

#### **MUSM:3003 Natural History Research Collections** 3 s.h.

Techniques, methods, and issues specific to natural history research collections; practice in preparing and cleaning specimens; role of natural history specimens in modern scientific research. Recommendations: basic understanding of the diversity of plants and animals and natural history museum collections, MUSM:3001 or MUSM:3200, and BIOL:1411 or BIOL:1412; or other experience. Same as EES:3003.

#### **MUSM:3004 Exhibition Planning** 3 s.h.

Preliminary work for and process of developing museum exhibitions; history of exhibit design, evaluation, budgets, teams and team member roles, working with community and special interest groups, methods of production and display; students research a topic, choose artifacts and images, and create a narrative and exhibit script. Prerequisites: MUSM:3001.

#### **MUSM:3100 Historic House Management and Preservation** 3 s.h.

Historic house museums make up more than half of all museums in the United States; focus on management, preservation, and interpretation of historic houses as sites of historic memory and public engagement.

#### **MUSM:3105 Engaging Museum Audiences** 3 s.h.

Effective audience engagement requires museums to meet visitors halfway; employing learning theories, knowledge of audience, and innovative examples from the field; students investigate a variety of approaches that are visitor-centered, interdisciplinary, and locally focused. Prerequisites: MUSM:3001.

#### **MUSM:3115 Museum Education and Interpretation** 3 s.h.

Examination of the educational role of museums; educational theory, audience development, teaching strategies, accessibility, and evaluation within museum context; community-engaged project and collaboration with museum to develop curriculum and educational resources. Same as EDTL:3115.

#### **MUSM:3120 Museum Origins** 3 s.h.

History of museums; origin, character, and evolution into content specific institutions; anecdotes and personalities; how museums influenced society and their continuing relevance to a technological world.

#### **MUSM:3125 Museums in a Digital World** 3 s.h.

Digital technologies streamline internal museum processes while exponentially increasing the capacity of individuals to engage with museum collections; explores the digitized strategies and systems that democratize access and enhance museum visitor experiences.

#### **MUSM:3131 Museum Evaluation and Visitor Studies** 3 s.h.

Students explore evaluation theory, methodologies, and practical application through case studies and hands-on activities from all types of museum experiences (e.g., programs, exhibitions, wayfinding, interpretive technology) from both staff and visitor perspective. Prerequisites: MUSM:3001.

**MUSM:3200 Collection Care and Management 3 s.h.**

How a museum's management policy relates to its administrative, legal, and ethical obligations to its collections; acquisitions, deaccessions, collection use, data standards, storage environment, health, safety, documentation. Same as EES:3200.

**MUSM:3215 The Museum of Today and Tomorrow: How Museums Enhance the K-12 Classroom 3 s.h.**

What do museums have to offer teachers? How are they relevant to social studies, math, English, and science teachers? Students are put in charge of answering these questions and build their knowledge about art and innovative teaching strategies in the K-12 classroom and museum, practice designing lessons around a work of art, and apply their knowledge about art and curriculum into interactive online modules; students work directly with art on campus in the Lindquist Art Collection in the College of Education and the University of Iowa Stanley Museum of Art. Same as EDTL:3215.

**MUSM:3237 Politics of the Archaeological Past 3 s.h.**

How control over management of material remains of the ancient past, and representations of that past, intersect with the identity of diverse groups, including archaeologists, Indigenous peoples, national governments, collectors, ethnic minorities and majorities, museum curators; struggles for control of the archaeological past at different scales (artifacts, skeletal remains, sites, imagery, narratives) and in different regions of the world. Same as ANTH:3237, HIST:3137.

**MUSM:3500 Nonprofit Organizational Effectiveness I 3 s.h.**

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MGMT:3500, NURS:3595, RELS:3700, SSW:3500.

**MUSM:4080 Museum Internship arr.**

Work experience in functions, departments, and programs of the sponsoring museum related to museum's overall mission and museum field in general.

**MUSM:4081 The American Art Museum: Theory and Practice 3 s.h.**

Introduction to different aspects of art museums; emphasis on roles of art historians, especially curatorial practice; current and historical theories and practices of art exhibitions; varying debates of the politics of display; art museum professions; the many facets of art exhibition preparation; the University of Iowa Stanley Museum of Art collections. Same as ARTH:4081.

**MUSM:4082 Distance Learning Museum Internship arr.**

Work experience in functions, departments, and programs of the sponsoring museum related to museum's overall mission and museum field in general.

**MUSM:4084 Museum Professionalism 1-3 s.h.**

Opportunity to apply core concepts learned in other courses through an in-depth service learning experience within a museum; students complete a minimum of 40 hours per credit hour of primarily independent work for a museum or like organization under the supervision of a staff member and faculty advisor; development of a digital portfolio reflecting on project activities. Prerequisites: MUSM:3001.

**MUSM:4130 Museum Literacy and Historical Memory 3 s.h.**

Concepts and methods for understanding the role of museums in shaping knowledge and collective memory of history; institutionally based exhibits and collections, historical markers and public monuments, public holidays and events, media and artistic works that interpret the past; how events, people, and civic ambitions are memorialized and how memories of them are shaped; appearance of museums and related practices in the non-Western world after 1850. Same as HIST:4130.

**MUSM:4150 Introduction to Grant Writing 3 s.h.**

Comprehensive training in grant proposal writing; basics of project development and management; core principles for writing small and large proposals to public and private funding sources; finer points of grant writing to increase competitiveness of future proposals and applications; for students with limited grant writing experience. Same as EALL:4130.

**MUSM:4200 Museum Object Preservation 3 s.h.**

Detailed study of specific types of museum objects, their materials, and care; topics include care, storage, and preservation of paper, books, photographs, works of art, electronic media, textiles, furniture, archaeological artifacts, and natural history specimens; students complete a curatorial project and gain hands-on practice in basic object cleaning and making enclosures and supports; for students planning museum careers or taking care of collections as part of their professional responsibilities. Same as EES:4200.

**MUSM:4310 Slavery Museums, Memorials, and Statues in the United States, Europe, and the Global South 3-4 s.h.**

Comparative study of museums, memorials, statues, performances, and artistic works that encapsulate the entangled history and memory of transoceanic slave trades and slavery in the United States, the Caribbean, the Indian Ocean, Sub-Saharan Africa, and Europe (France and the United Kingdom); critical tools to analyze public debates over politically charged monuments; exploration of transnational and political predicaments of the contemporary world; approaches include trauma theories, memory studies, history, postcolonial ecocriticism, cultural anthropology, heritage studies and museology, and Francophone cultural critique. Taught in English. Requirements: for 4 s.h. option —prior enrollment in FREN:3060 and FREN:3300. Same as FREN:4210, WLLC:4210.

# Museum Studies, Certificate

The museum studies program provides a broad foundation of knowledge increasingly valued in the museum field. Museum studies courses introduce students to the spectrum of museum endeavors, from organization and mission planning to institutional histories and current developments in the field. Many courses developed by the program offer hands-on experience in exhibition planning and design, collection management, educational programming, community development, and administration.

## Requirements

The undergraduate Certificate in Museum Studies requires 18 s.h. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

College of Liberal Arts and Sciences students who are interested in museum studies may earn the certificate, or they may use the individualized plan of study track in the interdepartmental studies major to create a museum studies concentration relevant to their academic and professional interests.

Work for the certificate consists of an introductory course, a minimum of four courses on specific museum studies topics, and an internship. Students must request permission from the coordinator of the museum studies certificate to use courses that are not included in the program, and the proposed course content and requirements must fit into one of the program's defined areas.

## Online Option

Those with an interest in furthering their education in museum studies and who live outside of the Iowa City area may be interested in pursuing the certificate online.

The Certificate in Museum Studies requires the following coursework.

Code	Title	Hours
	Introductory Course	3
	Museum Studies Topic Areas	12
	Museum Studies Internship	3
<b>Total Hours</b>		<b>18</b>

## Introductory Course

Students should begin the certificate with MUSM:3001, which is prerequisite to some of the program's more advanced courses and is approved for the Social Sciences area of the GE CLAS Core [p. 20]. The course provides a historical overview of museum development and function while introducing students to issues such as museum governance and financing, ethics and law, collection management, exhibition and educational programming, interpretation, and audience research.

Code	Title	Hours
MUSM:3001	Introduction to Museum Studies	3

## Museum Studies Topic Areas

Students complete a minimum of four courses in museum studies topic areas, choosing from the lists below. The areas are collection care and management; exhibition development and public education; history, theory, and culture; and museum administration and management.

Students must select one course each from three of the four topic areas (9 s.h. total). They also must complete a fourth course (3 s.h.) from any of the four topic areas.

### Collection Care and Management

Code	Title	Hours
MUSM:3003	Natural History Research Collections	3
MUSM:3200	Collection Care and Management	3
MUSM:4200	Museum Object Preservation	3

### Exhibition Development and Public Education

Code	Title	Hours
MUSM:3004	Exhibition Planning	3
MUSM:3105	Engaging Museum Audiences	3
MUSM:3115	Museum Education and Interpretation	3
MUSM:3125	Museums in a Digital World	3

### History, Theory, and Culture

Code	Title	Hours
MUSM:2850	Museums and Social Justice	3
MUSM:3120	Museum Origins	3
MUSM:3237	Politics of the Archaeological Past	3
MUSM:4081	The American Art Museum: Theory and Practice	3
MUSM:4130	Museum Literacy and Historical Memory	3
MUSM:4310	Slavery Museums, Memorials, and Statues in the United States, Europe, and the Global South	3-4

### Museum Administration and Management

Code	Title	Hours
MUSM:3100	Historic House Management and Preservation	3
MUSM:3131	Museum Evaluation and Visitor Studies	3
MUSM:3500	Nonprofit Organizational Effectiveness I	3
MUSM:4150	Introduction to Grant Writing	3



## Museum Studies Internship

After completing at least 12 s.h. of the required coursework above, students must complete one of the following internships, earning a minimum of 3 s.h.

The Certificate in Museum Studies coordinator works closely with students and affiliated faculty members to ensure that the internship provides students with the instruction and experience they need.

Code	Title	Hours
MUSM:4080	Museum Internship	arr.
MUSM:4082	Distance Learning Museum Internship	arr.
MUSM:4084	Museum Professionalism	1-3

### Career Advancement

Museum studies students have become directors, curators, educators, and exhibit specialists in museums throughout the country.

# Music

## Coordinator, Division of Performing Arts

- Roland Racevskis

## Director, School of Music

- Tammie Walker

## Associate Directors

- Alan Huckleberry, David Puderbaugh

**Undergraduate major:** music (B.A., B.M.)

**Undergraduate minor:** music

**Graduate degrees:** M.A. in music; Ph.D. in music; D.M.A.

**Graduate minor:** theory pedagogy

**Faculty:** <https://music.uiowa.edu/people>

**Website:** <https://music.uiowa.edu/>

The University of Iowa School of Music is prominent in a fine arts community of international repute. It has long been recognized as one of the excellent university-based music schools in the United States.

The school's on-campus enrollment of approximately 450 music majors is large enough to sustain strong programs in all areas of specialization, yet small enough to ensure the individual attention essential to each student's development.

The faculty consists of highly trained artist-teachers in each specialization area and scholars of international distinction. Private lessons with faculty members are offered in all band and orchestra instruments, and in jazz studies, organ, piano, and voice.

The school's undergraduate programs offer all qualified students, whether music majors or nonmajors, the opportunity for further study of music. In addition to its comprehensive course offerings for majors, the school provides a substantial selection of courses especially recommended for nonmajors and several approved for the GE CLAS Core [p. 20] (see "Courses for Nonmajors" below).

Graduate programs in music are designed primarily to prepare students for teaching in secondary schools, colleges, and universities and for careers in performance and music therapy.

The School of Music is a charter member of the National Association of Schools of Music. The requirements for entrance and for graduation are in accordance with the association's published standards.

The department is one of the academic units in the Division of Performing Arts [p. 393]. The School of Music participates in offering the Certificate in Public Digital Arts [p. 1008].

## Courses for Nonmajors

The School of Music offers a wide range of courses that are appropriate for non-music majors. Courses about jazz, music and culture, music history, music software, and other topics are available as well as individual instruction on a number of instruments and voice; see School of Music Courses [p. 863] in this section of the Catalog.

Several School of Music courses are approved for the GE CLAS Core; look for courses with the prefix MUS under "Historical Perspectives," "Literary, Visual, and Performing Arts," and "Values and Culture" in the GE CLAS Core [p. 20] section of the Catalog.

For course descriptions, see School of Music Courses [p. 863] in this section of the Catalog.

Participation in School of Music ensembles is open to all University of Iowa students with the ensemble director's approval. Major ensembles are as follows.

Code	Title	Hours
MUS:1176	Voxman Chorale	1
MUS:1180	Campus Symphony Orchestra	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

Other courses recommended for music nonmajors include the following.

Code	Title	Hours
MUS:1000	First-Year Seminar	1
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1002	Group Piano II: Non-Music Majors	1
MUS:1007	Garage Band: The Basics	2
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1010	Recital Attendance for Nonmajors	1
MUS:1012	Creativity in Music	3
MUS:1020	Performance Instruction for Nonmajors (interested students should consult with the instructor of their instrument)	1
MUS:1066	Introduction to Film Music	3
MUS:1100	Fundamentals of Music for Non-Music Majors	3
MUS:1201	Musicianship and Theory I	4
MUS:1301	Concepts and Contexts of Western Music	3
MUS:1302	Great Musicians	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:1800/ DPA:1800	World of the Beatles	3
MUS:2005	Issues in Popular Music: Women Who Rock	3
MUS:2106	Improvisation for Classical Musicians	3
MUS:2160	Drumline Techniques	1
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3850/ DANC:3850/ DPA:3850/ THTR:3850	Introduction to Laban Movement Studies	2-3

MUS:3851/ DANC:3851/ DPA:3851	Introduction to the Alexander Technique	3
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## Applied Music

Instruction in applied music consists of individual and/or class lessons, at the instructor's option, for a minimum of one hour per week (students register for 2 s.h.). Music majors are required to attend weekly performance and pedagogy seminars in applied music. Courses are offered on a fee-per-course basis, in addition to tuition, and may be repeated.

Code	Title	Hours
MUS:2020	Lower Level Voice	2
MUS:2021	Lower Level Piano	2
MUS:2022	Lower Level Organ	2
MUS:2023	Lower Level Violin	2
MUS:2024	Lower Level Viola	2
MUS:2025	Lower Level Cello	2
MUS:2026	Lower Level String Bass	2
MUS:2027	Lower Level Flute	2
MUS:2028	Lower Level Oboe	2
MUS:2029	Lower Level Clarinet	2
MUS:2030	Lower Level Bassoon	2
MUS:2031	Lower Level Saxophone	2
MUS:2032	Lower Level Horn	2
MUS:2033	Lower Level Trumpet	2
MUS:2034	Lower Level Trombone	2
MUS:2035	Lower Level Euphonium	2
MUS:2036	Lower Level Tuba	2
MUS:2037	Lower Level Percussion	2
MUS:2038	Lower Level Jazz	2
MUS:3020	Upper Level Voice	2
MUS:3021	Upper Level Piano	2
MUS:3022	Upper Level Organ	2
MUS:3023	Upper Level Violin	2
MUS:3024	Upper Level Viola	2
MUS:3025	Upper Level Cello	2
MUS:3026	Upper Level String Bass	2
MUS:3027	Upper Level Flute	2
MUS:3028	Upper Level Oboe	2
MUS:3029	Upper Level Clarinet	2
MUS:3030	Upper Level Bassoon	2
MUS:3031	Upper Level Saxophone	2
MUS:3032	Upper Level Horn	2
MUS:3033	Upper Level Trumpet	2
MUS:3034	Upper Level Trombone	2
MUS:3035	Upper Level Euphonium	2
MUS:3036	Upper Level Tuba	2
MUS:3037	Upper Level Percussion	2
MUS:3038	Upper Level Jazz	2
MUS:6020	Major Voice	2
MUS:6021	Major Piano	2
MUS:6022	Major Organ	2
MUS:6023	Major Violin	2
MUS:6024	Major Viola	2
MUS:6025	Major Cello	2
MUS:6026	Major String Bass	2

MUS:6027	Major Flute	2
MUS:6028	Major Oboe	2
MUS:6029	Major Clarinet	2
MUS:6030	Major Bassoon	2
MUS:6031	Major Saxophone	2
MUS:6032	Major Horn	2
MUS:6033	Major Trumpet	2
MUS:6034	Major Trombone	2
MUS:6035	Major Euphonium	2
MUS:6036	Major Tuba	2
MUS:6037	Major Percussion	2
MUS:6038	Major Jazz	2

## Applied Music: Secondary Instruction for Majors

Instruction consists of one half-hour lesson per week. Courses are offered on a fee-per-course basis, in addition to tuition, and may be repeated.

Code	Title	Hours
MUS:1120	Secondary Performance - Voice	1
MUS:1121	Secondary Performance - Piano	1
MUS:1122	Secondary Performance - Organ	1
MUS:1123	Secondary Performance - Violin	1
MUS:1124	Secondary Performance - Viola	1
MUS:1125	Secondary Performance - Cello	1
MUS:1126	Secondary Performance - String Bass	1
MUS:1127	Secondary Performance - Flute	1
MUS:1128	Secondary Performance - Oboe	1
MUS:1129	Secondary Performance - Clarinet	1
MUS:1130	Secondary Performance - Bassoon	1
MUS:1131	Secondary Performance - Saxophone	1
MUS:1132	Secondary Performance - Horn	1
MUS:1133	Secondary Performance - Trumpet	1
MUS:1134	Secondary Performance - Trombone	1
MUS:1135	Secondary Performance - Euphonium	1
MUS:1136	Secondary Performance - Tuba	1
MUS:1137	Secondary Performance - Percussion	1
MUS:1138	Secondary Performance - Jazz	1
MUS:1139	Secondary Performance - Composition	1

MUS:6120	Graduate Secondary Performance - Voice	1
MUS:6121	Graduate Secondary Performance - Piano	1
MUS:6122	Graduate Secondary Performance - Organ	1
MUS:6123	Graduate Secondary Performance - Violin	1
MUS:6124	Graduate Secondary Performance - Viola	1
MUS:6125	Graduate Secondary Performance - Cello	1
MUS:6126	Graduate Secondary Performance - String Bass	1
MUS:6127	Graduate Secondary Performance - Flute	1
MUS:6128	Graduate Secondary Performance - Oboe	1
MUS:6129	Graduate Secondary Performance - Clarinet	1
MUS:6130	Graduate Secondary Performance - Bassoon	1
MUS:6131	Graduate Secondary Performance - Saxophone	1
MUS:6132	Graduate Secondary Performance - Horn	1
MUS:6133	Graduate Secondary Performance - Trumpet	1
MUS:6134	Graduate Secondary Performance - Trombone	1
MUS:6135	Graduate Secondary Performance - Euphonium	1
MUS:6136	Graduate Secondary Performance - Tuba	1
MUS:6137	Graduate Secondary Performance - Percussion	1
MUS:6138	Graduate Secondary Performance - Jazz	1

## Choral Literature

Code	Title	Hours
MUS:6561	Seminar: Choral Literature and Analysis I	1-3
MUS:6562	Seminar: Choral Literature and Analysis II	1-3
MUS:6563	Seminar: Choral Literature and Analysis III	1-3
MUS:6564	Seminar: Choral Literature and Analysis IV	1-3

## Composition

Code	Title	Hours
MUS:2220	Composition	1-2
MUS:3230	Composition Seminar	1
MUS:4220	Orchestration	3
MUS:4250	Composition: Electronic Media I	3
MUS:4251	Composition: Electronic Media II	3
MUS:5220	Advanced Composition	1-2

MUS:5800	Interactive Music	3
MUS:5820	Electronic Music Production	3

## Conducting

Also see MUS:3635 Instrumental Conducting, MUS:3640 Choral Methods, and MUS:3645 Choral Conducting and Literature under "Music Education" below.

Code	Title	Hours
MUS:3625	Techniques of Conducting	2
MUS:6579	Orchestral Conducting Lab	2
MUS:6580	Advanced Orchestral Conducting	2
MUS:6581	Advanced Choral Conducting I	1-3
MUS:6582	Advanced Choral Conducting II	1-3
MUS:6583	Advanced Choral Conducting III	1-3
MUS:6584	Advanced Choral Conducting IV	1-3
MUS:6585	Score Reading	1
MUS:6586	Advanced Orchestral Literature and Professional Development	2
MUS:6590	Seminar in Advanced Band Literature and Band History	1-2

## Ensembles

Enrollment requires consent of instructor. Courses may be repeated.

Code	Title	Hours
MUS:1160	University Band	1
MUS:1165	Hawkeye Marching Band	1
MUS:1166	Large Pep Band	1
MUS:1176	Voxman Chorale	1
MUS:1180	Campus Symphony Orchestra	1
MUS:3150	Percussion Ensemble/Steel Band	1
MUS:3151	Percussion Chamber Ensemble	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3163	Intermediate Steel Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1
MUS:3182	Chamber Orchestra	1
MUS:3190	Center for New Music Ensemble	1
MUS:3480	Piano Accompaniment	1
MUS:3481	Piano Chamber Music	1-2
MUS:3482	String Chamber Music	1-2
MUS:3485	Wind Chamber Music	1-2
MUS:3489	Chamber Music Residency Program	1-2

## Jazz Studies

Code	Title	Hours
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1711	Jazz Rhythms and Interpretation I	1
MUS:1712	Jazz Rhythms and Interpretation II	1
MUS:1720	History of Jazz	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:3730	Jazz Band	1
MUS:3740	Small Jazz Ensembles	1
MUS:3760	Jazz Band Techniques	1
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2

## Music Education

The College of Education offers additional music education courses; see Teaching and Learning [p. 1466] in the Catalog for listings and descriptions. Some courses are cross-listed with both departments, one for the School of Music and the other for the College of Education. Students preparing for music teacher licensure should register under the education number.

Also see MUS:3760 Jazz Band Techniques under "Jazz Studies" above.

Code	Title	Hours
MUS:3600	Undergraduate Music Education Workshop	1
MUS:3601	Undergraduate Music Education Workshop II	1
MUS:3605/ EDTL:3605	Instrumental Techniques	2
MUS:3635/ EDTL:3635	Instrumental Conducting	3
MUS:3640/ EDTL:3640	Choral Methods	3
MUS:3645/ EDTL:3645	Choral Conducting and Literature	3
MUS:3659	Class Strings	1
MUS:3664	Introduction to Wind and Percussion Instruments	2
MUS:3665	Arranging for Band	2-3
MUS:3666	Marching Band Techniques	1
MUS:5600/ EDTL:5600	Graduate Music Education Workshop	1
MUS:5601/ EDTL:5601	Graduate Music Education Workshop II	1

## Music and Technology

Also see MUS:4250 Composition: Electronic Media I and MUS:4251 Composition: Electronic Media II under "Composition" above.

Code	Title	Hours
MUS:3410	Fundamentals of Piano Technology	1
MUS:3780	Audio Recording I	3
MUS:3781	Audio Recording II	3
MUS:3830	Wind Instrument Maintenance and Repair	1

## Music Therapy

Code	Title	Hours
MUS:1687	Orientation to Music Therapy	2
MUS:2671	Music Foundations in Therapy I	2
MUS:2672	Music Foundations in Therapy II	2
MUS:3675	Music Therapy Practicum	1-2
MUS:3676	Percussion Experience for Teachers and Therapists	1
MUS:3680	Music in Special Education	3
MUS:3690	Music Therapy with Adults	3
MUS:4630/ EDTL:4630	Psychology of Music	2-3
MUS:4670	Internship in Music Therapy	2,12
MUS:4675	Senior Project in Music Therapy	1
MUS:4685	Music Therapy with Children	3
MUS:6670	Graduate Music Therapy Practicum	1-3
MUS:6675	Research in Music Therapy - Graduate	1
MUS:6680	College Teaching and Clinic Supervision in Music Therapy	1-2
MUS:6685	Theory and Research in Music Therapy	1
MUS:6690	Special Studies in Music Therapy	1-3

## Musicology

Code	Title	Hours
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:3486	Bach Performance Seminar	1
MUS:4320	Music and Gender	3
MUS:4325	Medieval and Renaissance Music	3
MUS:4330	Baroque Music	3
MUS:4335	Eighteenth-Century Music	3
MUS:4340	Nineteenth-Century Music	3
MUS:4345	Twentieth-Century Music	3
MUS:4350	Advanced Jazz History	3
MUS:4355	American Music	3
MUS:4360	Jazz Matters	3
MUS:4390	Musicology Colloquium	1
MUS:5300	Introduction to Graduate Study in Music	2
MUS:6305	Teaching Music History and Culture	3
MUS:6310	Topics in Musicology	3

MUS:6312	Historical Approaches to Music	3
MUS:6314	Topics in Ethnomusicology	3
MUS:6315	Foundations of Ethnomusicology	3
MUS:6326	Renaissance Music Notations	3
MUS:6375	Music Editing	3
MUS:7380	Readings in Music History	1-3

## Orchestra and Band Instruments

Code	Title	Hours
MUS:3140	Audition Repertoire	1
MUS:3483	Baroque Seminar for Strings	1
MUS:5101	Advanced Woodwind Pedagogy and Literature I	2
MUS:5102	Advanced Woodwind Pedagogy and Literature II	3
MUS:5111	Advanced Brass Pedagogy and Literature I	2
MUS:5112	Advanced Brass Pedagogy and Literature II	2
MUS:5115	Advanced Brass Ensemble Literature	2
MUS:5121	Advanced String Methods and Literature I	2
MUS:5122	Advanced String Methods and Literature II	2
MUS:5130	Advanced Percussion Pedagogy and Literature	2

## Organ and Sacred Music

Code	Title	Hours
MUS:4450	Organ Literature Survey	2
MUS:4452	Liturgics	2
MUS:4454	Service Playing and Improvisation	2
MUS:5450	History of Organ Building and Design	2-3
MUS:5452	Organ Pedagogy	2
MUS:5475	Organ Literature Special Topics	2

## Piano

Code	Title	Hours
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1
MUS:2213	Group Instruction in Piano III	1
MUS:3400	Methods of Teaching Piano	2
MUS:5400	Piano Pedagogy I	2
MUS:5401	Piano Pedagogy II	2
MUS:5410	Piano Literature I	2
MUS:5411	Piano Literature II	2
MUS:7400	Special Studies Piano Literature	1-2
MUS:7401	Special Studies in Piano Accompaniment and Chamber Music	1-2

## Recital and Thesis

Code	Title	Hours
MUS:3990	Special Studies	0-4
MUS:4900	Senior Recital	1
MUS:4910	Bachelor's Thesis	0-1
MUS:4995	Honors in Music	1-4
MUS:6900	M.A. Recital	1-2
MUS:6920	M.A. Performance Project	1-2
MUS:6950	M.A. Thesis	1-3
MUS:7140	Seminar in Music Research	2
MUS:7900	D.M.A. Recital	1-2
MUS:7950	Ph.D. Thesis	1-4
MUS:7960	Composition Ph.D. Thesis	1-4
MUS:7970	D.M.A. Essay and Thesis	1-4

## Theory

Code	Title	Hours
MUS:1200	Fundamentals of Music for Majors	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2206	Form and Analysis	3
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4210	Keyboard Harmony	1-2
MUS:4290	Music Theory Colloquium	1
MUS:5200	Review of Undergraduate Theory	3
MUS:5235	Tonal Analysis	3
MUS:5236	Non-Tonal Analysis	3
MUS:5237	Analysis of Popular Music	3
MUS:5240	Special Topics in Theory and Analysis	3
MUS:6210	History of Ideas of Music	3
MUS:6211	Theoretical Approaches to Music	3
MUS:6215	Music Theory Pedagogy	3
MUS:6250	Advanced Tonal Theory and Analysis	3
MUS:6251	Advanced Non-Tonal Theory and Analysis	3
MUS:6252	Advanced Theory and Analysis of Popular Music	3

## Voice and Opera

Code	Title	Hours
MUS:1510	Diction for Singers I	2
MUS:2510	Diction for Singers II	2
MUS:3410	Fundamentals of Piano Technology	1
MUS:3500	Opera Workshop	2
MUS:3501	Opera Theater Chorus	1
MUS:3502	Opera Production	2-4
MUS:3503	Vocal/Operatic Coaching	1
MUS:3511	Discovering Opera	1

MUS:3530/ THTR:3530	Musical Theatre Workshop	2
MUS:5510	Graduate Diction	2
MUS:5555/ CSD:5213	Voice Habilitation	2
MUS:6520/ CSD:6202	Vocal Pedagogy	3
MUS:6530	Topics in Vocal Performance	2
MUS:6535	Opera Theater Directing Seminar	3
MUS:6540	Survey of Operatic Literature	3
MUS:6541	Survey of Song Literature I	3
MUS:6542	Survey of Song Literature II	3

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Music (Bachelor of Arts) [p. 876]
- Major in Music (Bachelor of Music) [p. 886]

#### Minor

- Minor in Music [p. 899]

### Graduate Programs of Study

#### Majors

- Master of Arts in Music [p. 901]
- Doctor of Philosophy in Music [p. 903]
- Doctor of Musical Arts [p. 908]

#### Minor

- Minor in Theory Pedagogy [p. 909]

## Facilities

The School of Music is housed in the Voxman Music Building, a state-of-the-art facility in the heart of the downtown campus that opened in the fall of 2016. The 190,000 square-foot building includes a 700-seat concert hall; 200-seat recital hall; organ performance hall; opera and chamber music rehearsal spaces; faculty studios; classrooms; practice rooms; specialized facilities for music therapy, electronic music, and percussion; and light-filled public and social spaces. The building features the latest instructional and recording technology, and superior acoustic ambience and isolation.

### Center for New Music

The Center for New Music is a vital component of the School of Music's composition program. Since its founding in 1966, the center has been both laboratory and showcase for late 20th- and 21st-century music. It presents at least four concerts of contemporary works each academic season. It also provides a forum for visiting composers and other creative artists, bringing new music to a variety of outreach venues. Audition, rehearsal, and programming information is available on the Center for New Music website.

## Rita Benton Music Library

The Rita Benton Music Library is located on the first floor of the Voxman Music Building. The Music Library holds more than 90,000 scores, including chamber music sets; 51,000 books, including bound journals; 125 active periodical subscriptions; and 46,000 media items in all formats. The Arthur and Miriam Canter Rare Book Room holds around 3,000 rare books and scores and has particular strengths in 18th- and 19th-century music theory treatises and instrumental methods, and an outstanding collection of keyboard and chamber music of Ignaz Pleyel. Additional music collections of note are housed in Special Collections and University Archives, including the Goldman Band Collection; the University of Iowa's Center for New Music papers; and papers of composers Philip Greeley Clapp, William Hibbard, and Donald Martin Jenni. The Music Library holds the School of Music Recordings Archive, including faculty recital and ensemble concert program, audio recordings, and video recordings.

The Library's online subscriptions include research tools such as Grove Music Online, RILM, RISM, Music Index, International Index to Music Periodicals (IIMP), and the Oxford Music Bibliographies. Streaming media resources include Naxos Music Library Jazz and video libraries, Berlin Philharmonic Digital Concert Hall, Met Opera on Demand: Student Access, music online, and DRAM.

Materials circulate to University of Iowa faculty and students and to institutions that have reciprocal agreements for interlibrary loan services with the University.

## Courses

Several School of Music courses are especially appropriate for non-music majors. Some are approved for the GE CLAS Core; look for them (prefix MUS) under "Historical Perspectives," "Literary, Visual, and Performing Arts," and "Values and Culture" in the GE CLAS Core [p. 20] section of the Catalog.

Applied music instruction consists of individual and/or class lessons, at the instructor's option, for a minimum of one hour per week (students register for 2 s.h.), or one half-hour per week (students register for 1 s.h.). Music majors are required to attend weekly performance and pedagogy seminars in applied music. Courses are offered on a fee-per-course basis, in addition to tuition, and may be repeated.

### Music Courses

#### **MUS:1000 First-Year Seminar** **1 s.h.**

An aspect of performance, creativity, musical literature, or scholarship; seminar format with classroom participation, papers, projects, other assignments; may require attendance at lectures, rehearsals, or performances. Requirements: first- or second-semester standing.

#### **MUS:1001 Group Piano I: Non-Music Majors** **1 s.h.**

Reading, technical study, chording, playing by ear, improvisation; for beginners. Requirements: non-music major. GE: Literary, Visual, and Performing Arts.

#### **MUS:1002 Group Piano II: Non-Music Majors** **1 s.h.**

Continuation of MUS:1001. Requirements: non-music major.

- MUS:1007 Garage Band: The Basics** 2 s.h.  
Application of GarageBand software (Mac platform) using midi keyboards; composition and music theory for projects using drag-and-drop looping, multitrack recording, sound effects, mixing, importing music for composition. GE: Engineering Be Creative.
- MUS:1008 Jazz Masters** 3 s.h.  
Major 20th-century jazz leaders of varied styles and recordings; developments between 1917 and present.
- MUS:1009 Jazz Cultures in America and Abroad** 3 s.h.  
How to listen to jazz and recognize a variety of processes that are taking place in performances and recordings; historical, social, and political issues, including race and gender; the unique blend of jazz of a particular region; attendance at live performances, meet and interview musicians, critics, and educators. GE: Literary, Visual, and Performing Arts; Values and Culture.
- MUS:1010 Recital Attendance for Nonmajors** 1 s.h.  
Musical experience through student, faculty recitals.
- MUS:1012 Creativity in Music** 3 s.h.  
Where does music come from? When, why, and how did people first start making music? How do music creators turn raw inspiration into finished pieces? How do improvisers create music on the spot? Can anyone create music or is that something only for composers? Development of music creation from long ago to present day; presentations by guest composers and performers who will demonstrate how they compose or improvise their music. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.
- MUS:1020 Performance Instruction for Nonmajors** 1 s.h.  
Bassoon, cello, clarinet, euphonium, flute, horn, oboe, organ, percussion, piano, saxophone, string bass, trombone, trumpet, tuba, viola, violin, or voice. Requirements: non-music major. GE: Literary, Visual, and Performing Arts.
- MUS:1066 Introduction to Film Music** 3 s.h.  
Major styles and composers of film music from early 20th century to the present; focus on case studies to understand different roles music can play in cinema; opportunities to employ critical thinking and listening skills to analyze particular films or key scenes. GE: Literary, Visual, and Performing Arts.
- MUS:1100 Fundamentals of Music for Non-Music Majors** 3 s.h.  
Notation of pitch and rhythm, intervals, scales, key signatures, triads, and seventh chords. Requirements: non-music major.
- MUS:1120 Secondary Performance - Voice** 1 s.h.  
Requirements: music major.
- MUS:1121 Secondary Performance - Piano** 1 s.h.  
Requirements: music major.
- MUS:1122 Secondary Performance - Organ** 1 s.h.  
Seminar and lessons arranged. Requirements: music major.
- MUS:1123 Secondary Performance - Violin** 1 s.h.
- MUS:1124 Secondary Performance - Viola** 1 s.h.
- MUS:1125 Secondary Performance - Cello** 1 s.h.
- MUS:1126 Secondary Performance - String Bass** 1 s.h.
- MUS:1127 Secondary Performance - Flute** 1 s.h.
- MUS:1128 Secondary Performance - Oboe** 1 s.h.
- MUS:1129 Secondary Performance - Clarinet** 1 s.h.
- MUS:1130 Secondary Performance - Bassoon** 1 s.h.
- MUS:1131 Secondary Performance - Saxophone** 1 s.h.
- MUS:1132 Secondary Performance - Horn** 1 s.h.
- MUS:1133 Secondary Performance - Trumpet** 1 s.h.
- MUS:1134 Secondary Performance - Trombone** 1 s.h.
- MUS:1135 Secondary Performance - Euphonium** 1 s.h.
- MUS:1136 Secondary Performance - Tuba** 1 s.h.
- MUS:1137 Secondary Performance - Percussion** 1 s.h.
- MUS:1138 Secondary Performance - Jazz** 1 s.h.  
Seminar and lessons arranged. Requirements: music major.
- MUS:1139 Secondary Performance - Composition** 1 s.h.  
Individual lessons for non-composition majors that help to prepare a portfolio for entrance into the composition area. Corequisites: MUS:1201 and MUS:1202 and MUS:2203 and MUS:2204.
- MUS:1160 University Band** 1 s.h.  
Participation in University Band.
- MUS:1165 Hawkeye Marching Band** 1 s.h.  
Offered fall semesters.
- MUS:1166 Large Pep Band** 1 s.h.  
Performing ensemble for basketball games and wrestling meets. Requirements: membership by audition.
- MUS:1176 Voxman Chorale** 1 s.h.  
Auditioned choral ensemble; for students who sing in soprano or alto range.
- MUS:1180 Campus Symphony Orchestra** 0-1 s.h.  
Repertoire, rehearsal pacing, and performance expectation geared to general students. Open to all UI students with no audition.
- MUS:1200 Fundamentals of Music for Majors** 0 s.h.  
Rudiments of music—notation of pitch and rhythm, meter, scales, keys, intervals, triads. Corequisites: MUS:1201. Requirements: successful completion of placement exam A or concurrent enrollment in MUS:1201.
- MUS:1201 Musicianship and Theory I** 4 s.h.  
Principles of harmony; emphasis on aural skills, theoretical concepts, notation. Offered fall semesters. Requirements: MUS:1200 or successful completion of music theory diagnostic exam, and concurrent enrollment in MUS:1211 or successful completion of piano proficiency exam.
- MUS:1202 Musicianship and Theory II** 4 s.h.  
Continuation of MUS:1201. Offered spring semesters. Prerequisites: MUS:1201. Requirements: MUS:1212 or successful completion of piano proficiency exam.
- MUS:1210 Recital Attendance** 1 s.h.  
Requirements: music major.
- MUS:1211 Group Instruction in Piano I** 1 s.h.  
Beginning instruction for music majors whose principal performing medium is voice or an orchestral or band instrument; skill development in sight reading, technique, harmonization, transposition, improvisation, simple literature. Corequisites: MUS:1201. Requirements: music major.
- MUS:1212 Group Instruction in Piano II** 1 s.h.  
Elementary to early intermediate instruction for music majors whose principal performing medium is voice or an orchestral or band instrument; continued skill development begun in MUS:1211; introduction of easy solo and ensemble literature. Corequisites: MUS:1202. Requirements: MUS:1211 or successful completion of proficiency examination.



- MUS:1301 Concepts and Contexts of Western Music** 3 s.h.  
Ideas, social and historical contexts, emergence of genres and styles, diverse performing traditions in music making of Europe and North America. Recommendations: non-music major. GE: Literary, Visual, and Performing Arts.
- MUS:1302 Great Musicians** 3 s.h.  
Lives and works of important composers, performers. Recommendations: non-music major. GE: Literary, Visual, and Performing Arts.
- MUS:1303 Roots, Rock, and Rap: A History of Popular Music** 3 s.h.  
Historical narrative of popular music; focus on understanding and analyzing music of past and present in relation to major issues central to popular culture and society; production, dissemination, and reception of popular music; interpretation of ways in which music forms individual and collective identities and how contemporary musical experiences are shaped by historical processes. GE: Historical Perspectives.
- MUS:1310 World Music** 3 s.h.  
Varied perspectives on the relationship of music and culture, drawing from musical cultures around the world. GE: Literary, Visual, and Performing Arts.
- MUS:1510 Diction for Singers I** 2 s.h.  
Italian and German pronunciation for singing; basics of international phonetic alphabet; no previous background required.
- MUS:1687 Orientation to Music Therapy** 2 s.h.  
Theory, practice; typical clients and places of employment in music therapy.
- MUS:1711 Jazz Rhythms and Interpretation I** 1 s.h.  
Methods for sight-reading and interpreting jazz notation. Requirements: music major or audition.
- MUS:1712 Jazz Rhythms and Interpretation II** 1 s.h.  
Connection of rhythm-body principle—where movement and motion connects directly with rhythmic motifs and patterns; advanced rhythmic concepts (e.g., odd meters, borrowed note-groupings, unconventional notation); Latin, West African, and non-Western concepts of rhythm; for B.M. jazz majors and music majors wanting more in-depth, advanced interaction with jazz rhythms and phrasing; second in a two-course sequence. Requirements: music major.
- MUS:1720 History of Jazz** 3 s.h.  
Major 20th-century styles, artists, seminal works, and recordings; developments between 1917 and 1972. GE: Literary, Visual, and Performing Arts; Values and Culture.
- MUS:1740 The Art of Listening to Jazz** 3 s.h.  
What is jazz and its importance; guided introduction to jazz music, anatomy of jazz music, cultural context; development of skills to become an informed listener; process of performing jazz music, its connection with Black culture; focused listening/analysis of prominent jazz artists' work from past and present, including intersection between jazz and hip hop; formal music experience or training not required. GE: Literary, Visual, and Performing Arts. Same as AFAM:1240.
- MUS:1741 The Soundtrack of Black America** 3 s.h.  
Linkage of African American culture and music; Black musical innovations that shaped mainstream American musical tastes over the last century; exploration of relationship between Black music and culture; examples of blues, jazz, gospel, hip hop; artists including Bessie Smith (blues), Mahalia Jackson (gospel), Miles Davis (jazz), Nas and Talib Kweli (hip hop). GE: Diversity and Inclusion. Same as AFAM:1241.
- MUS:1800 World of the Beatles** 3 s.h.  
How the Beatles' music was influenced by American pop music, the drug culture, and the avant-garde, nonwestern instruments and philosophy, anti-war sentiments, world politics, and so forth; Beatlemania's impact on British and American cultures and its role in opening Eastern Europe to the West. GE: Literary, Visual, and Performing Arts. Same as DPA:1800.
- MUS:2005 Issues in Popular Music: Women Who Rock** 3 s.h.  
History of popular female musicians and the influence of their lyrics, music, and performances on American and British cultures; how women's musical careers have been influenced by civil rights, the British invasion (Beatles, Rolling Stones), second-wave feminism, postfeminism, Vietnam, counterculture, social injustice, music education, rock festivals, charity concerts. GE: Literary, Visual, and Performing Arts.
- MUS:2020 Lower Level Voice** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2021 Lower Level Piano** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance. Requirements: piano major or approval of the area following a successful audition.
- MUS:2022 Lower Level Organ** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2023 Lower Level Violin** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2024 Lower Level Viola** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2025 Lower Level Cello** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2026 Lower Level String Bass** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

- MUS:2027 Lower Level Flute** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2028 Lower Level Oboe** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2029 Lower Level Clarinet** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2030 Lower Level Bassoon** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2031 Lower Level Saxophone** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2032 Lower Level Horn** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2033 Lower Level Trumpet** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2034 Lower Level Trombone** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2035 Lower Level Euphonium** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2036 Lower Level Tuba** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2037 Lower Level Percussion** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:2038 Lower Level Jazz** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance. Requirements: jazz studies major or audition.
- MUS:2106 Improvisation for Classical Musicians** 3 s.h.  
Theory and practice in beginning nonjazz improvisation; development of aural and rhythmic skills, creation of rhythms and melodies, use of timbres and extended techniques in expression, development of instrumental technique for improvisation, practical understanding of harmony and form, experience in solo and accompaniment roles, creation of short pieces as vehicles for improvisation. Requirements: one year of music theory.
- MUS:2160 Drumline Techniques** 1 s.h.  
Training and experience in contemporary marching percussion and rudimental drumming techniques.
- MUS:2203 Musicianship and Theory III** 4 s.h.  
Continuation of MUS:1201 and MUS:1202; focus on common-practice repertory. Offered fall semesters. Prerequisites: MUS:1202.
- MUS:2204 Musicianship and Theory IV** 4 s.h.  
Continuation of MUS:1201, MUS:1202, and MUS:2203; focus on late 19th- and early 20th-century repertoires. Offered spring semesters. Prerequisites: MUS:2203.
- MUS:2206 Form and Analysis** 3 s.h.  
Analysis of musical forms and procedures, including 18th- and 19th-century tonal repertoires. Prerequisites: MUS:2204. Requirements: undergraduate standing.
- MUS:2207 Introduction to Popular Music** 3 s.h.  
Analysis of major styles of popular music including rock, country, hip-hop, dance, and rhythm and blues (R&B); conventional notational methods and rudimentary use of digital audio workstations (e.g., Ableton, Logic); students read and compose in a variety of endemic to American popular music from the last century. Prerequisites: MUS:2204.
- MUS:2213 Group Instruction in Piano III** 1 s.h.  
Varies by semester: skills for the music therapy profession, sight-reading, harmonization, transposition, reading from a fake book, and improvisation (fall); skills for the music education profession, sight-reading, harmonization, transposition, score, and hymn reading (spring). Requirements: music therapy, music education, or piano major.
- MUS:2220 Composition** 1-2 s.h.  
Individual lessons with a composition faculty member. Corequisites: MUS:3230. Requirements: admission to B.M. composition concentration.
- MUS:2301 History of Western Music I** 3 s.h.  
Recommendations: MUS:1201 and MUS:1202 for music majors. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

- MUS:2302 History of Western Music II** 3 s.h.  
Recommendations: MUS:1201 and MUS:1202 for music majors. GE: Historical Perspectives; Literary, Visual, and Performing Arts.
- MUS:2311 Music of Latin America and the Caribbean** 3 s.h.  
Folk and popular musical traditions and their social contexts in Latin America, the Caribbean; listening skills; video/film screenings. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as LAS:2311.
- MUS:2450 India Beat: The Aesthetics and Politics of India Today** 3 s.h.  
Ways in which music forms a crucial part of Indian public sphere, reflecting and shaping culture, society, and economy; wide range of genres commonly performed and heard across India and South Asia today (i.e., film music, several folk forms, classical, semi-classical, Indipop, rock) and locating each of them in their respective historical, cultural, and socioeconomic contexts; exploration of themes and questions (i.e., emergence and impact of technologies of mass production, distribution of music in colonial and post-independence India). GE: Values and Culture. Same as ASIA:2450.
- MUS:2510 Diction for Singers II** 2 s.h.  
French and English pronunciation for singing. Prerequisites: MUS:1510.
- MUS:2630 Introduction to the Psychology of Music** 3 s.h.  
Processes by which people perceive, respond to, create, and use music in their daily lives; basic physics of musical stimuli, psychoacoustics of musical perception, principles of musical cognition, neurological and physiological responses to music, theories of musical learning and development, and social psychology of musical activity; previous musical performing experience helpful but not required. Same as EDTL:2630.
- MUS:2671 Music Foundations in Therapy I** 2 s.h.  
Skill development on social instruments such as guitar, autoharp, piano; percussion, song-leading skills, and repertoire development for use in clinical music therapy sessions. Prerequisites: MUS:1687. Requirements: music therapy major.
- MUS:2672 Music Foundations in Therapy II** 2 s.h.  
Advanced skill development on guitar for use in clinical music therapy sessions; percussion techniques, and related skills used in therapeutic settings. Prerequisites: MUS:2671. Requirements: music therapy major.
- MUS:2800 Digital Arts: An Introduction** 3 s.h.  
Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, CS:2800, DANC:2800, DIGA:2800, THTR:2800.
- MUS:2820 Electronic Music Production** 3 s.h.  
Improvement of listening skills through critical study of recorded music in a variety of styles; hands-on, weekly creative challenges in electronic music studio to gain skills working with Musical Instrument Digital Interface (MIDI) instruments, samples, and student's own recorded audio; transformation of sounds creatively using editing, effects, and more; generation of musical ideas using a variety of approaches; introduction to elements of mixing (balance, frequency range, space); demonstration of techniques using Reaper, Ableton, or Logic; for students with some experience using computers to make music. Requirements: presentation of one production, any style, with a minimum duration of one minute.
- MUS:3001 Introduction to Jazz Improvisation** 3 s.h.  
Introduction to the practice of improvisation through performance of repertoire and the development of practicing strategies; exercises in melody, harmony, rhythm and transcription that together form an integrated approach to developing improvisations. Corequisites: MUS:1201. Requirements: audition.
- MUS:3020 Upper Level Voice** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3021 Upper Level Piano** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance. Requirements: piano major or approval following a successful audition.
- MUS:3022 Upper Level Organ** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3023 Upper Level Violin** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3024 Upper Level Viola** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3025 Upper Level Cello** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3026 Upper Level String Bass** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.

- MUS:3027 Upper Level Flute** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3028 Upper Level Oboe** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3029 Upper Level Clarinet** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3030 Upper Level Bassoon** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3031 Upper Level Saxophone** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3032 Upper Level Horn** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3033 Upper Level Trumpet** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3034 Upper Level Trombone** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3035 Upper Level Euphonium** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3036 Upper Level Tuba** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3037 Upper Level Percussion** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:3038 Upper Level Jazz** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance. Requirements: jazz studies major or approval following a successful audition.
- MUS:3055 Interdisciplinary Science of Sound and Hearing** 3 s.h.  
Introduction to physics of sound, biology/psychology of hearing, and audio technology; theories and experimental methods; music, speech, and environmental sounds. Same as CSD:3119, PSY:3055.
- MUS:3140 Audition Repertoire** 1 s.h.  
Practicum on passages frequently requested at professional auditions.
- MUS:3150 Percussion Ensemble/Steel Band** 1 s.h.  
Range of styles and idioms, primarily written during the 20th and 21st centuries; historical or cultural aspects such as ancient rudimental drumming styles, ragtime, jazz, popular music, and music from Africa, the Caribbean, Brazil, Cuba, China.
- MUS:3151 Percussion Chamber Ensemble** 1 s.h.  
Advanced percussion ensemble experience to complement work in larger format percussion ensemble; preparation and performance of most important repertoire for percussion ensemble; new works brought to light in a small chamber group setting. Requirements: upper-level undergraduate or graduate percussion major.
- MUS:3160 Symphony Band/Concert Band** 1 s.h.  
Participation in Symphony Band or Concert Band. Requirements: (for concert band) membership by audition.
- MUS:3162 All University Steel Band** 1-3 s.h.  
Musical and cultural introduction to steel band music of Trinidad and other Caribbean musical styles, including calypso, soca, ska, and reggae.
- MUS:3163 Intermediate Steel Band** 1 s.h.  
Small group steel band experience for more advanced players with experience playing steel pans.
- MUS:3170 Kantorei** 1 s.h.
- MUS:3172 Camerata Singers** 1 s.h.
- MUS:3174 University Choir** 1 s.h.
- MUS:3180 Orchestra** 1 s.h.
- MUS:3182 Chamber Orchestra** 1 s.h.  
Requirements: upper-level undergraduate standing.
- MUS:3190 Center for New Music Ensemble** 1 s.h.  
Participation in the Center for New Music; focus on contemporary composition and performance, 20th- and 21st-century repertoire and styles.
- MUS:3230 Composition Seminar** 1 s.h.  
Corequisites: MUS:2220 and MUS:5220.

- MUS:3240 Advanced Compositional Concepts and Techniques** 1-2 s.h.  
Acquisition, development, and application of advanced techniques and concepts in composition; topics will vary, depending on faculty and student interests; topics may include algorithmic methods, interactive performance systems, sound diffusion/spatialization, tuning systems, mathematical group theory, signal processing, advanced coding, and study and compositional application of new digital technologies and software, as well as analog systems from the past 50 years. Prerequisites: MUS:2220 or MUS:5220.
- MUS:3280 Spectral Nature of Sound: Acoustics, Analysis, and Resynthesis** 3 s.h.  
Fourier, fast Fourier transform (FFT), and inverse FFT, including spectral analysis and processing in Max; for composers, performers, and music theorists interested in the nature of sounds and their manipulation.
- MUS:3285 New Musical Instruments: From Design to Performance** 3 s.h.  
Acoustic principles of selected traditional instruments (e.g., winds, strings, percussion) as well as principles of electroacoustic sound production (e.g., analog synthesizers, microphones, transducers); students work in teams to build, test, and improve their own musical instrument and experiment with its playing modes; projects may include inharmonic variations upon classical instruments, musical bots, guitar or voice-processing pedals, transducer-driven DIY Gamelans, and more; for composers, performers, engineers, and sound enthusiasts who want to design, build, and/or perform with new musical instruments. GE: Engineering Be Creative. Same as DIGA:3285.
- MUS:3400 Methods of Teaching Piano** 2 s.h.  
Methods, materials, and teaching techniques for preschool students, precollege students, and adult learners. Requirements: keyboard major.
- MUS:3410 Fundamentals of Piano Technology** 1 s.h.  
Offered spring semesters. Requirements: music major.
- MUS:3480 Piano Accompaniment** 1 s.h.  
Collaborative arts techniques, methods, and history.
- MUS:3481 Piano Chamber Music** 1-2 s.h.  
Requirements: music major.
- MUS:3482 String Chamber Music** 1-2 s.h.
- MUS:3483 Baroque Seminar for Strings** 1 s.h.  
Introduction to Baroque performance practices and techniques on period string instruments; ensembles. Requirements: enrollment in upper-level or graduate-level applied studies.
- MUS:3485 Wind Chamber Music** 1-2 s.h.  
Preparation, performance of representative literature; sections for woodwinds, brass, flute, clarinet, horn, saxophone, double reed, trumpet, trombone, brass choir, tuba/euphonium ensemble.
- MUS:3486 Bach Performance Seminar** 1 s.h.  
Performance practice and interpretation of J.S. Bach's music and late German Baroque period using modern instruments; differences between Baroque performance on period and modern instruments; concept of historically informed practice (HIP) and its application in performing Bach's masterpieces; master-class format culminating in a public recital of repertoire studied during semester.
- MUS:3489 Chamber Music Residency Program** 1-2 s.h.  
Focused exploration of chamber music literature through small ensemble experiences; students are assigned a group to work with and groups rehearse independently a minimum of two hours per week; weekly one-hour coaching with a faculty member; attendance at weekly seminars; opportunity to explore the national chamber music scene and learn about various aspects of pursuing a chamber music career through interactions with faculty, guest lecturers, and master classes provided by visiting performers of the UI String Quartet Residency Program.
- MUS:3500 Opera Workshop** 2 s.h.  
Opera performing techniques, including acting, aria interpretation, scene work. Requirements: vocal major or audition.
- MUS:3501 Opera Theater Chorus** 1 s.h.  
Requirements: audition.
- MUS:3502 Opera Production** 2-4 s.h.  
Preparation and rehearsals leading up to performance of full production; may include one-act opera, chamber opera, musical theater production, or full-length opera. Corequisites: MUS:3503. Requirements: audition.
- MUS:3503 Vocal/Operatic Coaching** 1 s.h.  
Professional-level vocal coaching in preparation for opera productions, opera workshop, degree recitals. Corequisites: MUS:3502.
- MUS:3510 Discovering Art Song** 1 s.h.  
Schubert, Schumann, Brahms, Wolf, Strauss, Mahler; appropriate diction, style. Prerequisites: MUS:1510 and MUS:2510.
- MUS:3511 Discovering Opera** 1 s.h.  
Art songs in English, French, Italian, Spanish; appropriate diction, style. Prerequisites: MUS:1510 and MUS:2510.
- MUS:3530 Musical Theatre Workshop** 2 s.h.  
Development of musical theatre performance skills through participation; students learn how to project intentions, attitudes, and personality traits of characters they portray; fundamentals of stagecraft, acting, movement, relaxation, and concentration; accurate musical coaching, including clear diction and solidly built dramatic musical interpretation. Same as THTR:3530.
- MUS:3600 Undergraduate Music Education Workshop** 1 s.h.  
Topics vary; for inservice music teachers.
- MUS:3601 Undergraduate Music Education Workshop II** 1 s.h.  
Topics vary; for inservice music teachers.
- MUS:3605 Instrumental Techniques** 2 s.h.  
Same as EDTL:3605.
- MUS:3625 Techniques of Conducting** 2 s.h.  
Basic elements, score analysis.
- MUS:3635 Instrumental Conducting** 3 s.h.  
Advanced skills for instrumental conducting, score analysis, rehearsal techniques, literature selection. Prerequisites: MUS:3625. Same as EDTL:3635.
- MUS:3640 Choral Methods** 3 s.h.  
Organization, implementation of effective choral music programs for all ages. Prerequisites: EDTL:3610. Same as EDTL:3640.

- MUS:3645 Choral Conducting and Literature** 3 s.h.  
Advanced skills appropriate to choral conducting, analysis, literature selection studied and implemented to develop a secure approach to choral art; students preparing to teach in the elementary or secondary schools must register under EDTL:3645. Prerequisites: MUS:3625. Same as EDTL:3645.
- MUS:3650 Instrumental Methods and Materials** 3 s.h.  
Elementary and secondary instrumental music methods course required for K-12 music teacher certification. Prerequisites: EDTL:3610. Same as EDTL:3650.
- MUS:3659 Class Strings** 1 s.h.  
String playing and basic principles of string pedagogy; for band and string students. Offered fall semesters for band; offered fall and spring semesters for string. Requirements: teacher education student in music.
- MUS:3664 Introduction to Wind and Percussion Instruments** 2 s.h.  
Survey of wind and percussion instruments; for music education string majors.
- MUS:3665 Arranging for Band** 2-3 s.h.  
Scoring and arranging techniques for concert, marching bands.
- MUS:3666 Marching Band Techniques** 1 s.h.  
Administration, show design. Offered fall semesters.
- MUS:3675 Music Therapy Practicum** 1-2 s.h.  
Supervised clinical training with adult clients and children in variety of health care and educational settings. Prerequisites: MUS:1687. Requirements: music therapy major.
- MUS:3676 Percussion Experience for Teachers and Therapists** 1 s.h.  
Hands-on learning experiences in percussion techniques used by music teachers, special education teachers, music therapists, or social workers; basics of hand drumming centering on West African djembe and Trinidadian steel band; skills necessary for interacting with students and clients in educational and clinical settings.
- MUS:3680 Music in Special Education** 3 s.h.  
Music methods and materials appropriate for students with disabilities in special educational settings; overview of individualized educational planning for students with disabilities. Requirements: music therapy or music education major.
- MUS:3690 Music Therapy with Adults** 3 s.h.  
Techniques, procedures for work with adult clients with disabilities. Prerequisites: MUS:1687. Requirements: music therapy major.
- MUS:3700 iPad for Musicians** 2 s.h.  
Opportunity to discover the many hardware and software applications available for the iPad; for music majors, especially of interest for music education and music therapy students. Requirements: music major.
- MUS:3710 Intermediate Jazz Improvisation** 2 s.h.  
Improvisation in the jazz repertoire of standards, bebop, and major composers such as Thelonious Monk, Wayne Shorter; memorization and use of melodies, knowledge of chords to the thirteenth, chromatic harmony, development of rhythmic motifs/alteration, strategies for multiple chorus improvisations; separate section for drummers. Prerequisites: MUS:3001. Requirements: audition.
- MUS:3730 Jazz Band** 1 s.h.  
Jazz performance ensembles, rehearsals, and concerts on and off campus.
- MUS:3740 Small Jazz Ensembles** 1 s.h.  
Development of repertoire from standard jazz literature, arrangements and compositions by ensemble members; rehearsals (three hours per week) and performances on and off campus. Requirements: audition.
- MUS:3760 Jazz Band Techniques** 1 s.h.  
Development of skills for sight-reading and interpreting notated jazz. Prerequisites: MUS:1711.
- MUS:3780 Audio Recording I** 3 s.h.  
Introduction to audio fundamentals, including basic acoustics and audio systems; survey of important equipment and practices, use of microphones and mixers; introduction to AVID's Pro Tools digital audio workstation; students with no background in audio production brought up to an operational proficiency level with basic recording systems; related technical topics develop an understanding of common equipment and conventional application in modern recording studio setting; recording techniques used in MUS:3781.
- MUS:3781 Audio Recording II** 3 s.h.  
Survey of Pro Tools; fundamental digital audio concepts applied to hands-on music recording and postproduction projects on digital audio workstations; Pro Tools 101 content with supplementary readings and recording sessions; operational knowledge of Pro Tools software and hardware configurations; basic processes of software-based digital audio recording through recording sessions and sample projects; development of functional understanding of postproduction concepts. Prerequisites: MUS:3780.
- MUS:3800 Reed Class** 1 s.h.  
Development of reed-making skills; focus on steps to complete reeds from tube cane to a finished reed; different ways of reed making; practical, pedagogical, and historical approaches; producing various reed styles. Requirements: music major.
- MUS:3830 Wind Instrument Maintenance and Repair** 1 s.h.  
Principles of maintenance, repair, and adjustment of wind instruments; hands-on experience including mechanical instruction on all brass and woodwind instruments; how to perform minor and emergency repairs on wind instruments, demonstration of tools and supplies needed to perform repairs and musical instrument maintenance.
- MUS:3850 Introduction to Laban Movement Studies** 2-3 s.h.  
Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as DANC:3850, DPA:3850, THTR:3850.

- MUS:3851 Introduction to the Alexander Technique** 3 s.h.  
The Alexander Technique and "self-use"—how movement choices affect results achieved; improvement of physical skills and presence; principles in support of performing arts (e.g., speaking, singing, playing an instrument, dancing, acting); application to skills in daily life, addressing underpinnings of movement; physical participation (e.g., lying down, rolling, sitting, standing, locomotion). Same as DANC:3851, DPA:3851.
- MUS:3990 Special Studies** 0-4 s.h.
- MUS:4080 Contemporary Improvisation and Production for Classical Performers** 2 s.h.  
Introduction and development of skills related to improvisation and production (i.e., arranging, composition, project creation) applicable to the ever-evolving world of the 21st-century performer; topics include practical ear training/theory necessary for success in improvisation, arranging skills, relevant technologies, and introduction to various nonclassical styles.
- MUS:4200 Counterpoint Before 1600** 3 s.h.  
Two- and three-part counterpoint; Renaissance polyphony. Requirements: MUS:2203 for undergraduates; MUS:5200 for graduate students or exemption by Graduate Advisory Exam.
- MUS:4201 Counterpoint After 1600** 3 s.h.  
Survey of contrapuntal and textural techniques from 1600 to the present. Requirements: MUS:2204 for undergraduates; MUS:5200 or exemption on Graduate Advisory Exam for graduate students.
- MUS:4210 Keyboard Harmony** 1-2 s.h.  
Melody harmonization and figured-bass realization at the keyboard. Requirements: MUS:2204 for undergraduates; MUS:5200 or exemption by Graduate Advisory Exam for graduate students; and keyboard proficiency for all students.
- MUS:4220 Orchestration** 3 s.h.  
Instrumental capabilities and combinations in solo, chamber, and large ensemble literature; application in composition.
- MUS:4250 Composition: Electronic Media I** 3 s.h.  
Composition using analog, digital technology. Offered fall semesters.
- MUS:4251 Composition: Electronic Media II** 3 s.h.  
Advanced interactive techniques in composition in association with analog, digital technologies. Offered spring semesters.
- MUS:4290 Music Theory Colloquium** 1 s.h.
- MUS:4320 Music and Gender** 3 s.h.  
Roles that gender has played in shaping the history of musical performance and composition.
- MUS:4325 Medieval and Renaissance Music** 3 s.h.
- MUS:4330 Baroque Music** 3 s.h.
- MUS:4335 Eighteenth-Century Music** 3 s.h.
- MUS:4340 Nineteenth-Century Music** 3 s.h.
- MUS:4345 Twentieth-Century Music** 3 s.h.
- MUS:4350 Advanced Jazz History** 3 s.h.  
Survey and examination of the history of jazz from early 20th century to present; placement of musical conventions, influential performers, and aesthetic shifts that have shaped the history of jazz music in social, cultural, and technological context; prior musical background not required.
- MUS:4355 American Music** 3 s.h.  
Who defines American music? In what ways do musicians, audiences, conductors, critics, and historians in the United States work to shape (and reshape) the country's musical identity? Students examine a variety of performers, works, and events in the history of American music that help ask and answer these questions in different ways; special attention given to analytical skills required to think critically about the different voices empowered to shape public understanding(s) of our musical past.
- MUS:4360 Jazz Matters** 3 s.h.  
Students cover a variety of historic jazz scenes (e.g., New Orleans, New York, Chicago) and investigate the reciprocal relationship between music and place as it pertains to the history of jazz; through listening, analysis, and primary source research, students work to understand select case studies as influential musical environments, charting the ways American cities have historically supported jazz and jazz musicians; examination of a broad range of musical media (e.g., film soundtracks, musicals, cartoon depictions) to uncover the ways prominent "jazz cities" have been imagined, shaped, and reshaped by adjacent ideas about race, gender, and nationhood.
- MUS:4390 Musicology Colloquium** 1 s.h.
- MUS:4450 Organ Literature Survey** 2 s.h.  
Fifteenth century to present. Requirements: advanced undergraduate or graduate standing.
- MUS:4452 Liturgics** 2 s.h.  
History of liturgies and survey of liturgical music from Judaism to present.
- MUS:4454 Service Playing and Improvisation** 2 s.h.  
Hymn playing, accompanying, basic improvisation techniques. Requirements: organ major.
- MUS:4480 Introduction to Chamber Music Entrepreneurship** 2 s.h.  
Exploration of ways to create, coordinate, sustain, and cultivate chamber music; discussions, readings, guest presentations, individual reflections, and maintenance of regular creative practice; students are encouraged to register as a chamber ensemble; performance and collaboration skills; communication and promotion strategies; teaching artistry; community and social engagement; grant writing; nonprofit funding; programming; commissioning; best practices for partnering with external organization; examination of a range of models; individual or group project.
- MUS:4610 Studies in Film and Music** 3 s.h.  
Critical approaches to historical and contemporary interrelationships between film and music; soundtracks and film scores; popular song and cinema. Prerequisites: CINE:1601 with a minimum grade of C. Same as CINE:4610.
- MUS:4630 Psychology of Music** 2-3 s.h.  
Cognition of music, affective response, aesthetic response, musical ability. Same as ECTL:4630.
- MUS:4670 Internship in Music Therapy** 2,12 s.h.  
Clinical training under direction of board certified music therapist. Requirements: core music therapy requirements.
- MUS:4675 Senior Project in Music Therapy** 1 s.h.
- MUS:4685 Music Therapy with Children** 3 s.h.  
Techniques, procedures for use in clinical, educational settings. Prerequisites: MUS:1687. Requirements: music therapy major.

- MUS:4710 Advanced Jazz Improvisation** 2 s.h.  
Builds on the skills learned in MUS:3710; contemporary techniques and styles used by current practitioners of improvisation; free improvisation, bitonal harmonies, through-composed forms, collective improvisation, nonwestern approaches. Prerequisites: MUS:3710 and MUS:4730. Requirements: audition.
- MUS:4730 Jazz Theory** 3 s.h.  
Development of skills needed for interpreting jazz melodies, chord symbols, comprehension of jazz song forms, and analysis of jazz-specific harmony in mainstream jazz music; practical application of jazz scales and reharmonization techniques; contains a practical application component on student's instrument of specialty. Requirements: MUS:1201.
- MUS:4750 Transcription** 2 s.h.  
Individual projects to transcribe improvisations, small ensemble arrangements, large ensemble arrangements, or nonwestern techniques; use of computer notation programs and midi-realizations. Prerequisites: MUS:3710 and MUS:4730.
- MUS:4760 Jazz Composition and Arranging** 2 s.h.  
Experience writing and arranging original jazz material for small and large ensembles, and presenting scores in computer notation; individual lessons. Prerequisites: MUS:4730.
- MUS:4761 Advanced Jazz Composition and Arranging** 2 s.h.  
Continuation of MUS:4760; opportunity for further study and work in the practical application of composition and arranging skills; one-on-one lessons focus on areas of composition that best suit student's desired type, style, and/or instrumentation of creative output; areas may include writing for big band, strings, styles beyond typical jazz, or composing original repertoire. Prerequisites: MUS:4760.
- MUS:4800 Special Topics in Music** 1-2 s.h.  
Topics vary.
- MUS:4900 Senior Recital** 1 s.h.
- MUS:4910 Bachelor's Thesis** 0-1 s.h.
- MUS:4995 Honors in Music** 1-4 s.h.  
Requirements: honors standing.
- MUS:5101 Advanced Woodwind Pedagogy and Literature I** 2 s.h.  
Saxophone and clarinet solo and study literature; integration of pedagogical topics.
- MUS:5102 Advanced Woodwind Pedagogy and Literature II** 3 s.h.  
Oboe, bassoon, and flute solo and study literature; integration of pedagogical topics.
- MUS:5111 Advanced Brass Pedagogy and Literature I** 2 s.h.  
Tuba, euphonium, and trombone literature; pedagogical topics.
- MUS:5112 Advanced Brass Pedagogy and Literature II** 2 s.h.  
Trumpet and horn literature; pedagogical topics.
- MUS:5115 Advanced Brass Ensemble Literature** 2 s.h.  
Brass chamber music literature, including mixed and like-instrument ensembles.
- MUS:5121 Advanced String Methods and Literature I** 2 s.h.  
Violin, viola, cello, and double bass solo and chamber music repertoire, pedagogical methods.
- MUS:5122 Advanced String Methods and Literature II** 2 s.h.  
Violin, viola, cello, and double bass solo and chamber music repertoire, pedagogical methods.
- MUS:5130 Advanced Percussion Pedagogy and Literature** 2 s.h.  
Percussion literature, styles, notation, performance techniques, composition; survey.
- MUS:5200 Review of Undergraduate Theory** 3 s.h.  
Theories and strategies of analysis applied to tonal and post-tonal music.
- MUS:5220 Advanced Composition** 1-2 s.h.  
Corequisites: MUS:3230.
- MUS:5235 Tonal Analysis** 3 s.h.  
Requirements: MUS:5200 or exemption on Graduate Advisory Exam.
- MUS:5236 Non-Tonal Analysis** 3 s.h.  
Requirements: MUS:5200 or exemption on Graduate Advisory Examination.
- MUS:5237 Analysis of Popular Music** 3 s.h.  
Survey; analysis of popular music. Prerequisites: MUS:5200.
- MUS:5240 Special Topics in Theory and Analysis** 3 s.h.  
Requirements: MUS:5200 or exemption on Graduate Advisory Exam for graduate students.
- MUS:5300 Introduction to Graduate Study in Music** 2 s.h.  
Music library; reference materials; bibliography; research problems, methods; writing research papers. Offered fall and spring semesters.
- MUS:5400 Piano Pedagogy I** 2 s.h.  
In-depth study of techniques and materials needed to teach intermediate and advanced piano students; judging competitions; conducting master classes; writing curriculum vitae and cover letters in preparation for academic job searches.
- MUS:5401 Piano Pedagogy II** 2 s.h.  
History of the piano and its technique and pedagogy; national schools of piano playing; relationship of technological changes in piano construction to piano technique, pedagogy, and composition; major methods and treatises, historical recordings and video clips; research leading to understanding of students' individual piano lineage.
- MUS:5410 Piano Literature I** 2 s.h.  
Baroque era to Mozart or Chopin through 1900.
- MUS:5411 Piano Literature II** 2 s.h.  
Beethoven through Schumann or 20th century.
- MUS:5450 History of Organ Building and Design 2-3 s.h.**  
Development of organ design from Middle Ages to present; basic concepts of construction, maintenance.
- MUS:5452 Organ Pedagogy** 2 s.h.  
History, theory, practice from Renaissance to present; methods, literature appropriate for various levels.
- MUS:5475 Organ Literature Special Topics** 2 s.h.  
Specialized study in selected areas of organ literature.
- MUS:5510 Graduate Diction** 2 s.h.  
Advanced pronunciation of singing languages. Requirements: grade of B or higher in undergraduate diction in French, German, and Italian.



- MUS:5555 Voice Habilitation** 2 s.h.  
Application of methods of intervention in development, training, rehabilitation of vocal behavior; motor learning, efficacy of treatment strategies, factors affecting compliance with recommended therapy. Offered fall semesters. Prerequisites: CSD:3112 and CSD:4114. Same as CSD:5213.
- MUS:5600 Graduate Music Education Workshop** 1 s.h.  
For inservice music teachers; topics vary. Same as EDTL:5600.
- MUS:5601 Graduate Music Education Workshop II** 1 s.h.  
Varied topics; for inservice music teachers. Same as EDTL:5601.
- MUS:5800 Interactive Music** 3 s.h.  
Integration of art and music with technology, providing a foundation of skills and concepts through hands-on experimentation and creation; lectures and demonstrations; introduction to key concepts and ideas about the history of digital arts; programming audio and visual interactive art; students work on a creative final project and public presentation.
- MUS:5820 Electronic Music Production** 3 s.h.  
Improvement of listening skills through regular critical study of recorded music in a variety of styles; weekly creative challenges to gain new skills working with MIDI instruments, samples, and student's own recorded audio; introduction to elements of mixing (e.g., balance, frequency range, space); creation and public presentation of a final personal project; hands-on course; for students with some experience using computers to make music. Requirements: previously created production with minimum duration of one minute, in any style.
- MUS:6020 Major Voice** 2 s.h.
- MUS:6021 Major Piano** 2 s.h.
- MUS:6022 Major Organ** 2 s.h.
- MUS:6023 Major Violin** 2 s.h.
- MUS:6024 Major Viola** 2 s.h.
- MUS:6025 Major Cello** 2 s.h.
- MUS:6026 Major String Bass** 2 s.h.
- MUS:6027 Major Flute** 2 s.h.
- MUS:6028 Major Oboe** 2 s.h.
- MUS:6029 Major Clarinet** 2 s.h.
- MUS:6030 Major Bassoon** 2 s.h.
- MUS:6031 Major Saxophone** 2 s.h.
- MUS:6032 Major Horn** 2 s.h.
- MUS:6033 Major Trumpet** 2 s.h.
- MUS:6034 Major Trombone** 2 s.h.
- MUS:6035 Major Euphonium** 2 s.h.
- MUS:6036 Major Tuba** 2 s.h.
- MUS:6037 Major Percussion** 2 s.h.
- MUS:6038 Major Jazz** 2 s.h.  
Applied lessons and guided instruction in performance, technique, musicality, pedagogy (teaching); weekly lessons; weekly performance/pedagogy seminar conducted in a master class format; student participation as performers, critics, and practice teachers with instructor guidance.
- MUS:6120 Graduate Secondary Performance - Voice** 1 s.h.
- MUS:6121 Graduate Secondary Performance - Piano** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6122 Graduate Secondary Performance - Organ** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6123 Graduate Secondary Performance - Violin** 1 s.h.
- MUS:6124 Graduate Secondary Performance - Viola** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6125 Graduate Secondary Performance - Cello** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6126 Graduate Secondary Performance - String Bass** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6127 Graduate Secondary Performance - Flute** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6128 Graduate Secondary Performance - Oboe** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6129 Graduate Secondary Performance - Clarinet** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6130 Graduate Secondary Performance - Bassoon** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6131 Graduate Secondary Performance - Saxophone** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6132 Graduate Secondary Performance - Horn** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6133 Graduate Secondary Performance - Trumpet** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6134 Graduate Secondary Performance - Trombone** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6135 Graduate Secondary Performance - Euphonium** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6136 Graduate Secondary Performance - Tuba** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.

- MUS:6137 Graduate Secondary Performance - Percussion** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6138 Graduate Secondary Performance - Jazz** 1 s.h.  
Required seminar and lessons to be arranged. Requirements: music major.
- MUS:6139 Graduate Secondary Performance - Composition** 1 s.h.  
Individual lessons; for non-composition music majors. Requirements: music major.
- MUS:6210 History of Ideas of Music** 3 s.h.  
Topical survey; historical theories of music with regard to harmony, rhythm, affect, and more. Requirements: MUS:5200 or exemption by Graduate Advisory Exam.
- MUS:6211 Theoretical Approaches to Music** 3 s.h.  
Survey of theoretical approaches to music; development of an exomusicological conception of music (i.e., music throughout intergalactic space); students contextualize and critique current theoretical approaches in terms of this framework, and engage with these approaches through independent scholarship or creative work to deepen connection with certain forms of music or musicians and become more confident, capable, and savvy in musical explorations. Requirements: MUS:5200 or exemption by Graduate Advisory Exam.
- MUS:6215 Music Theory Pedagogy** 3 s.h.  
Methods and techniques of teaching college-level music theory, including harmony, sight singing, ear training. Requirements: MUS:5200 or exemption by Graduate Advisory Exam.
- MUS:6250 Advanced Tonal Theory and Analysis** 3 s.h.  
Prerequisites: MUS:5235.
- MUS:6251 Advanced Non-Tonal Theory and Analysis** 3 s.h.  
Prerequisites: MUS:5236.
- MUS:6252 Advanced Theory and Analysis of Popular Music** 3 s.h.  
Intensive study of theories and advanced analysis of popular music. Prerequisites: MUS:5237.
- MUS:6305 Teaching Music History and Culture** 3 s.h.  
Preparation for teaching music history and culture including course design, syllabi preparation, classroom strategies, and current pedagogical issues.
- MUS:6310 Topics in Musicology** 3 s.h.  
One or more selected areas of music history.
- MUS:6312 Historical Approaches to Music** 3 s.h.  
Research techniques, methodologies, and contemporary issues of historical musicology.
- MUS:6314 Topics in Ethnomusicology** 3 s.h.  
Perspectives on analysis and representation of selected musical cultures from around the world.
- MUS:6315 Foundations of Ethnomusicology** 3 s.h.  
Ethnomusicology in relation to domains of musical, humanistic, social science scholarship on expressive culture and artistic processes. Requirements: senior standing.
- MUS:6326 Renaissance Music Notations** 3 s.h.  
Renaissance white notation, keyboard tablatures, musical paleography; transcription of early vocal, instrumental notations; editorial problems. Requirements: exemption by Graduate Advisory Exam.
- MUS:6375 Music Editing** 3 s.h.  
Principles and methods of music editing; use of primary source materials, establishment of music text, preparation of critical apparatus; project to prepare a critical edition of music for publication.
- MUS:6520 Vocal Pedagogy** 3 s.h.  
History of voice pedagogy, various pedagogical techniques of voice training, vocal anatomy, voice classification, critical listening, postural alignment, managing breath, tonal production, connecting registers, articulation, interpretation, vocal health, pharmacological effects on the voice, vocal gadgets, requirements for a professional career, teaching in the 21st century, and teaching practicum; diagnosis and correction of vocal faults. Same as CSD:6202.
- MUS:6530 Topics in Vocal Performance** 2 s.h.  
Selected areas of vocal performance.
- MUS:6535 Opera Theater Directing Seminar** 3 s.h.  
Exploration, discussion, and experience using techniques unique to directing opera. Score and libretto analysis, fundamentals of stagecraft, casting and management skills.
- MUS:6540 Survey of Operatic Literature** 3 s.h.  
Important operatic scores examined from standpoint of performers, directors; production problems.
- MUS:6541 Survey of Song Literature I** 3 s.h.  
German language lieder from 18th century to present; French mélodie from Meyerbeer to present. Offered fall semesters of odd years.
- MUS:6542 Survey of Song Literature II** 3 s.h.  
British, American, Italian, Spanish, Latin American, Scandinavian, and Russian art song from 18th century to present. Offered fall semesters of even years.
- MUS:6561 Seminar: Choral Literature and Analysis I** 1-3 s.h.  
Choral music of the Renaissance. Corequisites: MUS:6581.
- MUS:6562 Seminar: Choral Literature and Analysis II** 1-3 s.h.  
Choral music of the Baroque era. Corequisites: MUS:6582.
- MUS:6563 Seminar: Choral Literature and Analysis III** 1-3 s.h.  
Choral music of the Classical and Romantic eras. Corequisites: MUS:6583.
- MUS:6564 Seminar: Choral Literature and Analysis IV** 1-3 s.h.  
Choral music of the 20th and 21st centuries. Corequisites: MUS:6584.
- MUS:6579 Orchestral Conducting Lab** 2 s.h.  
Introduce, improve, and refine gestural skills, emphasizing score analysis; class discussions and laboratory orchestra experiences.
- MUS:6580 Advanced Orchestral Conducting** 2 s.h.
- MUS:6581 Advanced Choral Conducting I** 1-3 s.h.  
Music of the Renaissance. Corequisites: MUS:6561.
- MUS:6582 Advanced Choral Conducting II** 1-3 s.h.  
Music of the Baroque era. Corequisites: MUS:6562.
- MUS:6583 Advanced Choral Conducting III** 1-3 s.h.  
Music of the Classical and Romantic eras. Corequisites: MUS:6563.
- MUS:6584 Advanced Choral Conducting IV** 1-3 s.h.  
Music of the 20th and 21st centuries. Corequisites: MUS:6564.
- MUS:6585 Score Reading** 1 s.h.

- MUS:6586 Advanced Orchestral Literature and Professional Development** 2 s.h.
- MUS:6589 Advanced Wind Conducting** 1-2 s.h.  
Advanced conducting technique, score study, and literature as related to symphonic band and chamber wind ensembles.
- MUS:6590 Seminar in Advanced Band Literature and Band History** 1-2 s.h.  
Band literature; history.
- MUS:6670 Graduate Music Therapy Practicum** 1-3 s.h.  
Seminar, clinical fieldwork. Requirements: undergraduate music therapy practicum.
- MUS:6675 Research in Music Therapy - Graduate** 1 s.h.  
Research methodology; foundation for subsequent semesters of research on capstone project in music therapy.
- MUS:6680 College Teaching and Clinic Supervision in Music Therapy** 1-2 s.h.  
Principles of college teaching, curriculum development, clinical supervision in music therapy.
- MUS:6685 Theory and Research in Music Therapy** 1 s.h.  
Historical background, current principles and practices associated with theories of music therapy, common uses with specific populations; research methodologies associated with testing; theories and clinical practices, assigned research publications; information covered over several semesters with each semester covering three to four common theories; seminar includes strengths and limitations of each theory and its place within clinical practice. Requirements: undergraduate core courses in music therapy.
- MUS:6690 Special Studies in Music Therapy** 1-3 s.h.  
Seminar. Requirements: music therapy or music education graduate standing.
- MUS:6900 M.A. Recital** 1-2 s.h.
- MUS:6920 M.A. Performance Project** 1-2 s.h.
- MUS:6950 M.A. Thesis** 1-3 s.h.
- MUS:7135 Seminar in Music Recording and Research** 1 s.h.  
Review of existing projects, preparation, and vetting of recording project proposals; discussion of recording technology, preparation and planning of recording projects, and recording session protocols and best practices; preparation for the D.M.A. thesis recording option and taken before or during the semester in which the D.M.A. candidate intends to defend the topic proposal.
- MUS:7140 Seminar in Music Research** 2 s.h.  
Builds on skills learned in MUS:5300; exploration of research methodologies necessary to initiate selection of a thesis research topic and preparation of a proposal for the D.M.A. thesis; class time devoted to student preparation for the profession including application and interviewing for academic positions, development of a research plan, and other topics related to career development. Prerequisites: MUS:5300. Requirements: third semester graduate standing and pass qualifying recital.
- MUS:7380 Readings in Music History** 1-3 s.h.
- MUS:7400 Special Studies Piano Literature** 1-2 s.h.  
Individual research in special aspects of piano literature; primarily for D.M.A. students.
- MUS:7401 Special Studies in Piano Accompaniment and Chamber Music** 1-2 s.h.  
Advanced collaborative arts practicum.
- MUS:7899 D.M.A. Qualifying Recital** 0 s.h.  
Preparation and work towards a qualifying recital presented to a full doctoral recital committee of five members by the end of the second semester of registration (excluding summer session); in the event a qualifying recital is unacceptable, one additional recital with different repertoire may be given at the discretion of the examining committee.
- MUS:7900 D.M.A. Recital** 1-2 s.h.
- MUS:7950 Ph.D. Thesis** 1-4 s.h.
- MUS:7960 Composition Ph.D. Thesis** 1-4 s.h.
- MUS:7970 D.M.A. Essay and Thesis** 1-4 s.h.

## Music, B.A.

The Bachelor of Arts with a major in music is intended for undergraduates who have a strong background in music, and who wish to major in music as part of a broad liberal arts education irrespective of specific career aspirations. The curriculum includes musicianship, performance, and electives.

The program is designed for students who have solid abilities and interest in music but are not necessarily planning on careers as musicians, or for those who wish to pursue a double major or earn more than one bachelor's degree. Students must audition and be accepted into a performance area. They develop musicianship, performance skills, and select from a wide variety of music electives.

Students in many areas, from engineering and physics to history, art, and English, find that a B.A. in music is a good addition to their studies. Other students pursue the degree to complement coursework in business (especially the minor in business administration), a world language and literature, or interdisciplinary fields such as American studies. Some students combine their B.A. with undergraduate preparation to study law or medicine.

### Learning Outcomes

Graduates of the B.A. program in music will be able to:

- demonstrate the ability to hear, identify, and work conceptually with the rhythmic, melodic, harmonic, and structural elements of music;
- identify compositional processes, aesthetic properties of style, and artistic and cultural forces in music;
- demonstrate a broad acquaintance with music literature, musical genres, and cultural sources;
- demonstrate the ability to read and write critically about music; and
- demonstrate the ability to sight read, prepare for performance, interpret, and perform both solo and ensemble music in a variety of musical styles.

### Requirements

The Bachelor of Arts with a major in music requires a minimum of 120 s.h., including 42-54 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. B.A. students majoring in music may count a maximum of 56 s.h. earned in music courses toward their degree and they must earn at least 64 s.h. in coursework outside of the School of Music in order to graduate. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Students must satisfy all requirements for graduation; contact the School of Music and the Academic Advising Center to learn more.

All undergraduate enrollments require School of Music approval. Entering first-year and transfer students who plan to major in music must be accepted into a performance area through an audition. All entering students must complete the online theory diagnostic examination for MUS:1201 Musicianship and Theory I and a piano proficiency exam to determine appropriate placement in related courses.

Transfer students admitted to the School of Music must complete a minimum of one year of applied music (lower or upper level) and one year of major ensemble at the University of Iowa in order to earn a degree in music.

Transfer students who have not completed the equivalent of the four-semester sequence of Musicianship and Theory I-IV (MUS:1201, MUS:1202, MUS:2203, and MUS:2204) must complete an advisory theory diagnostic exam to determine recommendations for appropriate placement in the musicianship and theory sequence. Transfer students who have not completed the equivalent of two semesters of class piano or a piano proficiency exam must meet piano proficiency requirements at the University of Iowa.

All music majors with School of Music scholarships must participate in a major ensemble and studio lessons each semester.

Students who take a music course in one area may not use it to satisfy a music requirement in another area.

Students may choose to complete the B.A. with no track or choose from the following tracks: chamber music—piano, chamber music—strings/winds, jazz, music theory, musicology, and piano pedagogy.

- Major in Music Without Track [p. 876]
- Chamber Music [p. 877]- [p. 877]Piano Track [p. 877]
- Chamber Music [p. 878]- [p. 878]Strings/Winds Track [p. 878]
- Jazz Track [p. 879]
- Music Theory Track [p. 880]
- Musicology Track [p. 881]
- Piano Pedagogy Track [p. 882]

### Major in Music Without Track

The Bachelor of Arts with a major in music without a track requires a minimum of 120 s.h., including at least 42-44 s.h. of work for the major.

The B.A. with a major in music without a track requires the following coursework.

Code	Title	Hours
Musicianship Courses		16-18
Musicianship Electives		6
Performance (Applied Music/Ensembles)		14
Electives		6
<b>Total Hours</b>		<b>42-44</b>

### Musicianship Courses

Students take a piano placement exam and may be exempt from one or both of these courses: MUS:1211 or MUS:1212.

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors (or successful completion of MUS:1201 online theory diagnostic examination)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance (taken two semesters for 1 s.h. each)	2
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1

Two of these:

MUS:2301	History of Western Music I (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:2302	History of Western Music II (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:4350	Advanced Jazz History	3

To register for MUS:1201 Musicianship and Theory I, students also must register for MUS:1211 Group Instruction in Piano I, have already completed that course, or have been exempted from it by proficiency exam. To register for MUS:1202 Musicianship and Theory II, students also must register for MUS:1212 Group Instruction in Piano II or already have completed that course or have been exempted from it by proficiency exam. Transfer students should complete the group piano requirement during their first year in residence unless they are exempted by proficiency exam.

### Musicianship Electives

Code	Title	Hours
6 s.h. from these:		
MUS:1310	World Music	3
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3625	Techniques of Conducting	2
MUS:3665	Arranging for Band	2-3
MUS:4200	Counterpoint Before 1600	3
MUS:4350	Advanced Jazz History	3
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2

### Performance (Applied Music/Ensembles)

Major ensembles include MUS:1176 Voxman Chorale, MUS:3160 Symphony Band/Concert Band, MUS:3170 Kantorei, MUS:3172 Camerata Singers, MUS:3174 University Choir, and MUS:3180 Orchestra. With approval, students may use MUS:3730 Jazz Band to satisfy the major ensemble requirement. Any student who wishes to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the director for undergraduate studies.

Code	Title	Hours
All of these:		
	Lower-level applied music lessons	4
	Major ensemble (minimum of four semesters)	4
	Performance electives (lower- or upper-level applied music, ensembles, improvisation; a maximum of six semesters of 12 s.h. in lower-level applied instruction is allowed)	6

### Electives

Code	Title	Hours
6 s.h. in music electives chosen from any music courses (prefix MUS) or from these recommended courses, except for music courses closed to music majors:		
DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3200	Entrepreneurial Marketing	3

### Tracks

#### Chamber Music-Piano Track

The Bachelor of Arts with a major in music with the chamber music-piano track requires a minimum of 120 s.h., including at least 54 s.h. of work for the major.

All undergraduate enrollments require School of Music approval. Entering first-year and transfer students who plan to major in music must be accepted into an applied piano studio through audition either in person or by recording before they register.

All entering students must complete the online theory diagnostic examination for MUS:1201 Musicianship and Theory I and a piano proficiency exam to determine appropriate placement in related courses. Entering students who do not have Advanced Placement (AP) or transfer credit should enroll in MUS:1201, section 2, and take Placement Exam A, administered online in the summer before the start of the fall semester to determine readiness for the sequence. For further information, see Musicianship and Theory Placement on the School of Music website.

The B.A. with a major in music with the chamber music-piano track requires the following coursework.

Code	Title	Hours
Musicianship Courses		16
Musicianship Electives		6
Performance (Applied Music/Ensembles)		18
Collaborative Piano Requirements		8
Electives		6
<b>Total Hours</b>		<b>54</b>

#### Musicianship Courses

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors (or successful completion of MUS:1201 online theory diagnostic examination)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance (taken two semesters for 1 s.h. each)	2

Two of these:

MUS:2301	History of Western Music I (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:2302	History of Western Music II (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:4350	Advanced Jazz History	3

### Musicianship Electives

Code	Title	Hours
6 s.h. from these:		
MUS:1310	World Music	3
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3625	Techniques of Conducting	2
MUS:3665	Arranging for Band	2-3
MUS:4200	Counterpoint Before 1600	3
MUS:4350	Advanced Jazz History	3
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2

### Performance (Applied Music/Ensembles)

Major ensembles include MUS:1176 Voxman Chorale, MUS:3160 Symphony Band/Concert Band, MUS:3170 Kantorei, MUS:3172 Camerata Singers, MUS:3174 University Choir, and MUS:3180 Orchestra. With approval, students may use MUS:3730 Jazz Band to satisfy the major ensemble requirement. Any student who wishes to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the director for undergraduate studies.

Code	Title	Hours
All of these:		
	Lower-level applied music lessons	4
	Major ensemble (minimum of four semesters)	4
	Performance electives (lower- or upper-level applied music, ensembles, improvisation; a maximum of six semesters of 12 s.h. in lower-level applied instruction is allowed)	6
4 s.h. from these (courses may be repeated):		
MUS:3481	Piano Chamber Music	1-2
MUS:3489	Chamber Music Residency Program	1-2

### Collaborative Piano Requirements

Code	Title	Hours
All of these:		
MUS:1510	Diction for Singers I	2
MUS:2510	Diction for Singers II	2
MUS:3480	Piano Accompaniment	1
MUS:3510	Discovering Art Song	1
MUS:3511	Discovering Opera	1

MUS:4900	Senior Recital (chamber music capstone project)	1
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### Electives

Code	Title	Hours
6 s.h. in music electives chosen from any music courses (prefix MUS) or from these recommended courses, except for music courses closed to music majors:		
DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3200	Entrepreneurial Marketing	3

### Chamber Music-Strings/Winds Track

The Bachelor of Arts with a major in music with the chamber music-strings/winds track requires a minimum of 120 s.h., including at least 49-51 s.h. of work for the major.

The B.A. with a major in music with the chamber music-strings/winds track requires the following coursework.

Code	Title	Hours
Musicianship Courses		16-18
Musicianship Electives		6
Performance (Applied Music/Ensembles)		14
Chamber Music Requirements		7
Electives		6
<b>Total Hours</b>		<b>49-51</b>

### Musicianship Courses

Students take a piano placement exam which may exempt them from one or both of these courses: MUS:1211 or MUS:1212.

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors (or successful completion of MUS:1201 online theory diagnostic examination)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance (taken two semesters for 1 s.h. each)	2
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1
Two of these:		
MUS:2301	History of Western Music I (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:2302	History of Western Music II (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:4350	Advanced Jazz History	3

To register for MUS:1201 Musicianship and Theory I, students also must register for MUS:1211 Group Instruction in Piano I, already have completed that course, or have been exempted

from it by proficiency exam. To register for MUS:1202 Musicianship and Theory II, students also must register for MUS:1212 Group Instruction in Piano II, already have completed that course, or have been exempted from it by proficiency exam. Transfer students should complete the group piano requirement during their first year in residence unless they are exempted by proficiency exam.

## Musicianship Electives

Code	Title	Hours
6 s.h. from these:		
MUS:1310	World Music	3
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3625	Techniques of Conducting	2
MUS:3665	Arranging for Band	2-3
MUS:4200	Counterpoint Before 1600	3
MUS:4350	Advanced Jazz History	3
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2

## Performance (Applied Music/Ensembles)

Major ensembles include MUS:1176 Voxman Chorale, MUS:3160 Symphony Band/Concert Band, MUS:3170 Kantorei, MUS:3172 Camerata Singers, MUS:3174 University Choir, and MUS:3180 Orchestra. With approval, students may use MUS:3730 Jazz Band to satisfy the major ensemble requirement. Any student who wishes to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the director for undergraduate studies.

Code	Title	Hours
All of these:		
	Lower-level applied music lessons	4
	Major ensemble (minimum of four semesters)	4
	Performance electives (lower- or upper-level applied music, ensembles, improvisation; a maximum of six semesters of 12 s.h. in lower-level applied instruction is allowed)	6

## Chamber Music Requirements

Code	Title	Hours
6 s.h. from these:		
MUS:3482	String Chamber Music (for string majors; repeatable)	1-2
MUS:3485	Wind Chamber Music (for wind majors; repeatable)	1-2
MUS:3489	Chamber Music Residency Program (repeatable)	1-2
And this course:		
MUS:4900	Senior Recital (for string and wind majors; chamber music capstone project)	1

## Electives

Code	Title	Hours
6 s.h. in music electives chosen from any music courses (prefix MUS) or from these recommended courses, except for music courses closed to music majors:		
DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3200	Entrepreneurial Marketing	3

## Jazz Track

The Bachelor of Arts with a major in music with the jazz track requires a minimum of 120 s.h., including at least 44-47 s.h. of work for the major.

The B.A. with a major in music with the jazz track requires the following coursework.

Code	Title	Hours
Musicianship Courses		16-18
Performance (Applied Music/Ensembles)		14-15
Jazz Requirements		8
Electives		6
<b>Total Hours</b>		<b>44-47</b>

## Musicianship Courses

Students take a piano placement exam which may exempt them from one or both of these courses: MUS:1211 or MUS:1212.

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors (or successful completion of MUS:1201 online theory diagnostic examination)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance (taken two semesters for 1 s.h. each)	2
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1
Two of these:		
MUS:2301	History of Western Music I (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:2302	History of Western Music II (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:4350	Advanced Jazz History	3

To register for MUS:1201 Musicianship and Theory I, students also must register for MUS:1211 Group Instruction in Piano I, already have completed that course, or have been exempted from it by proficiency exam. To register for MUS:1202 Musicianship and Theory II, students also must register for MUS:1212 Group Instruction in Piano II, already have

completed that course, or have been exempted from it by proficiency exam. Transfer students should complete the group piano requirement during their first year in residence unless they are exempted by proficiency exam.

### Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these:		
MUS:2038	Lower Level Jazz (taken two times for 2 s.h. each)	4
MUS:3730	Jazz Band (taken four times for 1 s.h. each)	4
MUS:3740	Small Jazz Ensembles (taken two times for 1 s.h. each)	2
One of these sequences:		
MUS:3001 & MUS:3710	Introduction to Jazz Improvisation - Intermediate Jazz Improvisation	5
MUS:3710 & MUS:3038	Intermediate Jazz Improvisation - Upper Level Jazz	4

### Jazz Requirements

Code	Title	Hours
All of these:		
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2
MUS:4900	Senior Recital (jazz capstone project)	1

### Electives

Code	Title	Hours
6 s.h. in music electives chosen from any music courses (prefix MUS) or from these recommended courses, except for music courses closed to music majors:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3730	Jazz Band (Latin jazz ensemble)	1
AFAM:1241/ MUS:1741	The Soundtrack of Black America	3
DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3200	Entrepreneurial Marketing	3

### Music Theory Track

The Bachelor of Arts with a major in music with the music theory track requires a minimum of 120 s.h., including at least 50-52 s.h. of work for the major.

The B.A. with a major in music with the music theory track requires the following coursework.

Code	Title	Hours
Musicianship Courses		16-18
Performance (Applied Music/Ensembles)		8

Music Theory Requirements	11
Music Theory Electives	9
Electives	6
<b>Total Hours</b>	<b>50-52</b>

### Musicianship Courses

Students take a piano placement exam which may exempt them from one or both of these courses: MUS:1211 or MUS:1212.

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors (or successful completion of MUS:1201 online theory diagnostic examination)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance (taken two semesters for 1 s.h. each)	2
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1
Two of these:		
MUS:2301	History of Western Music I (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:2302	History of Western Music II (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:4350	Advanced Jazz History	3

To register for MUS:1201 Musicianship and Theory I, students also must register for MUS:1211 Group Instruction in Piano I, already have completed that course, or have been exempted from it by proficiency exam. To register for MUS:1202 Musicianship and Theory II, students also must register for MUS:1212 Group Instruction in Piano II, already have completed that course, or have been exempted from it by proficiency exam. Transfer students should complete the group piano requirement during their first year in residence unless they are exempted by proficiency exam.

### Performance (Applied Music/Ensembles)

Major ensembles include MUS:1176 Voxman Chorale, MUS:3160 Symphony Band/Concert Band, MUS:3170 Kantorei, MUS:3172 Camerata Singers, MUS:3174 University Choir, and MUS:3180 Orchestra. With approval, students may use MUS:3730 Jazz Band to satisfy the major ensemble requirement. Any student who wishes to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the director for undergraduate studies.

Code	Title	Hours
All of these:		
Lower-level applied music lessons		4
Major ensemble (minimum of four semesters)		4



## Music Theory Requirements

Code	Title	Hours
All of these:		
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:4290	Music Theory Colloquium (taken two semesters for 1 s.h. each)	2
MUS:4900	Senior Recital (music theory capstone project)	1

## Music Theory Electives

Code	Title	Hours
9 s.h. from these:		
MUS:2206	Form and Analysis	3
MUS:2220	Composition	1-2
MUS:3280	Spectral Nature of Sound: Acoustics, Analysis, and Resynthesis	3
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4730	Jazz Theory	3
MUS:4760	Jazz Composition and Arranging	2
MUS:5236	Non-Tonal Analysis	3
MUS:5240	Special Topics in Theory and Analysis	3

## Electives

Code	Title	Hours
6 s.h. in music electives chosen from any music courses (prefix MUS) or from these recommended courses, except for music courses closed to music majors:		
MUS:1066	Introduction to Film Music	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:1310	World Music	3
MUS:1800/ DPA:1800	World of the Beatles	3
MUS:2005	Issues in Popular Music: Women Who Rock	3
MUS:2206	Form and Analysis	3
MUS:2220	Composition	1-2
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3280	Spectral Nature of Sound: Acoustics, Analysis, and Resynthesis	3
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4320	Music and Gender	3
MUS:4325	Medieval and Renaissance Music	3
MUS:4330	Baroque Music	3
MUS:4335	Eighteenth-Century Music	3

MUS:4340	Nineteenth-Century Music	3
MUS:4345	Twentieth-Century Music	3
MUS:4350	Advanced Jazz History	3
MUS:4355	American Music	3
MUS:4360	Jazz Matters	3
MUS:4610/ CINE:4610	Studies in Film and Music	3
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2
MUS:5236	Non-Tonal Analysis	3
MUS:5240	Special Topics in Theory and Analysis	3

## Musicology Track

The Bachelor of Arts with a major in music with the musicology track requires a minimum of 120 s.h., including at least 43-45 s.h. of work for the major.

The B.A. with a major in music with the musicology track requires the following coursework.

Code	Title	Hours
Musicianship Courses		16-18
Performance (Applied Music/Ensembles)		8
Musicology Requirements		3
Musicology Electives		6
Electives		10
<b>Total Hours</b>		<b>43-45</b>

## Musicianship Courses

Students take a piano placement exam which may exempt them from one or both of these courses: MUS:1211 or MUS:1212.

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors (or successful completion of MUS:1201 online theory diagnostic examination)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance (taken two semesters for 1 s.h. each)	2
MUS:1211	Group Instruction in Piano I	1
MUS:1212	Group Instruction in Piano II	1
Two of these:		
MUS:2301	History of Western Music I (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:2302	History of Western Music II (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:4350	Advanced Jazz History	3

To register for MUS:1201 Musicianship and Theory I, students also must register for MUS:1211 Group Instruction in Piano I, already have completed that course, or have been exempted

from it by proficiency exam. To register for MUS:1202 Musicianship and Theory II, students also must register for MUS:1212 Group Instruction in Piano II, already have completed that course, or have been exempted from it by proficiency exam. Transfer students should complete the group piano requirement during their first year in residence unless they are exempted by proficiency exam.

### Performance (Applied Music/Ensembles)

Major ensembles include MUS:1176 Voxman Chorale, MUS:3160 Symphony Band/Concert Band, MUS:3170 Kantorei, MUS:3172 Camerata Singers, MUS:3174 University Choir, and MUS:3180 Orchestra. With approval, students may use MUS:3730 Jazz Band to satisfy the major ensemble requirement. Any student who wishes to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the director for undergraduate studies.

Code	Title	Hours
All of these:		
	Lower-level applied music lessons	4
	Major ensemble (minimum of four semesters)	4

### Musicology Requirements

Code	Title	Hours
Both of these:		
MUS:4390	Musicology Colloquium (taken two semesters for 1 s.h. each)	2
MUS:4900	Senior Recital (musicology capstone project)	1

### Musicology Electives

Code	Title	Hours
Two of these:		
MUS:4320	Music and Gender	3
MUS:4325	Medieval and Renaissance Music	3
MUS:4330	Baroque Music	3
MUS:4335	Eighteenth-Century Music	3
MUS:4340	Nineteenth-Century Music	3
MUS:4345	Twentieth-Century Music	3
MUS:4350	Advanced Jazz History	3
MUS:4355	American Music	3
MUS:4360	Jazz Matters	3
MUS:4610/ CINE:4610	Studies in Film and Music	3

### Electives

Code	Title	Hours
10 s.h. in music electives chosen from any music courses (prefix MUS) or from these recommended courses, except for music courses closed to music majors:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1066	Introduction to Film Music	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:1310	World Music	3

MUS:1800/ DPA:1800	World of the Beatles	3
MUS:2005	Issues in Popular Music: Women Who Rock	3
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2220	Composition	1-2
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3625	Techniques of Conducting	2
MUS:3665	Arranging for Band	2-3
MUS:4200	Counterpoint Before 1600	3
MUS:4320	Music and Gender	3
MUS:4325	Medieval and Renaissance Music	3
MUS:4330	Baroque Music	3
MUS:4335	Eighteenth-Century Music	3
MUS:4340	Nineteenth-Century Music	3
MUS:4345	Twentieth-Century Music	3
MUS:4350	Advanced Jazz History	3
MUS:4355	American Music	3
MUS:4360	Jazz Matters	3
MUS:4610/ CINE:4610	Studies in Film and Music	3
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2

### Piano Pedagogy Track

The Bachelor of Arts with a major in music with the piano pedagogy track requires a minimum of 120 s.h., including at least 49 s.h. of work for the major.

All undergraduate enrollments require School of Music approval. Entering first-year and transfer students who plan to major in music must be accepted into an applied piano studio through audition either in person or by recording before they register.

All entering students must complete the online theory diagnostic examination for MUS:1201 Musicianship and Theory I and a piano proficiency exam to determine appropriate placement in related courses. Entering students who do not have Advanced Placement (AP) or transfer credit should enroll in MUS:1201, section 2, and take Placement Exam A, administered online in the summer before the start of the fall semester, to determine readiness for the sequence. For further information, see Musicianship and Theory Placement on the School of Music website.

The B.A. with a major in music with the piano pedagogy track requires the following coursework.

Code	Title	Hours
	Musicianship Courses	16
	Musicianship Electives	6
	Performance (Applied Music/Ensembles)	14
	Piano Pedagogy Requirements	7
	Electives	6
<b>Total Hours</b>		<b>49</b>

## Musicianship Courses

Code	Title	Hours
All of these:		
MUS:1200	Fundamentals of Music for Majors (or successful completion of MUS:1201 online theory diagnostic examination)	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance (taken two semesters for 1 s.h. each)	2
Two of these:		
MUS:2301	History of Western Music I (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:2302	History of Western Music II (also can be used to satisfy a GE CLAS Core requirement)	3
MUS:4350	Advanced Jazz History	3

## Musicianship Electives

Code	Title	Hours
6 s.h. from these:		
MUS:1310	World Music	3
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
MUS:3625	Techniques of Conducting	2
MUS:3665	Arranging for Band	2-3
MUS:4200	Counterpoint Before 1600	3
MUS:4350	Advanced Jazz History	3
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2
MUS:4760	Jazz Composition and Arranging	2

## Performance (Applied Music/Ensembles)

Major ensembles include MUS:1176 Voxman Chorale, MUS:3160 Symphony Band/Concert Band, MUS:3170 Kantorei, MUS:3172 Camerata Singers, MUS:3174 University Choir, and MUS:3180 Orchestra. With approval, students may use MUS:3730 Jazz Band to satisfy the major ensemble requirement. Any student who wishes to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the director for undergraduate studies.

Code	Title	Hours
All of these:		
	Lower-level applied music lessons	4
	Major ensemble (minimum of four semesters)	4

Performance electives (lower- or upper-level applied music, ensembles, improvisation; a maximum of six semesters of 12 s.h. in lower-level applied instruction is allowed) 6

## Piano Pedagogy Requirements

Code	Title	Hours
All of these:		
MUS:3400	Methods of Teaching Piano	2
MUS:4900	Senior Recital (piano pedagogy capstone project)	1
MUS:5400	Piano Pedagogy I	2
MUS:5401	Piano Pedagogy II	2

## Electives

Code	Title	Hours
6 s.h. in music electives chosen from any music courses (prefix MUS) or from these recommended courses, except for music courses closed to music majors:		
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2206	Form and Analysis	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:4730	Jazz Theory	3
MUS:5410	Piano Literature I	2
MUS:5411	Piano Literature II	2
DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3200	Entrepreneurial Marketing	3

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. They must have a g.p.a. of at least 3.80 in music coursework and a cumulative University of Iowa g.p.a. of at least 3.33.

To graduate with honors, students must complete at least 6 s.h. of honors work in music, normally in their junior and senior years. They must earn a minimum of 3 s.h. of the required honors work in MUS:4995 Honors in Music by completing one or more honors projects, such as solo or ensemble recitals; compositions, transcriptions, orchestrations, or arrangements; and essays, research papers, editions, or translations. Honors projects must be in addition to the projects normally required for graduation with a major in music.

Students also may earn honors credit in other honors courses (normally upper-level undergraduate courses) or in approved graduate courses (music history and music theory are particularly recommended).

For complete details about requirements for graduation with honors in the music major, visit Honors in Music on the School of Music website and consult the school's honors advisor.

## National Honor Society

The School of Music sponsors a chapter of Pi Kappa Lambda, the national music honor society. Students of exceptional ability are recommended for membership by faculty members. For more information, consult the School of Music honors advisor.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the music major.

### Financial Support

A number of music performance-based merit scholarships are available to qualified undergraduate music majors. The audition for admission to the School of Music is the audition for music scholarships. All music majors with School of Music scholarships must enroll in a major ensemble and studio lessons each semester. For information, contact the School of Music.

### Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

In addition to the requirements listed under the checkpoints, all students must complete 2 s.h. in applied music and 1 s.h. in a major ensemble each semester.

The Bachelor of Arts in music requires at least 44 s.h. in School of Music courses.

**Before the third semester begins:** 15-18 s.h. of coursework in the major, including MUS:1201 Musicianship and Theory I, MUS:1202 Musicianship and Theory II, and if required, MUS:1211 Group Instruction in Piano I and MUS:1212 Group Instruction in Piano II.

**Before the fifth semester begins:** at least 23-32 s.h. of coursework in the major.

**Before the seventh semester begins:** at least 33-41 s.h. of coursework in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least 40-46 s.h. of coursework in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Music, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Audition: Entering students who plan to major in music must be accepted into a performance area through audition before they register.		
MUS:1200	Fundamentals of Music for Majors <sup>b</sup>	0
MUS:1201	Musicianship and Theory I	4
MUS:1210	Recital Attendance <sup>c</sup>	1
MUS:1211	Group Instruction in Piano I	1
Major: lower-level applied lessons <sup>d</sup>		2
Major: major ensemble <sup>e</sup>		1
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030 or Rhetoric		
CSI:1600	Success at Iowa	2
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance <sup>c</sup>	1
MUS:1212	Group Instruction in Piano II	1
Major: lower-level applied lessons <sup>d</sup>		2
Major: major ensemble <sup>e</sup>		1
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030 or Rhetoric		
GE CLAS Core: Diversity and Inclusion <sup>g</sup>		3
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>16-17</b>
<b>Second Year</b>		
<b>Fall</b>		
Major: music history course <sup>h, i</sup>		3
Major: lower-level applied lessons <sup>d</sup>		2
Major: major ensemble <sup>e</sup>		1
GE CLAS Core: World Languages First Level		4 - 5
Proficiency or elective course <sup>j</sup>		
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
Major: music history course <sup>h, i</sup>		3
Major: lower-level applied lessons <sup>d</sup>		2
Major: major ensemble <sup>e</sup>		1
GE CLAS Core: Values and Culture <sup>g, k</sup>		3
GE CLAS Core: World Languages Second Level		4 - 5
Proficiency or elective course <sup>j</sup>		

Elective course <sup>f</sup>	3
<b>Hours</b>	<b>16-17</b>
<b>Third Year</b>	
<b>Fall</b>	
Major: musicianship elective course	2 - 4
Major: major ensemble <sup>e</sup>	1
Major: performance elective <sup>l</sup>	1 - 2
GE CLAS Core: Quantitative or Formal Reasoning <sup>g</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>j</sup>	4 - 5
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	1
<b>Hours</b>	<b>15-19</b>
<b>Spring</b>	
Major: musicianship elective course	2 - 4
Major: major ensemble <sup>e</sup>	1
Major: performance elective <sup>l</sup>	1 - 2
GE CLAS Core: Natural Sciences without Lab <sup>g</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>j</sup>	4 - 5
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	1
<b>Hours</b>	<b>15-19</b>
<b>Fourth Year</b>	
<b>Fall</b>	
Major: music elective course	3
Major: major ensemble <sup>e</sup>	1
Major: performance elective <sup>l</sup>	1 - 2
GE CLAS Core: International and Global Issues <sup>g</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>g</sup>	4
Elective course <sup>f</sup>	3
<b>Hours</b>	<b>15-16</b>
<b>Spring</b>	
Major: performance elective <sup>l</sup>	1 - 2
Major: music elective course	3
Major: major ensemble <sup>e</sup>	1
GE CLAS Core: Social Sciences <sup>g</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	1
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>m</sup>	
<b>Hours</b>	<b>15-16</b>
<b>Total Hours</b>	<b>123-137</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b This course is required for students enrolled in MUS:1201 who do not pass Placement Examination A.
- c Students must complete two semesters of MUS:1210.
- d Students must complete at least 4 s.h. in lower-level applied lessons.
- e Students must complete a minimum of four semesters of major ensemble.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

h Choose two courses from MUS:2301, MUS:2302, MUS:4350. Note: two GE CLAS Core requirements may be fulfilled by MUS:2301 and MUS:2302. Students who take MUS:4350 must complete an additional GE CLAS Core course that satisfies either the Historical Perspectives or the Literary, Visual, and Performing Arts requirement.

i Fulfills a major requirement and may fulfill a GE requirement.

j Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

k If not completed with a MUS course. MUS:1009, MUS:1720, MUS:2311 fulfill the GE CLAS Core Values and Culture requirement.

l Students must complete at least 6 s.h. in performance electives.

m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Music, B.M.

All undergraduate enrollments require School of Music approval. Entering first-year and transfer students who plan to major in music must be accepted into a performance area through an audition. All entering students must complete the online theory diagnostic examination for MUS:1201 Musicianship and Theory I and a piano proficiency exam to determine appropriate placement in related courses.

Transfer students admitted to the School of Music must complete a minimum of one year of applied music (lower or upper level) and one year of major ensemble at the University of Iowa in order to earn a degree in music. Transfer students who have not completed the equivalent of the four-semester sequence of Musicianship and Theory I-IV (MUS:1201, MUS:1202, MUS:2203, and MUS:2204) must complete a theory diagnostic exam to determine appropriate placement in the musicianship and theory sequence. Transfer students who have not completed the equivalent of two semesters of class piano or a piano proficiency exam must meet piano proficiency requirements at the University of Iowa.

## Learning Outcomes

### Bachelor of Music Graduates

The Bachelor of Music degree is the primary professional degree in music, and it emphasizes the development of the skills, concepts, and sensitivities essential to the professional life of the musician. Bachelor of Music students in performance programs develop comprehensive capabilities in the major-performing medium and the ability to integrate musical knowledge and performance skills in preparation for entering the profession or advanced study in graduate school.

All graduates of the Bachelor of Music program in music will be able to demonstrate the following.

- **Performance:** Students will acquire the ability to sight read, reach technical proficiency, apply historically and stylistically informed performance practices, gain a broad knowledge of the repertoire of their performance area, perform a cross-section of that repertoire, and gain collaborative skills through ensemble experiences.
- **Keyboard Competency:** Students will acquire the functional ability to play piano, including the ability to perform major and minor scales, arpeggios, and chord progressions in all keys; and to harmonize melodies, transpose, and improvise.
- **Conducting, Leadership, and Collaboration:** Students will acquire the ability to work as leaders and in collaboration on matters of musical preparation, rehearsal techniques, and interpretation. Students will demonstrate competent conducting technique.
- **Musical Repertoire and Style:** Students will acquire a basic knowledge of music history and repertoire through the present; an acquaintance with repertoires beyond the area of specialization; the ability to place music in historical, cultural, and stylistic contexts; and the ability to write and speak about music history and style in a coherent manner.
- **Music Theory, Analysis, and Compositional Processes:** Students will acquire aural skills sufficient to hear melodic, rhythmic, harmonic, and formal elements of music; analytical skills sufficient to understand the melodic, rhythmic, harmonic, and formal elements of music; knowledge of basic compositional techniques; and the

ability to write and speak about musical processes in a coherent manner.

### Teacher Education Program Graduates

All graduates of the Teacher Education Program will be able to:

- demonstrate competent conducting, and musical leadership of performing groups and in general classroom situations;
- apply knowledge of analytical and historical knowledge to curriculum development, lesson planning, and daily classroom and performance activities;
- demonstrate the ability to arrange and adapt music from a variety of sources to meet the needs and ability levels of individuals and groups;
- demonstrate functional performance abilities in keyboard, voice, and instruments appropriate to the teaching specialization;
- demonstrate pedagogical skills appropriate to the area of specialization sufficient to teach students individually and in groups; and
- demonstrate knowledge and skills in student learning, diverse learning, planning instruction, instructional strategies, the learning environment, communication, assessment and evaluation, collaboration, ethics, and relationships.

### Bachelor of Music in Composition Graduates

In addition to the learning outcomes listed above, all graduates of the Bachelor of Music in composition will:

- demonstrate the ability to compose solo, chamber, vocal, and electronic music;
- acquire a basic knowledge of acoustics; and
- demonstrate the ability to use technologies applicable to musical composition, such as sound synthesis, recording and processing, and computer notation.

### Bachelor of Music in Music Therapy Graduates

The undergraduate music therapy program provides the required academic and clinical coursework necessary to become professionally certified as a music therapist. The program, which is approved by the American Music Therapy Association, prepares students to pass the Certification Board for Music Therapists national exam, which is required for entry-level music therapy positions.

In addition to the learning outcomes listed above, all graduates of the Bachelor of Music in music therapy will display the following.

- Functional musical and arranging skills in voice, keyboard, guitar, and percussion to accompany self and group singing, with basic repertoire of traditional, folk, popular songs in several keys, with and without written music.
- Knowledge of basic principles of human development, exceptionality, psychopathology, principles of therapy, and the therapeutic relationship.
- Knowledge of basic principles of music therapy including history and philosophy; the psychological, physiological, and sociological bases for the use of music as therapy; music therapy techniques and materials and their application with various client populations.

- Knowledge of various client populations, the therapeutic process (client assessment, treatment planning, therapeutic implementation, evaluation, and documentation of progress); knowledge of research methods and ability to interpret research findings.
- Knowledge of professional issues (standards, ethics, interdisciplinary collaboration, supervision, and administration).
- Clinical skills with a variety of client populations to enable students to function as entry-level music therapists. Students will acquire knowledge of the technological developments applicable to the field of music therapy.

## Requirements

The Bachelor of Music requires a minimum of 120 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The program offers concentrations in composition, music therapy, and performance. Students seeking licensure/certification in music education or music therapy should enroll in the B.M. program.

Many students earn more than 120 s.h. in fulfilling the requirements for their majors—for instance, those who choose the music therapy concentration or seek teacher certification. The College of Liberal Arts and Sciences maximum hours rule does not apply to the Bachelor of Music, so B.M. students may count more than 56 s.h. of coursework in music toward the degree.

To register for MUS:1201 Musicianship and Theory I, students also must register for MUS:1211 Group Instruction in Piano I or already have completed that course or have been exempted from it by proficiency exam. To register for MUS:1202 Musicianship and Theory II, students also must register for MUS:1212 Group Instruction in Piano II or already have completed that course or are exempt from it by proficiency exam. Transfer students should complete the group piano requirement during their first year in residence unless they are exempt by proficiency exam.

Six semesters of MUS:1210 Recital Attendance are required for all B.M. students, except music therapy students, who are required to take four semesters. Transfer students should plan to enroll in this course each of their remaining semesters, or until the requirement is met.

To complete the senior recital, students must have achieved upper-level applied status or be enrolled in upper-level applied music courses (see "Applied Music" below). Music therapy students may complete a senior recital or a senior research project. Composition students substitute MUS:4910 Bachelor's Thesis for the senior recital. The senior recital, research project, or thesis must be completed at the University of Iowa.

## Applied Music

Students must complete four years of applied music. Instruction is provided on two levels, lower and upper. Students must achieve upper-level status before they may present their senior recital. Readiness for upper-level applied music is determined by a jury examination in the area. The eighth semester of applied music may be waived for students who have successfully completed a senior recital, are enrolled in the Teacher Education Program (TEP), and are student

teaching. Students are allowed a maximum of six semesters (not including summer) in lower-level applied instruction. Those who want to continue lessons beyond the maximum allowable lower-level registration must do so under the nonmajor category.

Composition students are required to take 6 s.h. of lower-level applied music and 2 s.h. of secondary piano.

Music therapy students who complete a senior research project rather than a senior recital are required to take three years of lower-level applied music.

## Ensemble Participation

Students must complete eight semesters of major ensemble participation. They enroll in a major ensemble during consecutive semesters, beginning early in their degree work, to ensure timely completion of the requirement. Ensemble assignments are made at the discretion of the major teacher and ensemble director. String students participate in Orchestra. Wind and percussion students participate in Symphony Band and Concert Band. Voice students participate in Camerata Singers, University Choir, Kantorei, and Voxman Chorale. Keyboard students may substitute accompaniment for major ensemble participation for two semesters during their junior and/or senior years, with their major applied-music teacher's consent. Composition students may, with their advisor's consent, substitute two semesters of other ensembles during their junior and/or senior year.

Music therapy students who complete a senior research project rather than a senior recital are required to complete 6 s.h. of major ensemble participation.

Any student who wants to request adjustment of the major ensemble requirement must submit a request in writing to a review committee consisting of the ensemble director(s) involved, the studio instructor, and the associate director for undergraduate studies.

Major ensembles are as follows.

Code	Title	Hours
MUS:1176	Voxman Chorale	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

## Electives

Students may take advanced electives in performance (including chamber music and piano accompaniment), theory, composition, music education, music therapy, music history, diverse music cultures, music literature, conducting, and orchestration.

## Concentration Areas

- Composition Concentration [p. 888]
- Music Therapy Concentration [p. 888]
- Performance [p. 890]– [p. 890]Brass/Woodwind Concentration [p. 890]
- Performance [p. 891]– [p. 891]Jazz Concentration [p. 891]
- Performance [p. 891]– [p. 891]Organ Concentration [p. 891]

- Performance [p. 892]- [p. 892]Percussion Concentration [p. 892]
- Performance [p. 893]- [p. 893]Piano Concentration [p. 893]
- Performance [p. 894]- [p. 894]String Concentration [p. 894]
- Performance [p. 895]- [p. 895]Voice Concentration [p. 895]

## Composition Concentration

Applicants to the composition concentration must submit a portfolio of creative work to the composition faculty for evaluation and acceptance into the program. Students who wish to prepare a portfolio may register for MUS:1139 Secondary Performance - Composition.

The composition concentration requires the following coursework.

### Musicianship

The composition concentration is open to students who have been admitted to a performance area in the School of Music.

Code	Title	Hours
All of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
Then these:		
MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6
MUS:1211	Group Instruction in Piano I (or piano placement exam)	1
MUS:1212	Group Instruction in Piano II (or piano placement exam)	1
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:3625	Techniques of Conducting	2

### Diverse Musical Cultures

Code	Title	Hours
One of these:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

### Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these:		
MUS:1121	Secondary Performance - Piano (taken two semesters for 1 s.h. each)	2

Lower-level applied lessons (prefix MUS) numbered at the 2000 level (may take maximum of six semesters for no more than 12 s.h. total)	6
Major ensemble music courses (prefix MUS)	8

### Composition Requirements

Code	Title	Hours
All of these:		
MUS:2220	Composition (taken for at least four semesters for 2 s.h. each)	8
MUS:3230	Composition Seminar	1
MUS:4250	Composition: Electronic Media I	3
MUS:4910	Bachelor's Thesis	1

The course MUS:4910 Bachelor's Thesis consists of one or more compositions, approved by a committee of three faculty members, and performed in regularly scheduled School of Music recitals.

### Required Supportive Courses

Code	Title	Hours
One of these:		
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
This course:		
MUS:5236	Non-Tonal Analysis	3

### Electives

Students complete 6 s.h. of music coursework (prefix MUS) except for those courses that are closed to music majors. If students took either MUS:4200 Counterpoint Before 1600 or MUS:4201 Counterpoint After 1600 as a required supportive course above, they cannot use it as an elective.

The courses MUS:3190 Center for New Music Ensemble and MUS:4251 Composition: Electronic Media II are recommended for composition concentration students.

### Music Therapy Concentration

Admission to the music therapy concentration is based on successful completion (grade of C-plus or higher) in MUS:1687 Orientation to Music Therapy. Students must earn a B-minus or higher in all remaining music therapy core courses. In addition to the core courses in music therapy listed below, specific courses are required in biology, anatomy, psychology, and music.

A six-month, full time internship in an American Music Therapy Association (AMTA) approved off-campus clinical facility is required for completion of the degree. There are a limited number of approved music therapy internships in the Iowa City area, and many internship placements require relocation to a different city. Students are eligible to begin applying for their internship one year prior to the start of the internship. Securing an internship typically involves completing application materials, interviewing on site or via electronic platform, and demonstrating musical competencies. Students are not automatically placed in internships, but must work with the clinical advisor to select and apply for appropriate programs. Following successful completion of the internship, students are eligible to take the board certification examination in music therapy. This exam is offered through the Certification Board for Music Therapists and leads to



national board certification as a music therapist, with the credential music therapist-board certified (MT-BC).

Since music therapists work with vulnerable populations, the School of Music is required to run a criminal background check on all students when they begin their clinical experiences. Criminal convictions could negatively impact a student's ability to continue in the music therapy program and/or gain placement at an internship site. For more information, contact the director of the music therapy program.

The music therapy concentration requires the following coursework.

## Musicianship

Code	Title	Hours
All of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
Then these:		
MUS:1210	Recital Attendance (taken four semesters for 1 s.h. each)	4
MUS:1211	Group Instruction in Piano I (or piano placement exam)	1
MUS:1212	Group Instruction in Piano II (or piano placement exam)	1
MUS:2213	Group Instruction in Piano III	1
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3

## Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these are required for clinical option students:		
MUS:1120	Secondary Performance - Voice	1
MUS:4675	Senior Project in Music Therapy	1
Lower-level applied lessons (prefix MUS) numbered at the 2000 level		12
Major ensemble music courses (prefix MUS; taken six times for 1 s.h. each)		6
Additional music performance electives such as steel band, secondary percussion lessons, secondary piano, additional secondary voice		4
All of these required for performance option students:		
MUS:1120	Secondary Performance - Voice (not required for performance—voice students)	1
MUS:1510	Diction for Singers I (required for performance—voice students)	2
MUS:2510	Diction for Singers II (required for performance—voice students)	2
MUS:4900	Senior Recital	1

Lower-level applied music lessons (prefix MUS) numbered at the 2000 level	8
Upper-level applied music lessons (prefix MUS) numbered at the 3000 level	8
Major ensemble music courses (prefix MUS; taken eight times for 1 s.h. each)	8

## Music Therapy Requirements

Code	Title	Hours
All of these:		
MUS:1687	Orientation to Music Therapy	2
MUS:3675	Music Therapy Practicum (section 1 taken twice for 2 s.h. each and section 2 taken once for 1 s.h.)	5
MUS:3680	Music in Special Education	3
MUS:3690	Music Therapy with Adults	3
MUS:4670	Internship in Music Therapy (minimum of 2 s.h.)	2,12
MUS:4685	Music Therapy with Children	3
EDTL:4630/ MUS:4630	Psychology of Music	2
EDTL:4640	Introduction to Music Research	2
4 s.h. from these:		
MUS:2671	Music Foundations in Therapy I	2
MUS:2672	Music Foundations in Therapy II	2
MUS:3676	Percussion Experience for Teachers and Therapists	1

## Required Supportive Courses

Code	Title	Hours
Both of these:		
PSY:2930	Abnormal Psychology: Health Professions	3
PSY:3320	Abnormal Psychology	3
One of these:		
DANC:2085	Introduction to African Caribbean Dance Practices	3
MUS:3850/ DANC:3850/ DPA:3850/ THTR:3850	Introduction to Laban Movement Studies	2-3
MUS:3851/ DANC:3851/ DPA:3851	Introduction to the Alexander Technique	3
One of these:		
MUS:1121	Secondary Performance - Piano	1
MUS:3001	Introduction to Jazz Improvisation	3
One of these:		
MUS:1007	Garage Band: The Basics	2
MUS:3665	Arranging for Band	2-3
One of these:		
PSQF:4106	Child Development	3
PSY:2401	Introduction to Developmental Science	3
One of these:		

CSD:1015	Introduction to Speech and Hearing Processes and Disorders	2
CSD:2140	Manual Communication	1
CSED:4178	Microcounseling	3
CSED:4199	Counseling for Related Professions	3
PSQF:1075	Educational Psychology and Measurement	3
PSY:2301	Introduction to Clinical Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
SSW:1800/ ASP:1800/ CSD:1800/ NURS:1800/ TR:1800	Aging Matters: Introduction to Gerontology	3
Clinical option students take 4 s.h. from these:		
MUS:1120	Secondary Performance - Voice	1
MUS:1121	Secondary Performance - Piano	1
MUS:1137	Secondary Performance - Percussion	1
MUS:3163	Intermediate Steel Band	1
Other courses approved by advisor		

Music therapy students who elect the senior recital/performance option must take four years of applied music and attain upper-level status; they also must take 8 s.h. of major ensemble participation. Vocal majors choosing this option also must take MUS:1510 Diction for Singers I and MUS:2510 Diction for Singers II.

Music therapy students who elect the senior project/clinical option must take three years of applied music and 6 s.h. of major ensemble. They also must take an additional 4 s.h. of music performance courses in areas such as MUS:1120 Secondary Performance - Voice, MUS:1121 Secondary Performance - Piano, MUS:1137 Secondary Performance - Percussion, MUS:3163 Intermediate Steel Band, or other courses approved by the advisor.

In order to satisfy national certification requirements, all music therapy students must fulfill certain GE CLAS Core requirements with specific courses. Students should consult their music therapy advisor before selecting GE CLAS Core courses.

## Performance-Brass/Woodwind Concentration

The performance-brass/woodwind concentration requires the following coursework.

### Musicianship

Code	Title	Hours
All of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4

Then these:

MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6
MUS:1211	Group Instruction in Piano I (or piano placement exam)	1
MUS:1212	Group Instruction in Piano II (or piano placement exam)	1
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:3625	Techniques of Conducting	2

## Diverse Musical Cultures

Code	Title	Hours
One of these:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

## Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these:		
MUS:3160	Symphony Band/Concert Band (taken eight semesters for 1 s.h. each)	8
MUS:4900	Senior Recital	1
Lower-level applied lessons (prefix MUS) numbered at the 2000 level (may take maximum of six semesters for no more than 12 s.h. total)		8
Upper-level applied lessons (prefix MUS) numbered at the 3000 level		8

## Theory-Based Courses

Code	Title	Hours
3 s.h. from these:		
MUS:2206	Form and Analysis	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3665	Arranging for Band	2-3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4210	Keyboard Harmony	1-2
MUS:4730	Jazz Theory (when topic is at the piano)	3
MUS:4750	Transcription	2

## Brass/Woodwind Area Requirement

Code	Title	Hours
This course:		
MUS:3485	Wind Chamber Music	1

## Electives

Students complete 17 s.h. of music coursework (prefix MUS) except for those courses that are closed to music majors.

These courses are recommended for wind majors.

Code	Title	Hours
MUS:3140	Audition Repertoire	1
MUS:3180	Orchestra	1
MUS:3182	Chamber Orchestra	1
MUS:3485	Wind Chamber Music	1-2

These music education courses may be taken as music electives by brass/woodwind concentration students pursuing teacher licensure.

Code	Title	Hours
MUS:3635/ EDTL:3635	Instrumental Conducting	3
EDTL:3605/ MUS:3605	Instrumental Techniques	2
EDTL:3620	Methods and Materials: General Music	3

## Performance-Jazz Concentration

The performance-jazz concentration requires the following coursework.

### Musicianship

Code	Title	Hours
Both of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
Then these:		
MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6
MUS:1211	Group Instruction in Piano I (or piano placement exam)	1
MUS:1212	Group Instruction in Piano II (or piano placement exam)	1
MUS:1711	Jazz Rhythms and Interpretation I	1
MUS:1712	Jazz Rhythms and Interpretation II	1
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:3760	Jazz Band Techniques	1
MUS:4730	Jazz Theory	3

### Diverse Musical Cultures

Code	Title	Hours
One of these:		
MUS:1310	World Music	3
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

## Performance (Applied Music/ Ensembles)

Code	Title	Hours
All of these:		
MUS:2038	Lower Level Jazz (may take for maximum of six semesters)	8
MUS:3038	Upper Level Jazz (taken four semesters for 2 s.h. each)	8
MUS:3730	Jazz Band (taken six semesters for 1 s.h. each)	6
MUS:3740	Small Jazz Ensembles (taken six semesters for 1 s.h. each)	6
MUS:4900	Senior Recital	1

## Jazz Area Requirements

Code	Title	Hours
All of these:		
MUS:3780	Audio Recording I	3
MUS:4760	Jazz Composition and Arranging	2
AFAM:1020/ AMST:1030	Introduction to African American Culture	3
ENTR:2000	Entrepreneurship and Innovation	3

## Electives

Students complete 9 s.h. of music coursework (prefix MUS) except for those courses that are closed to music majors.

These courses are recommended for jazz majors.

Code	Title	Hours
MUS:1007	Garage Band: The Basics	2
MUS:3140	Audition Repertoire	1
MUS:3990	Special Studies	1-4

## Performance-Organ Concentration

The performance-organ concentration requires the following coursework.

### Musicianship

Code	Title	Hours
All of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
Then these:		
MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:3625	Techniques of Conducting	2

## Diverse Musical Cultures

Code	Title	Hours
One of these:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

## Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these:		
MUS:2022	Lower Level Organ (may take for maximum of six semesters)	8
MUS:3022	Upper Level Organ (taken four semesters for 2 s.h. each)	8
MUS:4900	Senior Recital	1
Major ensemble music courses (prefix MUS; taken eight times for 1 s.h. each)		8

## Theory-Based Courses

Code	Title	Hours
3 s.h. from these:		
MUS:2206	Form and Analysis	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3665	Arranging for Band	2-3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4210	Keyboard Harmony	1-2
MUS:4730	Jazz Theory (when topic is at the piano)	3
MUS:4750	Transcription	2

## Organ Area Requirements

Code	Title	Hours
All of these:		
MUS:4450	Organ Literature Survey (taken two semesters for 2 s.h. each)	4
MUS:4452	Liturgics	2
MUS:4454	Service Playing and Improvisation	2

## Electives

Students complete 10 s.h. of music coursework (prefix MUS) except for those courses that are closed to music majors.

These courses are recommended for organ majors.

Code	Title	Hours
MUS:5450	History of Organ Building and Design	2-3
MUS:5452	Organ Pedagogy	2

MUS:5475	Organ Literature Special Topics	2
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## Performance-Percussion Concentration

The performance-percussion concentration requires the following coursework.

## Musicianship

Code	Title	Hours
All of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
Then these:		
MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6
MUS:1211	Group Instruction in Piano I (or piano placement exam)	1
MUS:1212	Group Instruction in Piano II (or piano placement exam)	1
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:3625	Techniques of Conducting	2

## Diverse Musical Cultures

Code	Title	Hours
One of these:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

## Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these:		
MUS:2037	Lower Level Percussion (may take for maximum of six semesters)	8
MUS:3037	Upper Level Percussion (taken four semesters for 2 s.h. each)	8
MUS:3160	Symphony Band/Concert Band (taken eight semesters for 1 s.h. each)	8
MUS:4900	Senior Recital	1

## Theory-Based Courses

Code	Title	Hours
3 s.h. from these:		
MUS:2206	Form and Analysis	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3665	Arranging for Band	2-3

MUS:3710	Intermediate Jazz Improvisation	2
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4210	Keyboard Harmony	1-2
MUS:4730	Jazz Theory (when topic is at the piano)	3
MUS:4750	Transcription	2

## Percussion Area Requirements

Code	Title	Hours
Both of these:		
MUS:3150	Percussion Ensemble/Steel Band (taken six semesters for 1 s.h. each)	6
MUS:3163	Intermediate Steel Band (taken two semesters for 1 s.h. each)	2

## Electives

Students complete 10 s.h. of music coursework (prefix MUS) except for those courses that are closed to music majors.

These courses are recommended for percussion majors.

Code	Title	Hours
MUS:3140	Audition Repertoire	1
MUS:3180	Orchestra	1
MUS:3182	Chamber Orchestra	1
MUS:3730	Jazz Band	1
MUS:3740	Small Jazz Ensembles	1
MUS:5130	Advanced Percussion Pedagogy and Literature	2

These music education courses may be taken as music electives by percussion concentration students pursuing teacher licensure.

Code	Title	Hours
EDTL:3605/ MUS:3605	Instrumental Techniques	2
EDTL:3620	Methods and Materials: General Music	3
EDTL:3635/ MUS:3635	Instrumental Conducting	3

## Performance-Piano Concentration

The performance-piano concentration requires the following coursework.

### Musicianship

Code	Title	Hours
All of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
Then these:		
MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6

MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:3625	Techniques of Conducting	2

## Diverse Musical Cultures

Code	Title	Hours
One of these:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

## Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these:		
MUS:2021	Lower Level Piano (may take for maximum of six semesters)	8
MUS:3021	Upper Level Piano (taken four semesters for 2 s.h. each)	8
MUS:4900	Senior Recital	1
Major ensemble music courses (prefix MUS) taken eight times for 1 s.h. each; keyboard majors may substitute piano accompaniment for major ensemble participation for a maximum of two semesters during their junior and/or senior years with advisor consent		
		8

## Theory-Based Courses

Code	Title	Hours
3 s.h. from these:		
MUS:2206	Form and Analysis	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3665	Arranging for Band	2-3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4730	Jazz Theory (when topic is at the piano)	3
MUS:4750	Transcription	2

## Piano Area Requirements

Code	Title	Hours
Both of these:		
MUS:3400	Methods of Teaching Piano	2
MUS:3481	Piano Chamber Music	1-2
One of these:		
MUS:2213	Group Instruction in Piano III	1
MUS:4730	Jazz Theory (when topic is at the piano)	3

## Electives

Students complete 13 s.h. of music coursework (prefix MUS) except for those courses that are closed to music majors.

These courses are recommended for piano majors.

Code	Title	Hours
MUS:5400	Piano Pedagogy I	2
MUS:5401	Piano Pedagogy II	2
MUS:5410	Piano Literature I	2
MUS:5411	Piano Literature II	2

These music education courses may be taken as music electives by piano concentration students pursuing teacher licensure.

Code	Title	Hours
MUS:3605/ EDTL:3605	Instrumental Techniques	2
MUS:3635/ EDTL:3635	Instrumental Conducting	3
EDTL:3620	Methods and Materials: General Music	3
EDTL:3640/ MUS:3640	Choral Methods	3
EDTL:3645/ MUS:3645	Choral Conducting and Literature	3

## Performance-String Concentration

The performance-string concentration requires the following coursework.

### Musicianship

Code	Title	Hours
All of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
Then these:		
MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6
MUS:1211	Group Instruction in Piano I (or piano placement exam)	1
MUS:1212	Group Instruction in Piano II (or piano placement exam)	1
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:3625	Techniques of Conducting	2

### Diverse Musical Cultures

Code	Title	Hours
One of these:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

## Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these:		
MUS:3180	Orchestra (taken eight semesters for 1 s.h. each)	8
MUS:4900	Senior Recital	1
Lower-level applied lessons (prefix MUS) numbered at the 2000 level (may take maximum of six semesters for no more than 12 s.h. total)		
		8
Upper-level applied lessons (prefix MUS) numbered at the 3000 level		
		8

## Theory-Based Courses

Code	Title	Hours
3 s.h. from these:		
MUS:2206	Form and Analysis	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3665	Arranging for Band	2-3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4210	Keyboard Harmony	1-2
MUS:4730	Jazz Theory	3
MUS:4750	Transcription	2

## String Area Requirements

Code	Title	Hours
This course:		
MUS:3182	Chamber Orchestra (taken four semesters for 1 s.h. each)	4
4 s.h. from these:		
MUS:3482	String Chamber Music	1-2
MUS:3489	Chamber Music Residency Program	1-2

## Electives

Students complete 11 s.h. of music coursework (prefix MUS) except for those courses that are closed to music majors.

This course is recommended for string majors.

Code	Title	Hours
MUS:3140	Audition Repertoire	1

These music education courses may be taken as music electives by string concentration students pursuing teacher licensure.

Code	Title	Hours
EDTL:3605/ MUS:3605	Instrumental Techniques	2
EDTL:3620	Methods and Materials: General Music	3
EDTL:3635/ MUS:3635	Instrumental Conducting	3

## Performance-Voice Concentration

The performance-voice concentration requires the following coursework.

### Musicianship

Code	Title	Hours
All of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
Then these:		
MUS:1210	Recital Attendance (taken six semesters for 1 s.h. each)	6
MUS:1211	Group Instruction in Piano I (or piano placement exam)	1
MUS:1212	Group Instruction in Piano II (or piano placement exam)	1
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:3625	Techniques of Conducting	2

### Diverse Musical Cultures

Code	Title	Hours
One of these:		
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

### Performance (Applied Music/Ensembles)

Code	Title	Hours
All of these:		
MUS:2020	Lower Level Voice (may take for maximum of six semesters)	8
MUS:3020	Upper Level Voice (taken four semesters for 2 s.h. each)	8
MUS:4900	Senior Recital	1
Major ensemble (choir) music (prefix MUS; taken eight times for 1 s.h. each)		

### Theory-Based Courses

Code	Title	Hours
3 s.h. from these:		
MUS:2206	Form and Analysis	3
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3665	Arranging for Band	2-3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:4210	Keyboard Harmony	1-2

MUS:4730	Jazz Theory (when topic is at the piano)	3
MUS:4750	Transcription	2

### Voice Area Requirements

Code	Title	Hours
All of these:		
MUS:1510	Diction for Singers I	2
MUS:2510	Diction for Singers II	2
MUS:3500	Opera Workshop	2
MUS:3510	Discovering Art Song	1
MUS:3511	Discovering Opera	1

### Electives

Students complete 10 s.h. of music coursework (prefix MUS) except for those courses that are closed to music majors.

These courses are recommended for voice majors.

Code	Title	Hours
MUS:3140	Audition Repertoire	1
MUS:3500	Opera Workshop	2
MUS:3501	Opera Theater Chorus	1
MUS:3502	Opera Production	2-4
MUS:3850/ DANC:3850/ DPA:3850/ THTR:3850	Introduction to Laban Movement Studies	2-3
MUS:3851/ DANC:3851/ DPA:3851	Introduction to the Alexander Technique	3
MUS:6520/ CSD:6202	Vocal Pedagogy	3

These music education courses may be taken as music electives by voice concentration students pursuing teacher licensure.

Code	Title	Hours
MUS:3640/ EDTL:3640	Choral Methods	3
MUS:3645/ EDTL:3645	Choral Conducting and Literature	3
EDTL:3620	Methods and Materials: General Music	3

### Teacher Licensure

To qualify for licensure to teach in elementary and/or secondary schools (K-12) students must be accepted into the School of Music seeking a Bachelor of Music degree in one of the following performance subprograms: brass/woodwind, jazz, organ, percussion, piano, piano with teacher education, string, or voice. Students must then apply to the Teacher Education Program to concurrently earn a Bachelor of Arts degree in music education. First-year students with at least a high school g.p.a. of at least 3.00 are eligible to apply to the direct admission program in their first semester. All other students may apply after they have completed 30 s.h. at the University of Iowa. For more information, see Music Education on the College of Education website.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. They must have a g.p.a. of at least 3.80 in music coursework and a cumulative University of Iowa g.p.a. of at least 3.33.

Students must complete at least 6 s.h. of honors work in music, normally in their junior and senior years. They must earn a minimum of 3 s.h. of the required honors work in MUS:4995 Honors in Music by completing one or more honors projects, such as solo or ensemble recitals; compositions, transcriptions, orchestrations, or arrangements; and essays, research papers, editions, or translations. Honors projects must be in addition to the projects normally required for graduation with a major in music.

Students also may earn honors credit in other honors courses (normally upper-level undergraduate courses) or in approved graduate courses (music history and music theory are particularly recommended).

For complete details about requirements for graduation with honors in the music major, visit Honors in Music on the School of Music website and consult the school's honors advisor.

### National Honor Society

The School of Music sponsors a chapter of Pi Kappa Lambda, the national music honor society. Students of exceptional ability are recommended for membership by faculty members. For more information, consult the School of Music honors advisor.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the music major.

## Financial Support

A number of music performance-based merit scholarships are available to qualified undergraduate music majors. Students are considered for merit scholarships based on their auditions for admission. All music majors with School of Music scholarships must enroll in a major ensemble and studio lessons each semester. For information, contact the School of Music.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

In addition to the requirements listed under the checkpoints, all students must complete 2 s.h. in applied music and 1 s.h. in a major ensemble each semester.

The Four-Year Graduation Plan is not available for music therapy and music education students.

Students may apply more than 56 s.h. earned in School of Music courses toward the minimum 120 s.h. required for the B.M. degree.

**Before the third semester begins:** 18 s.h. of coursework in the major, including MUS:1201 Musicianship and Theory I, MUS:1202 Musicianship and Theory II, MUS:1211 Group Instruction in Piano I, and MUS:1212 Group Instruction in Piano II.

**Before the fifth semester begins:** at least 34 s.h. of coursework in the major, including MUS:2203 Musicianship and Theory III and MUS:2204 Musicianship and Theory IV.

**Before the seventh semester begins:** at least 50 s.h. of coursework in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least 56 s.h. of coursework in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Music, B.M.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>First Year</b>		
<b>Fall</b>		
Audition: Entering students who plan to major in music must be accepted into a performance area through audition before they register.		
MUS:1200	Fundamentals of Music for Majors <sup>b</sup>	0
MUS:1201	Musicianship and Theory I	4
MUS:1210	Recital Attendance <sup>c</sup>	1
MUS:1211	Group Instruction in Piano I <sup>d</sup>	1
Major: lower-level applied lessons <sup>e</sup>		2
Major: major ensemble		1 - 2
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	



CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-16</b>
<b>Spring</b>		
MUS:1202	Musicianship and Theory II	4
MUS:1210	Recital Attendance <sup>c</sup>	1
MUS:1212	Group Instruction in Piano II <sup>d</sup>	1
Major: lower-level applied lessons <sup>e</sup>		2
Major: major ensemble		1 - 2
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
MUS:1210	Recital Attendance <sup>c</sup>	1
MUS:2203	Musicianship and Theory III	4
MUS:3625	Techniques of Conducting	2
Major: Music specialization area or Music elective course		1
Major: lower-level applied lessons <sup>e</sup>		2
Major: major ensemble		1 - 2
GE CLAS Core: Quantitative or Formal Reasoning <sup>f</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
<b>Hours</b>		<b>18-20</b>
<b>Spring</b>		
MUS:1210	Recital Attendance <sup>c</sup>	1
MUS:2204	Musicianship and Theory IV	4
Major: diverse musical culture course <sup>h</sup>		3
Major: Music specialization area or Music elective course		1 - 3
Major: lower-level applied lessons <sup>e</sup>		2
Major: major ensemble		1 - 2
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
<b>Hours</b>		<b>16-20</b>
<b>Third Year</b>		
<b>Fall</b>		
MUS:1210	Recital Attendance <sup>c</sup>	1
MUS:2301	History of Western Music I <sup>i</sup>	3
Major: Music specialization area or Music elective course		1 - 3
Major: major ensemble		1 - 2
Major: theory-based course		3
Major: upper-level applied lessons <sup>j</sup>		2
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
<b>Hours</b>		<b>15-19</b>
<b>Spring</b>		
MUS:1210	Recital Attendance <sup>c</sup>	1
MUS:2302	History of Western Music II <sup>i</sup>	3
Major: major ensemble		1 - 2
Major: music elective course		3
Major: upper-level applied lessons		2
GE CLAS Core: Values and Culture <sup>f, k</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>		4 - 5
<b>Hours</b>		<b>17-19</b>

**Fourth Year****Fall**

Major: major ensemble	1 - 2
Major: music elective course	2 - 4
Major: upper-level applied lessons	2
Major: music elective course or elective course if music electives have been met	3
GE CLAS Core: International and Global Issues <sup>f</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>	4

**Hours****15-18****Spring**

MUS:4900	Senior Recital <sup>l</sup>	1
Major: upper-level applied lessons		2
Major: major ensemble		1 - 2
Major: music elective courses		3 - 4
Major: music elective course or elective course if music electives have been met		3
GE CLAS Core: Natural Sciences without Lab <sup>f</sup>		3
GE CLAS Core: Social Sciences <sup>f</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)		

**Hours****16-18****Total Hours****126-147**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b This course is required for students enrolled in MUS:1201 who do not pass Placement Examination A.

c Students must complete six semesters of MUS:1210.

d Unless excused by exam.

e A maximum of six semesters (12 s.h.) in lower-level applied instruction is allowed.

f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h MUS:1009, MUS:2311, and MUS:1720 fulfill GE CLAS Core requirements for Literary, Visual, & Performing Arts and Values and Culture. MUS:1310 fulfills the GE CLAS Core Literary, Visual, & Performing Arts requirement.

i Fulfills a major requirement and may fulfill a GE requirement.

j Readiness for upper-level applied music is determined by a jury examination in the area.

k If not completed with a MUS course. MUS:1009, MUS:1720, MUS:2311 fulfill the GE CLAS Core Values and Culture requirement.

l Students must achieve upper-level status before they may present their senior recital.

m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

timing, contact your academic advisor or Graduation Services.

# Music, Minor

## Requirements

The undergraduate minor in music requires 15 s.h. of coursework taken in the School of Music (prefix MUS), including at least 8 s.h. taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor. Courses used to satisfy minor requirements may not be taken pass/nonpass. Up to 7 s.h. of transfer credit in music history, music theory, and elective courses may be accepted toward the minor, with approval of the School of Music. Music performance courses must be taken at the University of Iowa.

Work for the minor includes courses in three areas: music history, music performance, and music theory. The remaining 5 s.h. in elective coursework must be chosen from School of Music courses.

Some School of Music courses have prerequisites; students must complete the course's prerequisites before they may register for a course. Courses approved for the minor are listed below. Students who take a music course in one area may not use it to satisfy a music requirement in another area.

The minor in music requires the following work.

## Music History

Code	Title	Hours
One of these:		
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2301	History of Western Music I	3
MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

## Music Performance

Code	Title	Hours
3 s.h. from these:		
<b>Applied Music Instruction (Lessons)</b>		
MUS:1020	Performance Instruction for Nonmajors	1
Lower-level lessons for music majors numbered MUS:2020-MUS:2038, with consent of faculty		2
Upper-level lessons for music majors numbered MUS:3020-MUS:3038, with consent of faculty		2
<b>Jazz Improvisation</b>		
MUS:3001	Introduction to Jazz Improvisation	3
MUS:3710	Intermediate Jazz Improvisation	2
MUS:4750	Transcription	2
<b>Ensemble Participation</b>		
Instructor permission or audition is required for these courses:		
MUS:1160	University Band	1
MUS:1165	Hawkeye Marching Band	1
MUS:1176	Voxman Chorale	1
MUS:1180	Campus Symphony Orchestra	1

MUS:3150	Percussion Ensemble/Steel Band	1
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1
MUS:3480	Piano Accompaniment	1
MUS:3482	String Chamber Music	1-2
MUS:3485	Wind Chamber Music	1-2
MUS:3740	Small Jazz Ensembles	1

Other 1 s.h. music performance courses, with consent of the director for undergraduate studies

## Music Theory

Admission to theory courses is determined by results on the theory placement exam.

Code	Title	Hours
One of these:		
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4

## Electives

Students must complete 5 s.h. in elective coursework. The following are suggested electives.

Code	Title	Hours
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1002	Group Piano II: Non-Music Majors	1
MUS:1009	Jazz Cultures in America and Abroad	3
MUS:1010	Recital Attendance for Nonmajors	1
MUS:1012	Creativity in Music	3
MUS:1020	Performance Instruction for Nonmajors	1
MUS:1066	Introduction to Film Music	3
MUS:1160	University Band	1
MUS:1165	Hawkeye Marching Band	1
MUS:1176	Voxman Chorale	1
MUS:1200	Fundamentals of Music for Majors	0
MUS:1201	Musicianship and Theory I	4
MUS:1202	Musicianship and Theory II	4
MUS:1301	Concepts and Contexts of Western Music	3
MUS:1302	Great Musicians	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:1310	World Music	3
MUS:1720	History of Jazz	3
MUS:2203	Musicianship and Theory III	4
MUS:2204	Musicianship and Theory IV	4
MUS:2301	History of Western Music I	3

MUS:2302	History of Western Music II	3
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3

Lower-level applied instruction courses for  
majors numbered MUS:2020-MUS:2038

For additional information, contact the School of Music.

# Music, M.A.

## Advisory Examinations

Entering Master of Arts students must take two School of Music advisory examinations prior to registering for music history and music theory classes. These examinations are given on the Friday and Saturday preceding the opening of classes in the fall semester.

M.A. students in music therapy are not required to take the advisory examinations.

## Preliminary Procedures for Music Therapy Graduate Students

Since music therapists work with vulnerable populations, the School of Music is required to run a criminal background check on all students when they begin their clinical experiences. Criminal convictions could negatively impact a student's ability to continue in the music therapy program and/or gain placement at an internship site. For more information, contact the director of the music therapy program.

## Ensemble Participation

Graduate students in the performance and pedagogy tracks of all graduate programs are required to complete four semesters of major ensemble participation. Students enroll in major ensemble participation during consecutive semesters beginning early in their degree work, to ensure completion of the major ensemble requirements in a timely manner. Ensemble assignments are made at the discretion of the major teacher and ensemble director.

Major ensembles are as follows.

Code	Title	Hours
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

## Requirements

The Master of Arts program in music requires a minimum of 30-39 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

The M.A. concentrations in performance, conducting, jazz studies, composition, music theory, musicology, music therapy, and music education require a recital, capstone project, or thesis. Performance majors present a public recital in place of a written thesis. Music therapy majors complete a capstone research project. Jazz studies majors present a public recital and a separate performance project. The Master of Arts in music education is offered with thesis and nonthesis options.

All M.A. programs—except music therapy and music education—require the following coursework.

## Introductory Course

Code	Title	Hours
This course:		
MUS:5300	Introduction to Graduate Study in Music	2

## Music Theory

Students earn 6 s.h. from the following.

Code	Title	Hours
This course:		
MUS:5200	Review of Undergraduate Theory (unless exempt by advisory exam)	3

Students exempted from MUS:5200 through the advisory examination in music theory must substitute an additional theory elective chosen from these:

MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:5235	Tonal Analysis	3
MUS:5236	Non-Tonal Analysis	3
MUS:5240	Special Topics in Theory and Analysis	3

Students also must choose one elective from these:

MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
MUS:5235	Tonal Analysis	3
MUS:5236	Non-Tonal Analysis	3
MUS:5237	Analysis of Popular Music	3
MUS:5240	Special Topics in Theory and Analysis	3
MUS:6210	History of Ideas of Music	3
MUS:6211	Theoretical Approaches to Music	3
MUS:6250	Advanced Tonal Theory and Analysis	3
MUS:6251	Advanced Non-Tonal Theory and Analysis	3
MUS:6252	Advanced Theory and Analysis of Popular Music	3

## Musicology

Students earn 6 s.h. from the following; at least one 6000-level course must be taken.

Code	Title	Hours
MUS:4320	Music and Gender	3
MUS:4325	Medieval and Renaissance Music	3
MUS:4330	Baroque Music	3
MUS:4335	Eighteenth-Century Music	3
MUS:4340	Nineteenth-Century Music	3
MUS:4345	Twentieth-Century Music	3
MUS:4350	Advanced Jazz History	3
MUS:4355	American Music	3
MUS:4360	Jazz Matters	3
MUS:6305	Teaching Music History and Culture	3

MUS:6310	Topics in Musicology	3
MUS:6312	Historical Approaches to Music	3
MUS:6314	Topics in Ethnomusicology	3
MUS:6315	Foundations of Ethnomusicology	3
MUS:6326	Renaissance Music Notations	3
MUS:6375	Music Editing	3

## Admission

Individuals applying to graduate programs in music must audition and/or submit supporting materials in their area of concentration in order to be considered for admission. Information about Graduate College admission and curriculum requirements for each area is available on the School of Music website.

For detailed information about Graduate College admission and policies, see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Qualified graduate students may be nominated for teaching and research assistantships. Inquiries should be directed to the head faculty member in the applicant's area of interest.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Music, Ph.D.

## Advisory Examinations

Entering Doctor of Philosophy students must take two School of Music advisory examinations prior to registering for music history and music theory classes. These examinations are given on the Friday and Saturday preceding the opening of classes in the fall semester.

### Requirements

The Doctor of Philosophy program in music requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. Ph.D. concentration areas include composition, musicology, music education, and music theory. Information about specific curricular requirements for each area is available on the School of Music website.

Ph.D. students in composition, musicology, and music theory must complete the courses required for the M.A. (see the M.A. in music [p. 901] in the Catalog). They also must complete the following coursework. In addition, proficiency in one or more world languages is required.

Code	Title	Hours
One or more additional music history course(s) listed in the M.A. requirements		
One or more additional music theory course(s) listed in the M.A. requirements		
And one of these:		
MUS:7950	Ph.D. Thesis	1-4
MUS:7960	Composition Ph.D. Thesis	1-4

### Admission

Applicants must audition and/or submit supporting materials in their area of concentration in order to be considered for admission. Information about Graduate College admission for each area is available on the School of Music website.

For detailed information about Graduate College admission and policies, see the Manual of Rules and Regulations on the Graduate College website.

### Financial Support

Qualified graduate students may be nominated for teaching and research assistantships. Inquiries should be directed to the head faculty member in the applicant's area of interest.

### Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Music, Ph.D.

- Composition Concentration [p. 903]
- Musicology Concentration [p. 904]
- Music Education Concentration [p. 905]
- Music Theory Concentration [p. 906]

## Composition Concentration

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 30 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b, c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
MUS:5300	Introduction to Graduate Study in Music <sup>d</sup>	2
<b>Hours</b>		<b>2</b>
<b>Fall</b>		
MUS:3230	Composition Seminar	1
MUS:5200	Review of Undergraduate Theory <sup>e</sup>	3
MUS:5220	Advanced Composition	2
Music History course <sup>f</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
MUS:3230	Composition Seminar	1
MUS:5220	Advanced Composition	2
MUS:5820	Electronic Music Production	3
Music History course <sup>f</sup>		3
Music Theory course <sup>f, g</sup>		3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
MUS:3230	Composition Seminar	1
MUS:5220	Advanced Composition	2
MUS:5800	Interactive Music	3
Music History course <sup>f</sup>		3
Music Theory course <sup>f, g</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
Qualification Exam <sup>h</sup>		
MUS:3230	Composition Seminar	1
MUS:4200	Counterpoint Before 1600	3
MUS:4220	Orchestration	3
MUS:5220	Advanced Composition	2
Outside Area course <sup>i, j</sup>		3
<b>Hours</b>		<b>12</b>
<b>Third Year</b>		
<b>Fall</b>		
Comprehensive Exam <sup>k</sup>		
Composition Area course <sup>l</sup>		3
Elective course or Music Theory course (if needed) <sup>f, g, j</sup>		3
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>9</b>

<b>Spring</b>		
Composition Area elective <sup>l</sup>		3
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
MUS:7960	Composition Ph.D. Thesis	2
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
MUS:7960	Composition Ph.D. Thesis	2
Final Exam <sup>m</sup>		2
<b>Hours</b>		<b>2</b>
<b>Total Hours</b>		<b>72</b>

- a Students must demonstrate ability to read professional literature in either French or German (other languages must be approved by the composition area). The language requirement must be satisfied by the end of the student's final semester of coursework.
- b An Area Keyboard Examination is required. Students may demonstrate basic keyboard ability in one of two ways:
  - 1) take and pass MUS:4210 with a grade of B or better; or
  - 2) take and pass the final examination for MUS:4210 by arrangement with the organ faculty.
- c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- d May take during second year instead.
- e Take a music theory elective if exempted from MUS:5200 based on results from advisory examination in music theory.
- f See the department website for list of approved courses.
- g Must have either passed the advisor examination in music theory or completed MUS:5200 before taking additional music theory elective courses.
- h The PhD Qualification Exam is to be taken not later than the end of the second semester of residency; consists of both written and oral components. Refer to the department website for more information.
- i Take a graduate level course (numbered 4000 or above) outside of the School of Music.
- j Work with faculty advisor to determine appropriate graduate level coursework.
- k Typically taken during the final semester of coursework.
- l Choose from MUS:3190, MUS:3280, MUS:3285, MUS:4201, MUS:6251.
- mThesis defense.

### Musicology Concentration

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 30 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>

<b>First Year</b>		
<b>Any Semester</b>		
MUS:5300	Introduction to Graduate Study in Music <sup>c</sup>	2
<b>Hours</b>		<b>2</b>
<b>Fall</b>		
MUS:4390	Musicology Colloquium	1
MUS:5200	Review of Undergraduate Theory <sup>d</sup>	3
MUS:6310	Topics in Musicology	3
MUS:6312	Historical Approaches to Music	3
MUS:6315	Foundations of Ethnomusicology	3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
MUS:4390	Musicology Colloquium	1
MUS:6211	Theoretical Approaches to Music <sup>e</sup>	3
or MUS:6210	or History of Ideas of Music	
MUS:6305	Teaching Music History and Culture	3
Musicology or Methodology course <sup>f</sup>		3
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
MUS:4390	Musicology Colloquium	1
MUS:6314	Topics in Ethnomusicology	3
Music Theory course <sup>e, f</sup>		3
Musicology or Methodology course <sup>f</sup>		3
Music elective course <sup>g</sup>		3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
Music Theory course <sup>e, f</sup>		3
Musicology or Methodology course <sup>f</sup>		3
Non-Music elective course <sup>g, h</sup>		3
Non-Music elective course <sup>g, h</sup>		3
<b>Hours</b>		<b>12</b>
<b>Third Year</b>		
<b>Fall</b>		
Comprehensive Exam <sup>i</sup>		
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		2
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		2
<b>Hours</b>		<b>8</b>
<b>Fourth Year</b>		
<b>Fall</b>		
MUS:7950	Ph.D. Thesis	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
MUS:7950	Ph.D. Thesis	3
Final Exam <sup>j</sup>		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>72</b>



- a Proficiency in the ability to read musicological literature in two languages is required: French, German, or another language, chosen in consultation with the adviser and approved by the musicology faculty. The requirement for one of the two languages must be satisfied by the end of the second year of residency, and the requirement for the second language must be satisfied before taking the comprehensive examination. Refer to the department website for more information.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c May take during second year instead.
- d Take a music theory elective if exempted from MUS:5200 based on results from advisory examination in music theory.
- e Must have either passed the advisor examination in music theory or completed MUS:5200 before taking additional music theory elective courses.
- f See the department website for list of approved courses.
- g Work with faculty advisor to determine appropriate graduate level coursework.
- h Take two graduate courses (6 s.h.) outside of the School of Music related to specialization area.
- i Typically taken during the final semester of coursework.
- j Dissertation defense.

## Music Education Concentration

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 30 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
EDTL:4630	Psychology of Music	2
EDTL:4640	Introduction to Music Research	3
EDTL:5610 or MUS:6690	Foundations of Music Education Curricula or Special Studies in Music Therapy	3
EDTL:7040 or MUS:6690 or EDTL:7600	Advanced Topics in Teaching and Learning or Special Studies in Music Therapy or Seminar: Current Topics in Music Education	3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
EDTL:7040 or MUS:6690 or EDTL:7600	Advanced Topics in Teaching and Learning or Special Studies in Music Therapy or Seminar: Current Topics in Music Education	3
Statistics and Research Methods course <sup>b</sup>		3
Statistics and Research Methods course <sup>b</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>12</b>

## Second Year

### Fall

MUS:6690 or EDTL:7600 or EDTL:7040	Special Studies in Music Therapy or Seminar: Current Topics in Music Education or Advanced Topics in Teaching and Learning	3
Statistics and Research Methods course <sup>b</sup>		3
Statistics and Research Methods course <sup>b</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>12</b>

### Spring

EDTL:7040 or EDTL:7600 or MUS:6690	Advanced Topics in Teaching and Learning or Seminar: Current Topics in Music Education or Special Studies in Music Therapy	3
Statistics and Research Methods course <sup>b</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>12</b>

## Third Year

### Fall

Comprehensive Exam <sup>d</sup>		
MUS:7950	Ph.D. Thesis	3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>11</b>

### Spring

MUS:7950	Ph.D. Thesis	3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>8</b>

## Fourth Year

### Fall

MUS:7950	Ph.D. Thesis	3
<b>Hours</b>		<b>3</b>

### Spring

MUS:7950	Ph.D. Thesis	3
Final Exam <sup>e</sup>		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>72</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b See the department website for list of approved courses.
- c Work with faculty advisor to determine appropriate graduate level coursework.
- d Typically taken during the final semester of coursework.
- e Thesis defense.

## Music Theory Concentration

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 30 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b, c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
MUS:5300	Introduction to Graduate Study in Music <sup>d</sup>	2
<b>Hours</b>		<b>2</b>
<b>Fall</b>		
MUS:4201 or MUS:4200	Counterpoint After 1600 or Counterpoint Before 1600	3
MUS:4290	Music Theory Colloquium	1
Music History course <sup>e</sup>		3
<b>Hours</b>		<b>7</b>
<b>Spring</b>		
MUS:4290	Music Theory Colloquium	1
MUS:6211	Theoretical Approaches to Music	3
Music History course <sup>e</sup>		3
Outside Area course <sup>f, g</sup>		3
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
Qualifying Exam <sup>h</sup>		
MUS:4290	Music Theory Colloquium	1
MUS:5235	Tonal Analysis	3
or MUS:5236 or MUS:5237	or Non-Tonal Analysis or Analysis of Popular Music	
MUS:6215	Music Theory Pedagogy	3
Music History course <sup>e</sup>		3
Outside Area course <sup>f, g</sup>		3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
MUS:4290	Music Theory Colloquium	1
MUS:5237 or MUS:5236 or MUS:5235	Analysis of Popular Music or Non-Tonal Analysis or Tonal Analysis	3
MUS:6250 or MUS:6251 or MUS:6252	Advanced Tonal Theory and Analysis or Advanced Non-Tonal Theory and Analysis or Advanced Theory and Analysis of Popular Music	3
Music History course <sup>e</sup>		3
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Fall</b>		
Comprehensive Exam <sup>i</sup>		
MUS:4290	Music Theory Colloquium	1

### First Year

#### Any Semester

#### Fall

#### Spring

### Second Year

#### Fall

#### Spring

### Third Year

#### Fall

### Spring

### Fourth Year

#### Fall

#### Spring

a Students must demonstrate the ability to read pertinent scholarly literature in French or German and one other language. This requirement must be fulfilled before the student takes the comprehensive examination, preferably during the first year of residency. Refer to the department website for more information.

b Students must demonstrate competence in six areas of practical musicianship: sight singing; dictation of a chorale; keyboard sight reading; realization of thoroughbass OR harmonization of a melody from chord symbols; keyboard sight reading of a string quartet score OR improvising on an instrument; reduction at the keyboard of an orchestral score. Musicianship examinations are offered once a semester and may be taken as many times as necessary to pass.

c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

d May take during second year instead.

e See the department website for list of approved courses.

f Work with faculty advisor to determine appropriate graduate level coursework.

g Take two graduate courses (6 s.h.) outside of the School of Music.

h Taken at the end of the second semester or the beginning of the third; must pass a written examination evaluating foundational theoretical knowledge of analytical skills with regard to a reading and score study list determined by the theory faculty. See the General Catalog and department website for more information.

i Taken at the end of the fourth semester or the beginning of the fifth. See the General Catalog and department website for more information.

- j Choose from MUS:4200, MUS:4201, MUS:4730, MUS:5235, MUS:5236, MUS:5237, MUS:5240, MUS:6250, MUS:6251, MUS:6252.
- k Dissertation defense.

# Doctor of Musical Arts, D.M.A.

## Advisory Examinations

Entering Doctor of Musical Arts students must take two School of Music advisory examinations prior to registering for music history and music theory courses. These examinations are given on the Friday and Saturday preceding the opening of classes in the fall semester.

## Ensemble Participation

Students in the performance and pedagogy tracks of all graduate programs are required to complete four semesters of major ensemble participation. Students enroll in major ensemble participation during consecutive semesters beginning early in their degree work, to ensure completion of the major ensemble requirements in a timely manner. Ensemble assignments are made at the discretion of the major teacher and ensemble director.

Major ensembles are as follows.

Code	Title	Hours
MUS:3160	Symphony Band/Concert Band	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1
MUS:3174	University Choir	1
MUS:3180	Orchestra	1

## Requirements

The Doctor of Musical Arts requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. The D.M.A. is offered with two concentrations: conducting, and performance and pedagogy.

D.M.A. students complete the courses under the M.A. degree (see the M.A. in music [p. 901] in the Catalog) and the following courses. In addition, students have either a world language or a secondary area requirement.

Code	Title	Hours
	One or more additional music history course(s) listed in the M.A. requirements	
	One or more additional music theory course(s) listed in the M.A. requirements	
MUS:7140	Seminar in Music Research	2
MUS:7899	D.M.A. Qualifying Recital	0
MUS:7900	D.M.A. Recital (three required recitals)	3-6
MUS:7970	D.M.A. Essay and Thesis (minimum 2 s.h. required; maximum 6 s.h.)	2

For more information, visit the School of Music website.

## Admission

Applicants must audition and/or submit supporting materials in their area of concentration in order to be considered for admission. Information about Graduate College admission

and curriculum requirements for each area is available on the School of Music website.

For detailed information about Graduate College admission and policies, see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Qualified graduate students may be nominated for teaching and research assistantships. Inquiries should be directed to the head faculty member in the applicant's area of interest.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Theory Pedagogy, Graduate Minor

## Requirements

The graduate minor in theory pedagogy requires 20 s.h. of credit. The program is open to students who have been admitted to a graduate degree program in the School of Music.

The minor in theory pedagogy requires the following coursework.

Code	Title	Hours
One of these:		
MUS:4200	Counterpoint Before 1600	3
MUS:4201	Counterpoint After 1600	3
Both of these:		
MUS:4290	Music Theory Colloquium (taken twice for 1 s.h. each)	2
MUS:6215	Music Theory Pedagogy	3
One of these:		
MUS:5235	Tonal Analysis	3
MUS:6250	Advanced Tonal Theory and Analysis	3
One of these:		
MUS:5236	Non-Tonal Analysis	3
MUS:6251	Advanced Non-Tonal Theory and Analysis	3
Two of these:		
MUS:5240	Special Topics in Theory and Analysis	3
MUS:6210	History of Ideas of Music	3
MUS:6211	Theoretical Approaches to Music	3
MUS:6250	Advanced Tonal Theory and Analysis	3
MUS:6251	Advanced Non-Tonal Theory and Analysis	3

# Native American and Indigenous Studies

## Interim Director

- Thomas P. Oates

**Undergraduate minor:** Native American and Indigenous studies

**Undergraduate certificate:** Native American and Indigenous studies

**Graduate certificate:** Native American and Indigenous studies

**Faculty:** <https://nativeamericanstudies.uiowa.edu/people>

**Website:** <https://nativeamericanstudies.uiowa.edu/>

Native American and Indigenous studies (NAIS) is an interdisciplinary program that focuses on the histories, cultures, literatures, and contemporary legal and political issues of Native North Americans and other Indigenous peoples of the Americas.

Students taking NAIS courses begin to understand historical and contemporary social issues among Indigenous peoples of the Americas, within the international and global context of settler colonialism and its legacies. Courses provide students with a better understanding of ethnic, social, and political diversity. The curriculum increasingly enables students to encounter innovative teaching methods that cross conventional disciplinary boundaries, that involve visiting and learning more about regional Native American communities in Iowa and the Midwest, and that focus on communicating knowledge to audiences both within and beyond the classroom. Students thereby gain expertise for employment in advocacy, social services, health care, education, and other areas that require cross-cultural understanding and communication with diverse public audiences. Students also gain a background for more specialized or advanced study in a variety of disciplines, including anthropology; economics; education; ethnic studies; gender, women's, and sexuality studies; geography; history; political science; psychology; religious studies; and social justice.

A certificate or minor in NAIS also complements preprofessional and professional training in areas such as health care, business, social work, and law.

The Native American and Indigenous Studies Program is administered by the Department of American Studies [p. 54].

## Programs

### Undergraduate Programs of Study

#### Minor

- Minor in Native American and Indigenous Studies [p. 913]

#### Certificate

- Certificate in Native American and Indigenous Studies [p. 914]

### Graduate Program of Study Certificate

- Certificate in Native American and Indigenous Studies [p. 915]

## Courses

### Native American and Indigenous Studies Courses

#### **NAIS:1049 Introduction to Native American and Indigenous Studies** 3 s.h.

Exploration of past, present, and future of American Indians in the United States and beyond through film, art, music, and comedy. GE: Values and Culture. Same as AMST:1049, HIST:1049.

#### **NAIS:1095 Native American Art** 3 s.h.

Survey of the visual arts of Indigenous peoples in North America with emphasis on regions that have become the United States; exploration of painting, sculpture, ceramics, fiber arts, performance, and architecture as expressions of identity, creativity, resistance, and resilience from ancestral traditions through transformations prompted by non-Native contact to today's vibrant art scene. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as ARTH:1095.

#### **NAIS:1290 Native American Foods and Foodways** 3 s.h.

Native Americans as original farmers of 46 percent of the world's table vegetables; examination of food as a cultural artifact (e.g., chocolate, tobacco); food as a primary way in which human beings express their identities; environmental, material, and linguistic differences that shape unique food cultures among Native peoples across the Western Hemisphere; close analysis of Indigenous foods, rituals, and gender roles associated with them; how colonization transformed Native American, European, and African American cultures. GE: Diversity and Inclusion. Same as AMST:1290, GHS:1290, HIST:1290.

#### **NAIS:1500 Topics in Native American and Indigenous Studies** 3 s.h.

Native American and Indigenous peoples; concepts, problems, and issues.

#### **NAIS:2165 Native Peoples of North America** 3 s.h.

History, culture of American Indian peoples; emphasis on North America. GE: Diversity and Inclusion. Same as AMST:2165, ANTH:2165.

#### **NAIS:2292 Introduction to Native American Law and Policy** 3 s.h.

Survey of relationships among Native American tribes, the U.S. government, and the American settler society; consequences of contact and colonialism through study of an individual tribe, impacts of U.S. federal policy and settler colonialism on tribal communities, and how tribes responded variously to these challenges. Same as HIST:2292.

**NAIS:2294 Indigenous Art Activism and Social Justice****3 s.h.**

Examination of the Native and political aspects of Native arts in the 19th and 20th centuries, from drawings and material culture produced for tourists and collectors to works that explicitly address Native oppression through federal policies, popular cultural appropriations, and colonial representations of Indigenous peoples; emphasis on Indigenous interpretations of colonial and settler history and culture through various media and representations of Indigenous identity and politics. Same as HIST:2294, SJUS:2294.

**NAIS:2300 Native Americans in Film****3 s.h.**

Representations of Native Americans in film from the western to science fiction and animation. Same as AMST:2300.

**NAIS:2500 Indigenous Art, Land, and Social Justice****3 s.h.**

Examples, readings, discussions, and special projects examine contemporary visual, performance, and multimedia art by Native North American and other Indigenous artists as a component of broader indigenous activism for social justice and defense of land.

**NAIS:3110 Colonialism and Indigenous Health Equity****3 s.h.**

Health problems and services for Indigenous populations worldwide, from perspective of Fourth World postcolonial politics. Prerequisites: ANTH:1101 or ANTH:2165 or GHS:2000 or HIST:1049. Same as ANTH:3110, GHS:3110.

**NAIS:3240 Cultural Resources Management Archaeology: Practice and Practicalities****3 s.h.**

Cultural Resources Management (CRM) archaeology is the largest sector of archaeological research in the United States in terms of employment, funding, field- and lab-related activity; students investigate the past and navigate complexities of compliance requirements from federal, state, and local regulations concerning historic preservation; introduction to legal, procedural, and practical foundations of CRM archaeology; preparation for employment by acquisition of skills from project planning through dissemination of results. Recommendations: completion of other anthropology, geography, history, or Native American studies courses. Same as ANTH:3240.

**NAIS:3243 Archaeology of the American Midcontinent****3 s.h.**

Survey of the archaeology of the American midcontinent for students interested in the past beyond what historical documents reveal; exploration of Late Pleistocene and Archaic hunter-gatherer adaptations, Woodland and Late Prehistoric horticulturalists, Middle and Upper Mississippian emergent chiefdoms, and historic period first contact, fur trade, and fort sites; how archaeologists utilize regional archaeological data in addressing culture change issues to develop the essential grounding for understanding how people lived in different times and places in the past, and how prehistoric peoples relate to their modern descendants across the midcontinent. Recommendations: ANTH:1201. Same as ANTH:3243.

**NAIS:3257 North American Archaeology****3 s.h.**

Prehistoric cultural development north of Mexico from initial occupation to European contact and conquest; emphasis on dynamics of culture change. Same as ANTH:3257.

**NAIS:3258 Southwestern Archaeology****3 s.h.**

Anthropological overview of prehistoric cultures of the American Southwest; emphasis on understanding archaeological arguments concerning major processes in the past. Same as ANTH:3258.

**NAIS:3270 Colonial North America, ca. 1600-1775****3 s.h.**

Introduction to major themes in colonial American history prior to the American Revolution; Native American history; colonialism and Native resistance; slavery; material culture; religion and spirituality; immigration; gender and sexuality in cross-cultural perspective. Same as HIST:3270.

**NAIS:3272 Native Americans in the Age of Empires, ca. 1500-1815****3 s.h.**

Overview of major issues in Native American history during the period of European Imperialism; colonialism, diplomacy and alliance building, warfare, captivity, religious and spiritual exchanges, revolution, and the disintegration of Native-European alliances in the early 19th century. Same as HIST:3272.

**NAIS:3289 The Atlantic World c. 1450-1850****3 s.h.**

Interactions between peoples of Europe, Africa, and the Americas between the 15th and mid-19th centuries, interconnected system of exchange that defied national and imperial boundaries; encounters between Native Americans, Africans, and Europeans in different parts of the Americas; forced and voluntary resettlement of Africans and Europeans overseas; development of plantation slave societies; biological consequences of transatlantic contact; circulation of people, goods, and ideas; development of creole societies; era of revolutions; abolition of slavery. Same as HIST:3289.

**NAIS:3441 Native American Literature****3 s.h.**

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as ENGL:3441.

**NAIS:4500 Special Topics in Native American and Indigenous Studies****1-3 s.h.**

Native American and Indigenous peoples; concepts, problems, and issues.

**NAIS:4502 History of Mexico****3 s.h.**

Mexican history since the eve of the Spanish invasion, with focus on the national period; may include ethnic groups, conquest and demographic disaster, Native survival, labor and migration, social protest and rebellions, nationhood, regional differences, religions, popular culture, economic growth and distribution, state building, international relations; survey. Same as HIST:4502, LAS:4502.

**NAIS:4990 Independent Study****arr.****NAIS:5099 American Indian and Native Studies Proseminar****1 s.h.**

Intensive reading on designated topics with multidisciplinary relevance in Native American and Indigenous studies; may include screenings, field trips, guest speakers, special events.

**NAIS:6050 Seminar: Topics in Native American and Indigenous Studies****3 s.h.**

Native American and Indigenous peoples; concepts, problems, and issues.

**NAIS:6099 Independent Study Project****arr.**

Completion of a significant scholarly project that addresses the scope, goals, and ongoing development of Native American and Indigenous studies as an academic field; findings presented on campus (e.g., NAIS steering committee or in association with an NAIS-sponsored event) or at an academic conference.

**NAIS:6620 Readings in Native American Literatures****3 s.h.**

Same as ENGL:6620.

**NAIS:7202 Readings: 20th-Century Native American History****arr.**

Examination of the Indigenous 20th century through a series of themes including settler colonialism, sovereignty and self-determination, federal Indian policy, and Indigenous feminism; readings focus primarily on secondary sources, but attention is given to key primary sources; students are required to carry out specified research tasks. Same as HIST:7202.



# Native American and Indigenous Studies, Minor

## Requirements

The minor in Native American and Indigenous studies (NAIS) requires a minimum of 15 s.h., including at least 12 s.h. completed at the University of Iowa. Students must earn a g.p.a. of at least 2.00 in all coursework completed for the minor.

Students complete one introductory course and 12 s.h. in elective coursework as indicated below. Elective courses reflect the program's emphasis on Indigenous histories in the Americas, Indigenous cultures and literatures, and Indigenous peoples in global perspective. Elective courses from several departments ensure that students are exposed to different themes. Students may consult with the NAIS coordinator.

The minor in Native American and Indigenous studies requires the following coursework.

## Introductory Courses

Code	Title	Hours
One of these:		
AMST:1049/ HIST:1049/ NAIS:1049	Introduction to Native American and Indigenous Studies	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America	3
HIST:2292/ NAIS:2292	Introduction to Native American Law and Policy	3

## Elective Courses

Students must choose 12 s.h. in elective coursework. They may petition for minor credit for courses not listed below that contain significant Indigenous content.

Code	Title	Hours
AMST:1049/ HIST:1049/ NAIS:1049	Introduction to Native American and Indigenous Studies (if not taken as an introductory course)	3
AMST:1290/ GHS:1290/ HIST:1290/ NAIS:1290	Native American Foods and Foodways	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America (if not taken as an introductory course)	3
ANTH:3110/ GHS:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
ANTH:3257/ NAIS:3257	North American Archaeology	3
ANTH:3258/ NAIS:3258	Southwestern Archaeology	3
ARTH:1095/ NAIS:1095	Native American Art	3
ENGL:2505	Introduction to Postcolonial Studies	3

ENGL:3431	American Novel Since 1945 (when topic is Native American literature)	3
ENGL:3441/ NAIS:3441	Native American Literature	3
ENGL:3515	Topics in Postcolonial Studies	3
FREN:4090	Quebec Literature	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
HIST:1040	Diversity in History (when topic is Indigenous feminisms; consult instructor)	3
HIST:2151	Introduction to the History Major (when topic is Indigenous women in settler societies; consult instructor)	3
HIST:2292/ NAIS:2292	Introduction to Native American Law and Policy (if not taken as an introductory course)	3
HIST:2294/ NAIS:2294/ SJUS:2294	Indigenous Art Activism and Social Justice	3
HIST:3270/ NAIS:3270	Colonial North America, ca. 1600-1775	3
HIST:3272/ NAIS:3272	Native Americans in the Age of Empires, ca. 1500-1815	3
HIST:3273	War and Violence in Early American Societies and Culture	3
HIST:4130/ MUSM:4130	Museum Literacy and Historical Memory	3
SPAN:3240	Mexico City	3

# Native American and Indigenous Studies, Certificate

## Requirements

The undergraduate Certificate in Native American and Indigenous Studies (NAIS) requires a minimum of 18 s.h., including at least 12 s.h. completed at the University of Iowa. Students must earn a g.p.a. of at least 2.00 in all certificate coursework.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

All students develop an individual certificate plan of study in consultation with the NAIS coordinator. In some cases, students may be able to count certificate courses toward certain GE CLAS Core [p. 20] requirements. Students complete one introductory course and 15 s.h. in elective coursework as indicated below. Elective courses reflect the certificate program's emphasis on Indigenous histories in the Americas, Indigenous cultures and literatures, and Indigenous peoples in global perspective. Elective courses from several departments ensure that students are exposed to different themes.

The Certificate in Native American and Indigenous Studies requires the following coursework.

## Introductory Courses

Code	Title	Hours
One of these:		
AMST:1049/ HIST:1049/ NAIS:1049	Introduction to Native American and Indigenous Studies	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America	3
HIST:2292/ NAIS:2292	Introduction to Native American Law and Policy	3

## Elective Courses

Students must choose 15 s.h. in elective coursework. They may petition for certificate credit for courses not listed below that contain significant Indigenous content.

Code	Title	Hours
AMST:1049/ HIST:1049/ NAIS:1049	Introduction to Native American and Indigenous Studies (if not taken as an introductory course)	3
AMST:1290/ GHS:1290/ HIST:1290/ NAIS:1290	Native American Foods and Foodways	3
ANTH:2165/ AMST:2165/ NAIS:2165	Native Peoples of North America (if not taken as an introductory course)	3

ANTH:3110/ GHS:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
ANTH:3257/ NAIS:3257	North American Archaeology	3
ANTH:3258/ NAIS:3258	Southwestern Archaeology	3
ARTH:1095/ NAIS:1095	Native American Art	3
ENGL:2505	Introduction to Postcolonial Studies	3
ENGL:3431	American Novel Since 1945 (when topic is Native American literature)	3
ENGL:3441/ NAIS:3441	Native American Literature	3
ENGL:3515	Topics in Postcolonial Studies	3
FREN:4090	Quebec Literature	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
HIST:1040	Diversity in History (when topic is Indigenous feminisms; consult instructor)	3
HIST:2151	Introduction to the History Major (when topic is Indigenous women in settler societies; consult instructor)	3
HIST:2292/ NAIS:2292	Introduction to Native American Law and Policy (if not taken as an introductory course)	3
HIST:2294/ NAIS:2294/ SJSU:2294	Indigenous Art Activism and Social Justice	3
HIST:3270/ NAIS:3270	Colonial North America, ca. 1600-1775	3
HIST:3272/ NAIS:3272	Native Americans in the Age of Empires, ca. 1500-1815	3
HIST:3273	War and Violence in Early American Societies and Culture	3
HIST:4130/ MUSM:4130	Museum Literacy and Historical Memory	3
SPAN:3240	Mexico City	3

# Native American and Indigenous Studies, Graduate Certificate

## Requirements

The graduate Certificate in Native American and Indigenous Studies (NAIS) requires a minimum of 15 s.h. in courses numbered 3000 and above. Students must maintain a g.p.a. of at least 3.00 in coursework toward the certificate.

Students must contact the NAIS coordinator in order to apply to the certificate program, and they work with the NAIS coordinator to develop a plan of study.

Students who earned an undergraduate certificate in the program may not receive a graduate certificate.

Native American and Indigenous studies aims to expose students to the interdisciplinary nature of the field. NAIS emphasizes Indigenous histories in the Americas, Indigenous cultures and literatures, and Indigenous peoples in global perspective.

Students may petition for certificate credit for courses that are not on the list. The petition must show that the course contains significant Indigenous content. Before enrolling in any courses listed below, students should contact the NAIS coordinator.

Code	Title	Hours
ANTH:3257/ NAIS:3257	North American Archaeology	3
ANTH:3258/ NAIS:3258	Southwestern Archaeology	3
ENGL:3431	American Novel Since 1945	3
ENGL:3441/ NAIS:3441	Native American Literature	3
ENGL:3515	Topics in Postcolonial Studies	3
FREN:4090	Quebec Literature	3
GWSS:3350/ ANTH:3125/IS:3350	Transnational Feminism	3
HIST:3270/ NAIS:3270	Colonial North America, ca. 1600-1775	3
HIST:3272/ NAIS:3272	Native Americans in the Age of Empires, ca. 1500-1815	3
HIST:4130/ MUSM:4130	Museum Literacy and Historical Memory	3
SPAN:3240	Mexico City	3

# Neuroscience

## Chair, Department of Biology

- Jodie M. Plumert

**Undergraduate major:** neuroscience (B.S.)

**Faculty:** <https://clas.uiowa.edu/neuro#faculty>

**Website:** <https://clas.uiowa.edu/neuro>

The Departments of Biology and Psychological and Brain Sciences collaborate to offer the Bachelor of Science degree in neuroscience. The neuroscience program also is closely aligned with the Iowa Neuroscience Institute (INI). The program is administered by the Department of Biology [p. 188].

## Programs

### Undergraduate Program of Study

#### Major

- Major in Neuroscience (Bachelor of Science) [p. 917]

# Neuroscience, B.S.

## Learning Outcomes

Students will:

- learn how molecules and cells generate brain circuits that build human behavior and cognition;
- design effective experiments;
- think critically about scientific data;
- communicate effectively about neuroscience; and
- be prepared for graduate education in neuroscience or related life-science fields; for medical school or other health-related programs such as public health or nursing; or for a first step in a career, including work in biomedical industries, academic laboratories, and science education.

## Requirements

The Bachelor of Science with a major in neuroscience requires a minimum of 120 s.h., including at least 64 s.h. of work for the major. Coursework includes neuroscience, chemistry, biochemistry, mathematics, and physics courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students who major in neuroscience may not earn a major in biology or psychology, but may earn a minor in biology or psychology as long as no more than 3 s.h. are double counted.

The B.S. with a major in neuroscience requires the following coursework.

Code	Title	Hours
	Cognate Requirements	23-26
	Introductory Courses	8
	Core Courses	17
	Laboratory Course	4-5
	Neuroscience Electives	12-15
	<b>Total Hours</b>	<b>64-71</b>

## Cognate Requirements

Code	Title	Hours
One of these options:		
BMB:3110	Biochemistry	3
BMB:3120 & BMB:3130	Biochemistry and Molecular Biology I-II (both of these)	6
This sequence:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II (preferred)	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
One of these:		
MATH:1460	Calculus for the Biological Sciences (preferred)	4
MATH:1380	Calculus and Matrix Algebra for Business	4

MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4

## Introductory Courses

Code	Title	Hours
Both of these:		
BIOL:1411	Foundations of Biology	4
PSY:2701	Introduction to Behavioral Neuroscience	4

## Core Courses

Code	Title	Hours
All of these:		
BIOL:3253	Neurobiology I	4
BIOL:3254	Neurobiology II	4
PSY:2811-PSY:2812	Research Methods and Data Analysis in Psychology I-II	6
PSY:2975	Introduction to Cognitive Neuroscience	3

## Laboratory Course

Code	Title	Hours
One of these:		
BIOL:3244	Animal Behavior (with lab)	5
BIOL:3655	Neurogenetics Laboratory	4
BIOL:3656	Neurobiology Laboratory	4
PSY:4025	Laboratory in Cognitive Neuroscience	4

## Neuroscience Electives

Code	Title	Hours
A minimum of four courses (12 s.h.) from these:		
BIOL:1412	Diversity of Form and Function	4
BIOL:2254	Endocrinology	3
BIOL:2512	Fundamental Genetics	4
BIOL:2723	Cell Biology	3
BIOL:3343	Animal Physiology	3
BIOL:3603	Mechanisms of Aging	3
BIOL:4333	Genes and Development	3
BIOL:4353	Neurophysiology: Cells and Systems	3-4
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3
PHIL:3510	Neuroethics	3
PSY:3035	Science of Emotion	3
PSY:3040	Psychology of Learning	3
PSY:3055	Interdisciplinary Science of Sound and Hearing	3
PSY:3060	Sensation and Perception	3
PSY:3250	Neuroscience of Learning and Memory	3
PSY:3265	Cognitive and Clinical Neuroscience of Executive Functions	3
PSY:3270	Neurobiology of Stress	3
PSY:3275	The Science of Sleep	3

PSY:3575	Social Cognition in Autism	3
May include one of these:		
PCOL:3102	Pharmacology II: Mechanisms of Drug Action	3
PSY:3230	Psychopharmacology	3

## Honors

### Honors in the Major

Students majoring in neuroscience have the opportunity to graduate with honors in the major. Departmental honor students must maintain a major g.p.a. and a UI g.p.a. of at least 3.33.

In order to earn honors in the neuroscience major, students must complete the following.

- A minimum of 6 s.h. over two or more semesters of an independent laboratory research project undertaken in the laboratory of an Iowa Neuroscience Institute (INI) faculty member chosen from a list of approved mentors. Students enroll in BIOL:4995/PSY:4995 Honors Research in Neuroscience.
- A brief initial research proposal summarizing the background and goals of the planned honors investigations research, submitted to the honors coordinator, typically at the end of the semester immediately prior to the final semester of honors research.
- An acceptable honors thesis describing the research submitted to the honors coordinator near the end of the final semester of enrollment in BIOL:4995/PSY:4995 Honors Research in Neuroscience.
- An oral presentation of the honors research findings during the student's final semester.

Honors students also are encouraged to participate in the Iowa Center for Research by Undergraduates (ICRU) and to apply for research scholarships, including the Iowa Neuroscience Institute (INI) Summer Scholars Fellowships.

Neuroscience majors interested in graduating with honors in the major should contact the honors coordinator as early as possible, preferably during their sophomore or junior year.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Students who satisfy the requirements for honors in the neuroscience major also satisfy the Experiential Learning requirement of the University honors curriculum.

Membership in the UI Honors Program is not required to earn honors in the neuroscience major.

## Career Advancement

The major provides students with a rigorous and broad background in neuroscience, from the cellular and molecular levels to the behavioral and cognitive levels. Students earning a degree in neuroscience will be well prepared to pursue graduate work in neuroscience or related life sciences, to attend medical school, or to enter other health-related programs such as a physician's assistant program, public

health, or nursing. Graduates also will be prepared to directly enter the workforce in biotechnology industries, academic life science laboratories, or in science education, and science writing.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** BIOL:1411 Foundations of Biology, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, MATH:1380 Calculus and Matrix Algebra for Business or MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I, and PSY:2701 Introduction to Behavioral Neuroscience.

**Before the fifth semester begins:** PHYS:1511 College Physics I or PHYS:1611 Introductory Physics I, PSY:2811 Research Methods and Data Analysis in Psychology I, PSY:2812 Research Methods and Data Analysis in Psychology II, and PSY:2975 Introduction to Cognitive Neuroscience.

**Before the seventh semester begins:** BMB:3110 Biochemistry, or BMB:3120 Biochemistry and Molecular Biology I and BMB:3130 Biochemistry and Molecular Biology II; BIOL:3253 Neurobiology I; one of the four approved laboratory courses; and PHYS:1512 College Physics II or PHYS:1612 Introductory Physics II.

**Before the eighth semester begins:** two required neuroscience electives.

**During the eighth semester:** one required neuroscience elective, enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Neuroscience, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSY:1001	Elementary Psychology <sup>b</sup>	3
PSY:2701	Introduction to Behavioral Neuroscience	4
CHEM:1110	Principles of Chemistry I <sup>c</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4

CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
MATH:1460	Calculus for the Biological Sciences	4
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
PSY:2811	Research Methods and Data Analysis in Psychology I	3
PSY:2975	Introduction to Cognitive Neuroscience	3
PHYS:1511	College Physics I	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
PSY:2812	Research Methods and Data Analysis in Psychology II	3
BMB:3110 or BMB:3120	Biochemistry <sup>f</sup> or Biochemistry and Molecular Biology I	3
PHYS:1512	College Physics II	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>
<b>Third Year</b>		
<b>Fall</b>		
BIOL:3253	Neurobiology I	4
BMB:3130	Biochemistry and Molecular Biology II <sup>f</sup>	3
Major: neuroscience elective I		3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-16</b>
<b>Spring</b>		
BIOL:3254	Neurobiology II	4
Major: neuroscience elective II		3 - 4
GE CLAS Core: Diversity and Inclusion <sup>g</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-16</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Major: neuroscience elective III		3 - 4
Major: neuroscience lab course or neuroscience elective IV		3 - 5
GE CLAS Core: International and Global Issues <sup>g</sup>		3
GE CLAS Core: Values and Culture <sup>g</sup>		3
<b>Hours</b>		<b>12-15</b>
<b>Spring</b>		
Major: neuroscience lab course or neuroscience elective IV		3 - 4
GE CLAS Core: Historical Perspectives <sup>g</sup>		3

GE CLAS Core: Literary, Visual, and Performing Arts <sup>g</sup>	3
Elective course <sup>h</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	
<b>Hours</b>	<b>12-13</b>
<b>Total Hours</b>	<b>111-123</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b It is strongly recommended that neuroscience majors take this course as their GE CLAS Core: Social Science requirement and that they do so in their first semester.

c Enrollment in chemistry courses requires completion of a placement exam.

d Enrollment in math courses requires completion of a placement exam.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f If BMB:3120 is taken, students will also have to complete BMB:3130 to meet this requirement.

g GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Philosophy

## Chair

- Gregory Landini

**Undergraduate major:** philosophy (B.A.)

**Undergraduate minor:** philosophy

**Graduate degrees:** M.A. in philosophy; Ph.D. in philosophy

**Faculty:** <https://clas.uiowa.edu/philosophy/people/faculty>

**Website:** <https://clas.uiowa.edu/philosophy/>

The Department of Philosophy offers programs of study for undergraduate and graduate students. A major in philosophy develops abilities useful for careers in many fields and for any situation requiring clear, systematic thinking.

The department also administers the interdisciplinary undergraduate major in ethics and public policy, which it offers jointly with the Department of Economics and the Department of Sociology and Criminology; see Ethics and Public Policy [p. 505] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Philosophy (Bachelor of Arts) [p. 925]

#### Minor

- Minor in Philosophy [p. 929]

### Graduate Programs of Study

#### Majors

- Master of Arts in Philosophy [p. 930]
- Doctor of Philosophy in Philosophy [p. 932]

## Courses

For more detailed descriptions of undergraduate and graduate courses offered during a given semester or summer session, visit the University's MyUI website before early registration. Graduate-level courses are numbered from 4000 to 7900.

### Philosophy Courses

**PHIL:1010 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**PHIL:1033 The Meaning of Life** 3 s.h.

Philosophical investigation of the nature of human life and of what makes human life valuable and/or meaningful. GE: Historical Perspectives.

**PHIL:1034 Liberty and the Pursuit of Happiness** 3 s.h.

Examination of conflict between state power and individual liberty; philosophical and historical examination of theories from Plato through today. GE: Historical Perspectives.

**PHIL:1401 Matters of Life and Death** 3 s.h.

Contemporary ethical controversies with life and death implications; topics may include famine, brain death, animal ethics, abortion, torture, terrorism, capital punishment. GE: Values and Culture.

**PHIL:1636 Principles of Reasoning: Argument and Debate** 3 s.h.

Critical thinking and its application to arguments and debates. GE: Quantitative or Formal Reasoning.

**PHIL:1861 Introduction to Philosophy** 3 s.h.

Varied topics; may include personal identity, existence of God, philosophical skepticism, nature of mind and reality, time travel, and the good life; readings, films. GE: Values and Culture.

**PHIL:1902 Philosophy Lab: The Meaning of Life** 1 s.h.

Further exploration of PHIL:1033 course material with the professor in a smaller group.

**PHIL:1904 Philosophy Lab: Liberty and the Pursuit of Happiness** 1 s.h.

Further exploration of PHIL:1034 course material with the professor in a smaller group.

**PHIL:1950 Philosophy Club** 1-3 s.h.

Relevant philosophical debates as they are exhibited in current events, text, and film; participation through discussions and film screenings.

**PHIL:2111 Ancient Philosophy** 3 s.h.

Ancient Greek philosophy from Thales to Aristotle; pre-Socratic cosmologists, Socrates, ancient medicine and religion, rivalry between sophists and philosophers; primary focus on reaction of Plato and Aristotle to this intellectual inheritance culminating in their greatest achievement, the invention of systematic philosophy.

**PHIL:2214 Seventeenth-Century Philosophy** 3 s.h.

Varied topics; may include free will, the mind-body problem, existence of God, relationship between God and creatures, science and religion, stoicism, early feminism; Francis Bacon, Rene Descartes, Margaret Cavendish, Baruch Spinoza, Anne Conway, G.W. Leibniz, Mary Astell, John Locke.

**PHIL:2215 Modern Philosophy** 3 s.h.

Varied topics; may include free will, the mind-body problem, existence of God, creation versus evolution, subjectivity of perception, limits of cognition, the good life; Rene Descartes, Margaret Cavendish, Baruch Spinoza, Anne Conway, G.W. Leibniz, Mary Astell, John Locke, George Berkeley, David Hume, Immanuel Kant.

**PHIL:2216 Eighteenth-Century Philosophy** 3 s.h.

Varied topics; may include appearance versus reality, empiricism and science, the mind-body problem, existence of God, creation versus evolution, subjectivity of perception, limits of cognition, the good life, early feminism; Mary Astell, John Locke, George Berkeley, David Hume, Immanuel Kant.

**PHIL:2343 Philosophy East and West** 3 s.h.

A comparative study of Eastern and Western theories and arguments concerning the nature and existence of the self.

**PHIL:2352 Chinese Philosophy** 3 s.h.

Introduction to Chinese philosophy; Confucius and Mencius; human flourishing in accordance with nature; Daoism; Laozi and Zhuangzi; virtues and lives in ancient China and Greece; human nature and good and evil; moral sentiment and desire for profit.



- PHIL:2402 Introduction to Ethics** 3 s.h.  
Analytical and historical introduction to ethical theories; issues such as the nature of the goodness, distinction between right and wrong. GE: Values and Culture.
- PHIL:2415 Bioethics** 3 s.h.  
Recent developments in biotechnology and medicine; designer babies and cloning, genetic screening for disease, distributive justice in health care, animal experimentation, physician-assisted suicide, and euthanasia. Same as GHS:2415.
- PHIL:2422 Feminist Ethics** 3 s.h.  
Philosophical evaluation of gender as a pervasive and persistent structuring principle for social inequality. Same as GWSS:2422.
- PHIL:2425 Sex, Marriage, Friendship, and the Law** 3 s.h.  
Examination and evaluation of ways in which society and law have privileged or discouraged certain forms of sexual activity and certain forms of adult intimate relationships. GE: Diversity and Inclusion.
- PHIL:2429 War, Terrorism, and Torture** 3 s.h.  
Examination of some of the most compelling ethical and legal questions surrounding the topic of war: Can a war ever be just? If so, under which conditions is one justified in waging war? Are there limitations on permissible ways to fight a war? How are acts of terrorism different from acts of war? Is torture ever justified?
- PHIL:2432 Introduction to Political Philosophy** 3 s.h.  
Survey of central problems in political philosophy; focus on liberty, equality, justice, and purpose of the state; core philosophers may include John Locke, Jean-Jacques Rousseau, Thomas Hobbes, John Stuart Mill, and John Rawls.
- PHIL:2435 Philosophy of Law** 3 s.h.  
Examination of jurisprudential theories and their answers to the question, "What is law?"; intersection between law and morality, legal punishment, political obligation, constitutional interpretation.
- PHIL:2436 The Nature of Evil** 3 s.h.  
The nature of evil explored through philosophical texts, videos and films, case studies of individuals.
- PHIL:2437 Introduction to Metaphysics** 3 s.h.  
Questions about the ultimate nature of reality and our place in it: What is the nature of space and time? Is time travel possible? What is the self and how does it persist through time and change? What is the nature of causation? Do we have free will?
- PHIL:2442 Knowledge and the Threat of Skepticism** 3 s.h.  
Skeptical doubt and distinction between appearance and reality; nature of knowledge and what, if anything, can we know.
- PHIL:2480 Language and Its Social Roles** 3 s.h.  
Introduction to basic concepts in philosophy of language and speech act theory; social and political uses of language including nature of speech, silencing, oppressive and hate speech, propaganda and dehumanizing language, lying and misleading with language.
- PHIL:2534 Philosophy of Religion** 3 s.h.  
Historical to contemporary treatments of central issues; nature of faith, existence and nature of God, science and religion, ethics and religion, miracles, religious experience, interpretation of religious texts. Requirements: sophomore or higher standing. Same as RELS:2834.
- PHIL:2538 Minds and Machines** 3 s.h.  
Questions concerning artificial intelligence: What is a mind? What is the relationship between minds and machines? What distinguishes real minds from artificial minds? Could computers or robots think or have feelings? If we create something whose intelligence surpasses that of humans, do we have a right to control it? Are your smart electronic devices parts of your mind? How has the internet changed our lives? Do we survive, perhaps immortally, if we upload contents of our minds to the internet or cloud?
- PHIL:2542 Minds and Brains** 3 s.h.  
Nature of mind in the age of the brain; exploration of questions (How is the mind related to the brain? What do brain scans show? How does the brain process information? What is conscious experience? Is free will threatened by neuroscience? How are intuitive conceptions of memory, emotion, and other mental capacities changing?).
- PHIL:2603 Introduction to Symbolic Logic** 3 s.h.  
Main ideas and techniques of modern natural deduction with quantifiers (all, some, most, exactly one); relations and identity; topics in philosophy of logic including nature of logic, nature of functions, logical necessity, identity as a relation, and how we know logic.
- PHIL:3002 Stoics and Epicureans, or How to Live Like a Roman Sage** 3 s.h.  
Introduction to ethics, epistemology, and metaphysics of Stoicism and Epicureanism, two rival schools of philosophy that profoundly influenced popular and intellectual culture of the Roman Empire.
- PHIL:3112 Medieval Philosophy** 3 s.h.  
Introduction to St. Thomas Aquinas, William of Ockham, and Duns Scotus, three of the most brilliant philosophers of the high middle ages (11th through 13th centuries); their writing as Christians in (fascinated) reaction to philosophical systems of their pagan predecessors; how medieval philosophers wrestled with problems concerning possibility of free will and responsibility in face of divine omniscience and foreknowledge; existence of abstract universals in a world that is nonabstract and particular; nature and existence of God; skepticism and limits of human knowledge; nature of good and evil. Same as HIST:3412.
- PHIL:3143 Existentialism** 3 s.h.  
Main ideas of existentialism, including free will, authenticity, power, nihilism; emphasis on Jean Paul Sartre, Simone de Beauvoir, Friedrich Nietzsche, Martin Heidegger, Soren Kierkegaard, Albert Camus.
- PHIL:3318 Twentieth-Century Philosophy** 3 s.h.  
Exploration of fundamental issues that shaped philosophy in the past century; impact of the theory of evolution on philosophy; whether philosophy is a science; nature of truth and meaning; nature of necessity; nature of space, time, and being; John Dewey, Bertrand Russell, Gottlob Frege, Ludwig Wittgenstein, W.V.O. Quine, Saul Kripke, David Lewis.
- PHIL:3342 Multiculturalism and Toleration** 3 s.h.  
Evaluation of multiculturalism as a political policy and as a personal attitude of respect; individual and collective identity, gender justice, autonomy, toleration, multiculturalism and education; contested practices.
- PHIL:3430 Philosophy of Human Rights** 3 s.h.  
Examination of the concept of human rights; sources of human rights; how we justify calling some, while not other rights, "human rights"; applied issues in women's, children's, and anti-poverty rights.

- PHIL:3431 Aesthetics** 3 s.h.  
Issues regarding art, aesthetic judgment, and role of art in society; investigation of questions: What is art and what is good art? What is conceptual art? Are aesthetic judgments just a matter of taste, or are some opinions about art better than others? What features of artworks matter for making such judgments, and which don't?; issues pertaining to various arts including painting and sculpture, music, fiction and poetry, performance arts; introduction to artworks and artists.
- PHIL:3510 Neuroethics** 3 s.h.  
Issues that arise from advances in knowledge of brain-mind relations: cognitive neuroenhancement, neuroimaging-based lie detection and privacy, changing standards of moral and legal responsibility, justification of punishment, admissibility of neuroimaging in legal contexts.
- PHIL:3604 Introduction to Philosophy of Science** 3 s.h.  
Examination of basic questions regarding nature of science and scientific knowledge: When is a field of inquiry a science? What counts as evidence in a science, and why? In what sense, if any, is science objective? What are scientific laws, theories, and explanations? If scientific theories are never proven with certainty, are we justified in believing them to be true? Recommendations: background in science (psychology, biology, chemistry, physics).
- PHIL:3845 Buddhist Philosophy** 3 s.h.  
Theories and arguments concerning the Buddhist path to enlightenment. Same as RELS:3645.
- PHIL:3847 Philosophical Issues** 3-4 s.h.  
A philosophical topic or controversy.
- PHIL:3902 Workshop: Analytical Skills for the LSAT** 3 s.h.  
Guided preparation for pre-law students who plan to take the Law School Admission Test (LSAT); exercises in analytical thinking, analytical writing, problem solving; practice developing skills in logical reasoning; reflection on professional skills and goals.
- PHIL:3904 Workshop: Analytical Skills for the GMAT** 3 s.h.  
Guided preparation for undergraduate students who plan to enroll in a graduate business program and take the Graduate Management Admission Test (GMAT); exercises in analytical thinking, analytical writing, problem solving; practice developing skills in logical reasoning; reflection on professional skills and goals.
- PHIL:3906 Workshop: Analytical Skills for the MCAT** 3 s.h.  
Guided preparation for students who plan to take the Medical College Admission Test (MCAT); exercises in analytical thinking, analytical writing, problem solving; practice developing skills in logical reasoning; reflection on professional skills and goals.
- PHIL:3908 Workshop: Analytical Skills for the GRE** 3 s.h.  
Guided preparation for students who plan to take the Graduate Record Examination (GRE) and attend graduate school; exercises in analytical thinking, analytical writing, problem solving; practice developing skills in logical reasoning; reflection on professional skills and goals.
- PHIL:3920 Philosophy in Public** 1-3 s.h.  
Engagement and service-learning; philosophical concepts are applied to and extracted from internship work in the community and beyond.
- PHIL:3950 Readings in Philosophy** arr.  
Independent study. Requirements: sophomore or higher standing.
- PHIL:4050 Topics in Buddhist Philosophy** 3 s.h.  
Buddhist theories and arguments concerning nature and existence of the self.
- PHIL:4152 Plato** 3 s.h.  
Introduction to metaphysics, epistemology, and moral theory of Plato; topics may include the philosophy of Socrates, Plato's theory of Forms, the tripartite soul, nature of virtue and moral education; Plato's cosmology and assimilation of human nature to the divine; close reading and interpretation of specific texts.
- PHIL:4153 Aristotle** 3 s.h.  
Introduction to metaphysics, epistemology, and moral theory of Aristotle; topics may include Aristotle's theories of matter and form, causation, motion, change, space, void, time; Aristotle's philosophy of biology and theory of the soul; unity of virtue, nature of action and choice; the syllogism; combines survey with close reading and interpretation of specific texts.
- PHIL:4258 Descartes** 3 s.h.  
Descartes' systematic philosophy and impact on current debates; topics may include skepticism, the confusion of everyday experience, the mind-body problem, innate ideas and empiricism, free will, nature and existence of God, science and religion, problem of evil, stoicism.
- PHIL:4260 Spinoza and Leibniz** 3 s.h.  
Comparative and critical examination of metaphysical and epistemological views of 17th-century rationalists, Baruch Spinoza and G.W. Leibniz; topics may include monism, panpsychism, space and time, free will and necessity, the confusion of everyday experience, incomplete versus complete ideas, nature and existence of God, stoicism, passions and emotions as objects of detached scientific investigation.
- PHIL:4266 Kant** 3 s.h.  
Main ideas and major texts of Kant's metaphysics and epistemology; particular attention given to *Critique of Pure Reason*.
- PHIL:4346 Frege and Russell** 3 s.h.  
Major issues concerning Frege's revolution in logic, Cantor's taming of the infinite, and Russellian synthesis of these revolutions to form Logicist thesis that all of pure mathematics (including geometry) is a branch of the science of logic; central issues in the philosophy of language and analysis of logical form; Russell's theory of definite descriptions and his logicism as a paradigm for a philosophical solution to mysteries of existence, number, infinite, motion, and Zeno paradoxes.
- PHIL:4373 Heidegger** 3 s.h.  
Main ideas and major texts of Martin Heidegger; early and later periods; particular attention given to *Being and Time*; focus on Heidegger's analyses of Being and being-in-the-world.
- PHIL:4375 Rawls's Political Philosophy** 3 s.h.  
Major works by John Rawls, selected secondary readings; contractarianism, concept of justice, justice as fairness as an alternative to utilitarianism, Kantian foundations, comprehensive and political liberalism.
- PHIL:4377 Wittgenstein** 3 s.h.  
Main ideas and major texts of Ludwig Wittgenstein; early and later periods; particular attention given to *Tractatus*, *Philosophical Investigations*, and development of Wittgenstein's thought.

- PHIL:4379 Quine** 3 s.h.  
Evaluation of Quine's attempt to restructure philosophy so that ontological questions are questions of "what there is" and methods for answering such questions are methods of natural (empirical) sciences; central issues pertaining to Quine's thesis that this naturalization program also applies to physics, mathematics, logic; comparison of Dewey's pragmatist and evolutionary reconstruction in philosophy to that of Quine and others (e.g., Carnap, Russell, Wittgenstein); major themes involving Quine on set theory, modal logic, the *a priori*; and the thesis that meaning is translation and translation is indeterminate.
- PHIL:4480 Analytic Ethics** 3 s.h.  
Exploration of central meta-ethical questions: Are there objective values, and if there are, can we gain knowledge of what has such value? Should we always act so as to bring about the best consequences? If not, why not? Can we derive moral conclusions from scientifically established facts about the world? If not, does this undermine the idea that we can offer sensible arguments for ethical conclusions?
- PHIL:4481 Issues in Philosophy of Law** 3 s.h.  
Nature of law and legal interpretation; natural law theory and positivism; critical legal theories.
- PHIL:4482 Early Modern Ethics** 3 s.h.  
Thomas Hobbes' 1651 publication, *Leviathan*, set British moral philosophy on a new course, rejecting most of the presuppositions of theistic natural law theory, shocked and outraged many of his contemporaries, and set in motion a debate about the nature of morality that continues today in philosophical ethics; focus on debate between sentimentalists (Francis Hutcheson, David Hume, Adam Smith) who regarded morality as a matter of human attitudes and emotions, and rationalists (Samuel Clarke, Ralph Cudworth, Richard Price) who regarded morality as analogous to mathematics.
- PHIL:4485 Political Philosophy** 3 s.h.  
Political philosophy topics; may include obligation to obey the law, secession, nature of rights, limits of state power, just distribution of property, feminist criticisms.
- PHIL:4586 Topics in Metaphysics** 3 s.h.  
In-depth exploration of metaphysical problems: material constitution, persistence of objects and persons through time, problem of universals, mind-body problem, free will and determinism.
- PHIL:4587 Epistemology** 3 s.h.  
Theories of nature, structure, and extent of knowledge and rational belief; investigation of questions: Do we really know as much as we are inclined to think we do? Can we rule out the possibility that we are dreaming or being systematically deceived right now? And if we can't, what reason do we have for thinking that things are as they seem to us to be?
- PHIL:4588 Philosophy of Mind** 3 s.h.  
Foundational questions about the mind: What is the mind, and how is it related to the brain? What makes minds so special? How do we know if other animals, or even other people, have minds? Can things without brains, such as aliens or computers, think? What is consciousness? Are we mere machines, lacking free will, if neuroscientists can explain the mind?; recent research in related sciences including neuroscience, psychology, cognitive ethology (animal cognition).
- PHIL:4589 Philosophy of Language** 3 s.h.  
Main issues in contemporary philosophy of language; topics may include theories of meaning, truth, belief, interpretation, translation, speech acts, performatives, rule following, reference, naming, propositional attitudes, metaphor. Same as LING:4589.
- PHIL:4590 Foundations of Cognitive Science** 3 s.h.  
Cognitive science defined as the study of individual agency; its nature, mechanisms, and patterns; development of cognitive science from historical roots in psychology, computer science, neuroscience, philosophy, linguistics; key issues; motivations for and varieties of cognitive explanations; models of cognitive architecture; nature of information processing; relation between cognitive processes and experimental tasks; relation between cognitive and neural theories, models, explanations.
- PHIL:4691 Mathematical Logic** 3 s.h.  
Presentation of logic as the science that studies kinds of structure; different axiom systems, decidability, model theoretic semantics, Gödel's incompleteness theorems; topics include nature of logic, mathematics, type-theories, set-theoretical paradoxes.
- PHIL:4692 Modal Logic** 3 s.h.  
Presentation of systems of logic designed to capture concepts of necessity and possibility; different axiom systems, semantics, nonexistent objects; topics include nonclassical systems, nature of possible worlds, relevant entailment, transworld identity, and counterparts inhabiting parallel worlds.
- PHIL:4694 Philosophy of Science** 3 s.h.  
Issues in the nature of science and scientific knowledge considered in greater depth; nature of causation, kinds of relations that might hold between sciences and scientific theories, and varieties of explanation. Requirements: prior coursework in philosophy.
- PHIL:4798 Topics in Philosophy** 3 s.h.  
A single philosopher or philosophical problem.
- PHIL:4920 Research Practicum** 2-3 s.h.  
Collaborative research between student and faculty member.
- PHIL:5153 Aristotle: Seminar Discussion** 1 s.h.  
Introduction to metaphysics, epistemology, and moral theory of Aristotle; topics may include Aristotle's theories of matter and form, causation, motion, change, space, void, time; Aristotle's philosophy of biology and theory of the soul; unity of virtue, nature of action and choice; the syllogism; combines survey with close reading and interpretation of specific texts; seminar discussion for graduate students. Corequisites: PHIL:4153.
- PHIL:5266 Kant: Seminar Discussion** 1 s.h.  
Main ideas and major texts of Kant's metaphysics and epistemology; particular attention given to *Critique of Pure Reason*; seminar discussion for graduate students. Corequisites: PHIL:4266.
- PHIL:5377 Wittgenstein: Seminar Discussion** 1 s.h.  
Main ideas and major texts of Ludwig Wittgenstein; early and later periods; particular attention given to *Tractatus Logico-Philosophicus*, *Philosophical Investigations*, and development of Wittgenstein's thought; seminar discussion for graduate students. Corequisites: PHIL:4377.

**PHIL:5480 Analytic Ethics: Seminar Discussion 1 s.h.**

Exploration of central meta-ethical questions: Are there objective values, and if there are, can we gain knowledge of what has such value? Should we always act so as to bring about the best consequences? If not, why not? Can we derive moral conclusions from scientifically established facts about the world? If not, does this undermine the idea that we can offer sensible arguments for ethical conclusions?; seminar discussion for graduate students. Corequisites: PHIL:4480.

**PHIL:5586 Topics in Metaphysics: Seminar Discussion 1 s.h.**

In-depth exploration of metaphysical problems: material constitution, persistence of objects and persons through time, problem of universals, mind-body problem, free will and determinism; seminar discussion for graduate students. Corequisites: PHIL:4586.

**PHIL:5588 Philosophy of Mind: Seminar Discussion 1 s.h.**

Foundational questions about the mind: What is the mind, and how is it related to the brain? What makes minds so special? How do we know if other animals, or even other people, have minds? Can things without brains, such as aliens or computers, think? What is consciousness? Are we mere machines, lacking free will, if neuroscientists can explain the mind?; recent research in related sciences including neuroscience, psychology, and cognitive ethology (animal cognition); seminar discussion for graduate students. Corequisites: PHIL:4588.

**PHIL:6100 Seminar: Ancient Philosophy 3 s.h.****PHIL:6200 Seminar: Modern Philosophy 3 s.h.****PHIL:6300 Seminar: Philosophical Analysis 3 s.h.****PHIL:6400 Seminar: Ethics 3 s.h.****PHIL:6510 Seminar: Metaphysics 3 s.h.****PHIL:6520 Seminar: Epistemology 3 s.h.****PHIL:6620 Seminar: Philosophy of Science 3 s.h.****PHIL:6920 Philosophy Colloquium 1-3 s.h.**

Attendance and participation at departmental colloquia and precolloquium meetings; lunch with visiting speakers; weekly meetings to discuss background to topic and larger issues of professionalization.

**PHIL:7200 Research: History of Philosophy arr.****PHIL:7400 Research: Value Theory arr.****PHIL:7500 Research: Metaphysics and Epistemology arr.****PHIL:7600 Research: Logic and Philosophy of Science arr.****PHIL:7900 Thesis arr.**

## Philosophy, B.A.

Undergraduate courses in philosophy are designed to impart knowledge of fundamental issues and main developments in philosophy while strengthening logical and analytic skills.

The department sponsors an active Philosophy Club that hosts informal discussion meetings, movie nights, outreach events, departmental public lectures and colloquia, and other activities. The department also offers a service-learning course, PHIL:3920 Philosophy in Public.

### Learning Outcomes

The goals of philosophical training are:

- to think critically and make well-grounded arguments, both orally and in written work;
- to understand key philosophical problems and major traditions;
- to learn variegated approaches to solving problems;
- to detect problems and puzzles that are not readily apparent;
- to develop critical listening;
- to learn a step-by-step approach to the mastery of public speaking; and
- to read and interpret all forms of text—news reports, books, film, television, etc.

### Department of Philosophy Initiatives

- Applying philosophical concepts to everyday affairs.
- Creating community through movie nights, the philosophy club, public lectures, optional one-hour lab sections for students to work more closely with research faculty, an undergraduate colloquium series, and the undergraduate journal—Labrynth.
- Outreach and engagement; for example, through the service-learning course, PHIL:3920 Philosophy in Public, the K-12 Iowa Lyceum Summer Philosophy Institute, and outreach with the Johnson County Senior Center.
- The philosophy undergraduate internship program.
- Prompt and helpful advising.
- Career guidance and support.
- An annual newsletter that connects students with successful alumni.

### Requirements

The Bachelor of Arts with a major in philosophy requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. A minimum of 15 s.h. for the major must be earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students should discuss the requirements for the major with an advisor as soon as possible. The advisor can suggest the most effective order for taking courses, based on each student's interests and on the relation of the course topics to each other. See Courses [p. 920] in this section of the Catalog for a complete listing of philosophy courses.

Students can only count one of these courses toward the major.

Code	Title	Hours
PHIL:3902	Workshop: Analytical Skills for the LSAT	3
PHIL:3904	Workshop: Analytical Skills for the GMAT	3
PHIL:3906	Workshop: Analytical Skills for the MCAT	3
PHIL:3908	Workshop: Analytical Skills for the GRE	3

Of the 30 s.h. of philosophy coursework (prefix PHIL) required for the major, at least two courses must be numbered 4000 or above. Only 3 s.h. of PHIL:4920 Research Practicum may be counted toward the major and toward the 4000-level course and area requirement.

The B.A. with a major in philosophy requires the following coursework.

Code	Title	Hours
Value Theory Courses		6
Metaphysics/Epistemology Courses		6
Ancient Philosophy Course		3
Modern Philosophy Course		3
Introductory Logic Course		3
Philosophy Electives		9
<b>Total Hours</b>		<b>30</b>

### 1000-Level Course Options

Only 6 s.h. of the total hours required for the major can be taken in coursework numbered at the 1000 level (see the list below for options).

Code	Title	Hours
May take two courses from these:		
PHIL:1033	The Meaning of Life	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:1636	Principles of Reasoning: Argument and Debate	3
PHIL:1861	Introduction to Philosophy	3

### Value Theory

Code	Title	Hours
Must take at least two of these:		
PHIL:2402	Introduction to Ethics	3
PHIL:2415	Bioethics	3
PHIL:2422	Feminist Ethics	3
PHIL:2425	Sex, Marriage, Friendship, and the Law	3
PHIL:2429	War, Terrorism, and Torture	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PHIL:2436	The Nature of Evil	3
PHIL:3342	Multiculturalism and Toleration	3
PHIL:3430	Philosophy of Human Rights	3
PHIL:3431	Aesthetics	3

PHIL:3510	Neuroethics	3
PHIL:3845	Buddhist Philosophy	3
PHIL:4375	Rawls's Political Philosophy	3
PHIL:4480	Analytic Ethics	3
PHIL:4481	Issues in Philosophy of Law	3
PHIL:4482	Early Modern Ethics	3
PHIL:4485	Political Philosophy	3

These may be taken with permission of the instructor if content is applicable:

PHIL:2352	Chinese Philosophy	3
PHIL:3847	Philosophical Issues	3
PHIL:4152	Plato	3
PHIL:4153	Aristotle	3
PHIL:4798	Topics in Philosophy	3
PHIL:4920	Research Practicum	3
PHIL:6100	Seminar: Ancient Philosophy	3
PHIL:6200	Seminar: Modern Philosophy	3
PHIL:6300	Seminar: Philosophical Analysis	3
PHIL:6400	Seminar: Ethics	3

## Metaphysics/Epistemology

Code	Title	Hours
Must take at least two of these:		
PHIL:2343	Philosophy East and West	3
PHIL:2437	Introduction to Metaphysics	3
PHIL:2442	Knowledge and the Threat of Skepticism	3
PHIL:2480	Language and Its Social Roles	3
PHIL:2534	Philosophy of Religion	3
PHIL:2538	Minds and Machines	3
PHIL:2542	Minds and Brains	3
PHIL:3002	Stoics and Epicureans, or How to Live Like a Roman Sage	3
PHIL:3112	Medieval Philosophy	3
PHIL:3143	Existentialism	3
PHIL:3318	Twentieth-Century Philosophy	3
PHIL:3604	Introduction to Philosophy of Science	3
PHIL:4050	Topics in Buddhist Philosophy	3
PHIL:4258	Descartes	3
PHIL:4260	Spinoza and Leibniz	3
PHIL:4266	Kant	3
PHIL:4346	Frege and Russell	3
PHIL:4373	Heidegger	3
PHIL:4377	Wittgenstein	3
PHIL:4379	Quine	3
PHIL:4586	Topics in Metaphysics	3
PHIL:4587	Epistemology	3
PHIL:4588	Philosophy of Mind	3
PHIL:4589	Philosophy of Language	3
PHIL:4590	Foundations of Cognitive Science	3
PHIL:4694	Philosophy of Science	3

These may be taken with permission of the instructor if content is applicable:

PHIL:2352	Chinese Philosophy	3
PHIL:3847	Philosophical Issues	3
PHIL:4152	Plato	3
PHIL:4153	Aristotle	3
PHIL:4798	Topics in Philosophy	3
PHIL:4920	Research Practicum	3
PHIL:6100	Seminar: Ancient Philosophy	3
PHIL:6200	Seminar: Modern Philosophy	3
PHIL:6300	Seminar: Philosophical Analysis	3
PHIL:6510	Seminar: Metaphysics	3
PHIL:6520	Seminar: Epistemology	3
PHIL:6620	Seminar: Philosophy of Science	3

## Ancient Philosophy

Code	Title	Hours
This course:		
PHIL:2111	Ancient Philosophy	3

## Modern Philosophy

Code	Title	Hours
At least one of these:		
PHIL:2214	Seventeenth-Century Philosophy	3
PHIL:2215	Modern Philosophy	3
PHIL:2216	Eighteenth-Century Philosophy	3

## Introductory Logic

Code	Title	Hours
This course:		
PHIL:2603	Introduction to Symbolic Logic	3

## Combined Programs

### B.A./J.D.

The Department of Philosophy participates in the 3+3 program with the College of Law which allows students the opportunity to apply for admission during their junior year to the College of Law, and if accepted, to begin work on the Juris Doctor degree during their fourth year of study in the B.A. degree program.

For more information, see the 3+3 Program for Undergraduates on the College of Law website and the Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

## Honors

### Honors in the Major

Students majoring in philosophy have the opportunity to graduate with honors in the major. In order to be admitted to the departmental honors program, a student must have taken and passed three courses required for the philosophy major. To graduate with honors in the major, students must complete the requirements for the major with a g.p.a. of

at least 3.40 in philosophy coursework and a University of Iowa cumulative g.p.a. of at least 3.33. In addition, they must write an acceptable honors thesis on a significant topic in philosophy of interest to them; students must enroll in PHIL:4920 Research Practicum while working on their honors thesis. Contact the department's director of undergraduate studies for more information.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the philosophy major.

### Career Advancement

Philosophy graduates have a variety of career options. Many continue their education by studying law or pursuing graduate work in philosophy or other disciplines. Philosophy graduates also enter into such fields as business, medicine, scientific research, government, consulting, journalism, and K-12 education, among others. The Department has a philosophy undergraduate career consultant to help students with résumé writing, career exploration, interview skills, and preparing for the University of Iowa job and internship fair.

Undergraduates are encouraged to enroll in PHIL:3920 Philosophy in Public at least one time before graduating in order to get a head start on their career trajectory. Students who intend to teach philosophy in a college setting must earn a graduate degree.

Philosophy majors earn among the very highest scores on the Law School Admission Test (LSAT), the Graduate Management Admission Test (GMAT), the Medical College Admission Test (MCAT), and the Graduate College Record Exam (GRE) General Test.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** at least one course in the major.

**Before the seventh semester begins:** at least five courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** at least six courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Philosophy, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
A minimum of 15 s.h. for the philosophy major must be earned at the University of Iowa.		
Students can only count one of these courses toward the major: PHIL:3902 Workshop: Analytical Skills for the LSAT, PHIL:3904 Workshop: Analytical Skills for the GMAT, PHIL:3906 Workshop: Analytical Skills for the MCAT, PHIL:3908 Workshop: Analytical Skills for the GRE.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PHIL:1861	Introduction to Philosophy <sup>b, c, d</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
PHIL:1636	Principles of Reasoning: Argument and Debate <sup>d, f</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Second Year</b>		
<b>Fall</b>		
PHIL:2111	Ancient Philosophy	3
PHIL:2603	Introduction to Symbolic Logic	3
GE CLAS Core: International and Global Issues <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
PHIL:2216 or PHIL:2214 or PHIL:2215	Eighteenth-Century Philosophy or Seventeenth-Century Philosophy or Modern Philosophy	3
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
Major: metaphysics/epistemology course		3

Major: value theory course	3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>h</sup>	4 - 5
Elective course <sup>g</sup>	3

**Hours 16-17**

### Spring

Major: metaphysics/epistemology course	3
Major: value theory course	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>h</sup>	4 - 5
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3

**Hours 16-17**

### Fourth Year

#### Fall

Major: upper-level course numbered 4000 or above (prefix PHIL) <sup>i, j</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3

**Hours 15**

#### Spring

Major: upper-level course numbered 4000 or above (prefix PHIL) <sup>i, j</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours 15**

**Total Hours 124-130**

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students may choose from PHIL:1033, PHIL:1034, PHIL:1401, PHIL:1636, or PHIL:1861. A student is not required to take any 1000-level courses for the major, but a 1000-level course often serves as an important introduction to help a student determine which particular topics they might want to pursue at a more advanced level.
- c PHIL:1861 fulfills a GE requirement. This course may also count as credit toward the major.
- d Students may include no more than 6 s.h. of 1000-level PHIL courses toward the major.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f PHIL:1636 is recommended for the GE CLAS Core Quantitative or Formal Reasoning requirement. It is not a major requirement.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

h Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

i Only 3 s.h. of PHIL:4920 Research Practicum may be counted toward the major and toward the 4000-level course and area requirement.

j Students complete 30 s.h. of philosophy courses (prefix PHIL), of which at least two courses must be numbered 4000 or above.

k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Philosophy, Minor

## Requirements

The undergraduate minor in philosophy requires a minimum of 15 s.h. in philosophy courses, including at least 9 s.h. in courses numbered 2000 or above. At least 12 s.h. for the minor must be taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

See Courses [p. 920] in this section of the Catalog for a complete listing of philosophy courses.

Students may count only one of these courses toward the minor.

<b>Code</b>	<b>Title</b>	<b>Hours</b>
PHIL:3902	Workshop: Analytical Skills for the LSAT	3
PHIL:3904	Workshop: Analytical Skills for the GMAT	3
PHIL:3906	Workshop: Analytical Skills for the MCAT	3
PHIL:3908	Workshop: Analytical Skills for the GRE	3

Contact the undergraduate studies director for more information.

# Philosophy, M.A.

## Learning Outcomes

- Breadth of knowledge: demonstrate knowledge of a wide range of areas in philosophy—metaphysics and epistemology; value theory; history of philosophy; and logic, philosophy of mathematics, and philosophy of science.
- Depth of knowledge: demonstrate advanced knowledge in at least one major subarea of philosophy.
- Scholarship and research skills: develop the skills required to conduct rigorous philosophical research, including philosophical writing and communication skills; and the ability to engage others' work.
- Professionalization and career preparation: understand the disciplinary norms and standards of research, and of professional and collegial engagement with others; and develop a portfolio and skills contributing to one's career prospects, guided by one's career goals and interests, and informed by knowledge of different possible career opportunities and trajectories.

## Requirements

The Master of Arts program in philosophy requires a minimum of 30 s.h. of graduate credit and is offered without thesis. Students must earn a program g.p.a. of at least 3.00. The M.A. is not offered as a terminal degree; it is awarded to students as they work successfully toward the Ph.D.

The M.A. with a major in philosophy requires the following coursework.

## Metaphysics and Epistemology

Code	Title	Hours
Two of these (with earned grades of B or higher):		
PHIL:4379	Quine	3
PHIL:4586	Topics in Metaphysics	3
PHIL:4587	Epistemology	3
PHIL:4588	Philosophy of Mind	3
PHIL:4589	Philosophy of Language	3
PHIL:4590	Foundations of Cognitive Science	3
PHIL:6300	Seminar: Philosophical Analysis	3
PHIL:6510	Seminar: Metaphysics	3
PHIL:6520	Seminar: Epistemology	3

## Ancient and Medieval Philosophy and Modern Philosophy

Code	Title	Hours
Two of these (with earned grades of B or higher):		
<b>Ancient and Medieval Philosophy</b>		
PHIL:4152	Plato	3
PHIL:4153	Aristotle	3
PHIL:6100	Seminar: Ancient Philosophy	3
<b>Modern Philosophy</b>		
PHIL:4260	Spinoza and Leibniz	3
PHIL:4266	Kant	3

PHIL:4377	Wittgenstein	3
PHIL:6200	Seminar: Modern Philosophy	3

## Logic, Philosophy of Science, and Philosophy of Mathematics

Code	Title	Hours
One of these (with an earned grade of B or higher):		
PHIL:4346	Frege and Russell	3
PHIL:4691	Mathematical Logic	3
PHIL:4692	Modal Logic	3
PHIL:4694	Philosophy of Science	3
PHIL:6620	Seminar: Philosophy of Science	3

## Value Theory

Code	Title	Hours
One of these (with an earned grade of B or higher):		
PHIL:4375	Rawls's Political Philosophy	3
PHIL:4480	Analytic Ethics	3
PHIL:4481	Issues in Philosophy of Law	3
PHIL:4482	Early Modern Ethics	3
PHIL:4485	Political Philosophy	3
PHIL:6400	Seminar: Ethics	3

Students may be able to apply PHIL:4798 Topics in Philosophy or a research course toward one of the requirement areas. Contact the graduate studies director for more information.

## Electives

All students must complete 12 s.h. in coursework numbered 4000 or above. They should consult the graduate studies director for approval of elective coursework.

## Final Examination

Students must pass an oral final examination that will not exceed three hours in length. They are informed of at least one of the exam questions no later than one week before their exam. Students who fail may petition the M.A. Examination Committee for a second opportunity to pass the exam. The second exam must be scheduled not sooner than three months, nor later than one year, after the date of the examination.

## Combined Programs

### M.A./J.D.

The Department of Philosophy and the College of Law offer a combined Master of Arts/Juris Doctor program. M.A./J.D. students may count 12 s.h. earned in the combined program toward both degrees. They must earn 18 of the 30 s.h. required for the M.A. in graduate-level philosophy courses (the usual requirement is 24 s.h.). They also must earn a minimum of 36 s.h. in undergraduate and graduate philosophy courses, combined (the usual requirement is 42 s.h.).

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

For more information about the J.D., see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

The graduate program is designed to train teachers and scholars in philosophy. The Department of Philosophy also is invested in helping students to use their philosophical training careers outside of academia.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Philosophy, Ph.D.

The main areas of concentration in the graduate curriculum are metaphysics, epistemology, history of philosophy, philosophy of science, social and political philosophy, logic, and value theory.

## Learning Outcomes

- Breadth of knowledge: demonstrate knowledge of a wide range of areas in philosophy—metaphysics and epistemology; value theory; history of philosophy; and logic, philosophy of mathematics, and philosophy of science.
- Depth of knowledge: demonstrate advanced knowledge in a primary area of specialization and substantial knowledge in a distinct, secondary area, to support teaching and potentially research in that area.
- Scholarship and research skills: develop specific research projects, including the central project of the dissertation; and develop the skills required to conduct research at a professional level, including philosophical writing and communication skills, the ability to engage others' work, and the ability to make substantial contributions in the field.
- Teaching skills and pedagogy: demonstrate effective teaching skills that are in line with pedagogical standards in the discipline, acquire teaching competence in a wide range of areas, and develop pedagogical tools for effective engagement with their students.
- Professionalization and career preparation: understand the disciplinary norms and standards of research, professional and collegial engagement with others, and responsibilities related to teaching; and develop a portfolio and skills contributing to one's career prospects, guided by one's career goals and interests, and informed by knowledge of different possible career opportunities and trajectories.

## Requirements

The Doctor of Philosophy program in philosophy requires a minimum of 72 s.h. of graduate credit. Graduate students must take Department of Philosophy courses (prefix PHIL) that are numbered 4000 and above. Students must earn a program g.p.a. of at least 3.00. Candidacy for the doctoral program is determined by a formal vote of the entire Department of Philosophy faculty, usually after a student has completed three semesters of graduate study in residence.

Requirements include courses in metaphysics, epistemology, history of philosophy, logic, philosophy of science, and value theory. See Courses [p. 920] in this section of the Catalog for a complete listing of philosophy courses.

Students are required to take a comprehensive examination that includes both a written dissertation prospectus and an oral defense. Upon successfully completing the exam, they begin work on their dissertation. There is no world language requirement. Contact the graduate studies director for more information.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

The graduate program is designed to train teachers and scholars in philosophy. The Department of Philosophy also is invested in helping students to use their philosophical training careers outside of academia.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Physics and Astronomy

## Chair

- Philip E. Kaaret

## Director, Undergraduate Studies

- Jane M. Nachtman

## Director, Graduate Studies

- Vincent Rodgers

## Director, Research Operations

- John P. Prineas

**Undergraduate majors:** physics (B.A., B.S.); applied physics (B.S.); astronomy (B.A., B.S.)

**Undergraduate minors:** physics; astronomy

**Graduate degrees:** M.S. in physics; M.S. in astronomy; Ph.D. in physics

**Faculty:** <https://physics.uiowa.edu/people>

**Website:** <https://physics.uiowa.edu/>

The Department of Physics and Astronomy provides comprehensive and rigorous instruction in all basic aspects of its subjects. It also provides research facilities and guidance in selected specialties for advanced individual scholarly work.

In addition to its undergraduate and graduate programs of study, the department offers several courses that undergraduate students in all majors may use to satisfy the GE CLAS Core Natural Sciences requirement. Look for courses with prefixes ASTR and PHYS under "Natural Sciences" in the GE CLAS Core [p. 20] section of the Catalog. The department often offers First-Year Seminars designed for entering undergraduates.

The department also participates in an interdisciplinary doctoral program, the Program in Applied Mathematical and Computational Sciences [p. 1699] (Graduate College).

All of the department's courses and advanced laboratories are taught by faculty members. Faculty members also supervise associated laboratories taught by graduate students. Enrollment in courses beyond the elementary level is typically 15 to 20 students; there is ample opportunity for individual work. Special introductory courses are offered for students majoring in physics and astronomy and for others with a special interest in these subjects.

Total enrollment in physics and astronomy courses is approximately 2,200 each semester of the academic year and 150 during the summer session. The department has around 120 undergraduate majors, half of whom are honors students, and 75 graduate students.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Physics (Bachelor of Arts) [p. 939]
- Major in Astronomy (Bachelor of Arts) [p. 942]
- Major in Physics (Bachelor of Science) [p. 945]
- Major in Applied Physics (Bachelor of Science) [p. 948]
- Major in Astronomy (Bachelor of Science) [p. 952]

#### Minors

- Minor in Physics [p. 955]
- Minor in Astronomy [p. 956]

### Graduate Programs of Study

#### Majors

- Master of Science in Physics [p. 957]
- Master of Science in Astronomy [p. 959]
- Doctor of Philosophy in Physics [p. 961]

## Facilities

The department has a number of well-equipped laboratories and observatories. Faculty, students, and staff access national supercomputers via the internet, and have access to high performance computing clusters on campus. The central machine shop is fully equipped and staffed by skilled instrument makers and machinists, and there are electronics and machine shops for use by advanced students and research staff.

Experimental research is conducted in astronomy (optical, radio, and X-ray), atomic and molecular physics, condensed matter physics, elementary particle physics, laser physics, medical physics, plasma physics, and space physics. Extensive facilities are available for construction of specialized research equipment and for data processing and analysis.

State-of-the-art semiconductor materials and devices are grown in two molecular beam epitaxy machines. Ultrafast laser techniques are developed and used to probe electron transport, energy relaxation, recombination, and spin dynamics in the novel nanostructures grown in these machines. Experiments also are conducted on laser-induced coherent phenomena and coherent control of charge carriers in semiconductor nanostructures. The experimental condensed matter program is closely coordinated with the condensed matter theory group.

Plasma physics is an active area of experimental and theoretical research. Laboratory experiments studying plasma processes of importance in various space and astrophysical plasmas are performed in a Q machine, including experiments on waves and instabilities in dusty plasmas. Additional laboratory and microgravity experiments with dusty plasmas include studies of Coulomb crystals, shocks, and complex fluids. Glow discharges for plasma processing applications are studied using laser diagnostics and numerical simulations. Wave propagation and plasma particle dynamics also are studied in collisionless plasmas through laboratory experiments. Laser techniques are developed for measuring plasma flow and following particle orbits. Plasma theory efforts include analytical and numerical investigations of magnetic reconnection and turbulence in space and astrophysical plasmas; collaboration with laboratory and space plasma experimental groups in strongly coupled dusty plasmas, waves, and instabilities; and free electron lasers and hydrodynamic turbulence.

State-of-the-art laser systems are available for high-resolution spectroscopic measurement and ultrafast studies of molecular structure, for collisional relaxation and nonlinear optical effects in atomic and molecular systems, and for plasma diagnostics.

Experimental research in elementary particle physics is carried out at Fermi National Accelerator Laboratory, Stanford

Linear Accelerator Center, CERN in Switzerland, and other international laboratories. The present generation of high-energy experiments has been designed to probe both the strong nuclear force and the weak interactions.

The department is well-equipped for research and instruction in observational astronomy. The primary optical instrument is a fully automated 15-inch telescope at a dark-sky site in Arizona. The telescope is equipped with CCD cameras and a variety of filters. There are 3-meter and 4.5-meter radio telescopes on the roof of Van Allen Hall, which are used for instruction and student research projects.

Research programs in galactic and extragalactic radio astronomy are carried out using the facilities of the National Radio Astronomy Observatory, including the Very Large Array and the Very Long Baseline Array, one element of which is 10 miles north of campus. Current long-term research activities include studies of the center of the Milky Way galaxy; investigations of extragalactic radio sources; the formation of powerful winds in young, luminous stars; radio-wave scattering in the interstellar and interplanetary media; and interacting binary stars. There is a research program in X-ray astronomy and a laboratory for instrument development. Research topics in X-ray astronomy concentrate on observations of X-ray emission from black holes and supernova remnants, using existing spacecraft.

Active theoretical research is carried on in astrophysics; atomic, molecular, and optical physics; condensed matter physics; elementary particle physics; laser physics; mathematical physics; nuclear physics; plasma physics; and space physics. An active mathematical physics seminar fosters the exchange of ideas between mathematics and physics.

The primary emphasis of Iowa's program in experimental and theoretical space physics is on studies of cosmic and heliospheric physics, magnetospheric physics, and magnetosphere-ionosphere interactions. Facilities are available for designing and constructing spaceflight instruments. Investigators in the department have flown instruments for studying plasmas, energetic charged particles, auroral images, plasma waves, and radio emissions on a wide variety of terrestrial and planetary spacecraft, including Pioneer 10 and 11, Dynamics Explorer, Voyager 1 and 2, Galileo, Polar, Cassini, and Mars Express.

## Courses

- Physics Courses [p. 934]
- Astronomy Courses [p. 937]

## Physics Courses

**PHYS:1000 First-Year Seminar** **1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**PHYS:1200 Physics of Everyday Experience** **3 s.h.**  
Principles of physics; basic motion, behavior of fluids, waves, temperature and heat, gravity and planetary motion, electricity and magnetism, optics, nuclear energy, radioactivity, and medical imaging technology; examples from everyday experience; for non-science majors. GE: Natural Sciences without Lab.

**PHYS:1400 Basic Physics** **3-4 s.h.**  
Quantitative treatment of mechanics, electricity, heat, liquids, gases, and atomic, nuclear, and elementary particle physics. Requirements: must have completed high school trigonometry or achieved a minimum ALEKS score of 75%. GE: Natural Sciences with Lab; Natural Sciences without Lab.

**PHYS:1409 Basic Physics Lab** **1 s.h.**  
Laboratory for PHYS:1400. Corequisites: PHYS:1400 (if not taken as a prerequisite). GE: Natural Sciences Lab only.

**PHYS:1410 Physics of Sound** **3-4 s.h.**  
Acoustical foundations of music; production of sound by vibrating objects, properties of sound waves, vocal acoustics, hearing, room acoustics, principles of electroacoustics. GE: Natural Sciences with Lab; Natural Sciences without Lab.

**PHYS:1511 College Physics I** **4 s.h.**  
Algebra-based treatment of mechanics, waves, thermodynamics, and special relativity. Requirements: must have completed high school trigonometry or achieved a minimum ALEKS score of 75%. GE: Natural Sciences with Lab.

**PHYS:1512 College Physics II** **4 s.h.**  
Continuation of PHYS:1511; algebra-based treatment of electricity, magnetism, light, and modern physics. Prerequisites: PHYS:1611 or PHYS:1511. GE: Natural Sciences with Lab.

**PHYS:1611 Introductory Physics I** **4 s.h.**  
Calculus-based treatment of mechanics, waves, and thermodynamics. Corequisites: MATH:1550 or MATH:1850. GE: Natural Sciences with Lab.

**PHYS:1612 Introductory Physics II** **3-4 s.h.**  
Continuation of PHYS:1611; calculus-based treatment of electricity, magnetism, and light. Prerequisites: PHYS:1611. Corequisites: MATH:1560 or MATH:1860. GE: Natural Sciences with Lab; Natural Sciences without Lab.

**PHYS:1619 Introductory Physics II Lab** **1 s.h.**  
Laboratory for PHYS:1612. Requirements: 3 s.h. in PHYS:1612. GE: Natural Sciences Lab only.

**PHYS:1701 Physics I** **4 s.h.**  
Introduction to physics; calculus-based treatment of Newtonian mechanics for point particles and rigid bodies; conservation laws. Offered fall semesters. Corequisites: MATH:1850. Requirements: physics or astronomy major. GE: Natural Sciences with Lab.

**PHYS:1702 Physics II** **4 s.h.**  
Continuation of PHYS:1701; introduction to fluid mechanics, electricity, magnetism (Maxwell's equations). Offered spring semesters. Prerequisites: PHYS:1701. Corequisites: MATH:1860. Requirements: physics or astronomy major. GE: Natural Sciences with Lab.

**PHYS:1999 Undergraduate Seminar** **arr.**  
Selected topics in physics and astronomy; discussion, presentations.

**PHYS:2703 Physics III** **4 s.h.**  
Continuation of PHYS:1702; introduction to physics; calculus-based treatment of electromagnetic waves and optics; mechanical and sound waves; thermal physics. Offered fall semesters. Prerequisites: PHYS:1702.

**PHYS:2704 Physics IV** **3-4 s.h.**  
Introduction to quantum mechanics and other topics in modern physics, including special relativity, atomic and solid state physics. Offered spring semesters. Prerequisites: (PHYS:1612 or PHYS:2703) and (MATH:1860 or MATH:1550). Requirements: for 3 s.h. option—nonmajor.

- PHYS:2905 Programming for Physics** 2 s.h.  
Introduction to scientific programming for applications in physics.
- PHYS:2990 Reading in Physics** arr.  
Selected topics in physics.
- PHYS:3500 Undergraduate Practicum** arr.  
Experiences that provide special opportunities for students to gain practical and hands-on training related to topics in physics; practicums typically arranged by individual faculty members. Requirements: application and acceptance into practicum.
- PHYS:3710 Intermediate Mechanics** 3 s.h.  
Introduction to Newtonian mechanics; noninertial reference systems; central forces, celestial mechanics; rigid body motion; Lagrangian and Hamiltonian equations of motion; small oscillations. Prerequisites: (PHYS:1611 or PHYS:1511 or PHYS:1701) and (MATH:1860 or MATH:1560).
- PHYS:3730 Statistical Physics** 3 s.h.  
Integrated introduction to subjects of thermodynamics, statistical mechanics, classical and quantum statistics of interacting particles; kinetic theory; emphasis on applications. Prerequisites: PHYS:2704.
- PHYS:3741 Introduction to Quantum Mechanics I** 3 s.h.  
Superposition principle, Stern-Gerlach experiment, linear operators, measurement theory, time evolution, angular momentum, wave mechanics in one dimension, one-dimensional harmonic oscillator, two-body problems with central forces, and the hydrogen atom. Prerequisites: MATH:2850 and PHYS:2704 and MATH:2700.
- PHYS:3742 Introduction to Quantum Mechanics II** 3 s.h.  
Continuation of PHYS:3741; Perturbation theory, variational methods, WKB approximation, scattering, Helium atom, periodic table, atomic spectroscopy, transition rates, and other selected applications. Prerequisites: PHYS:3741.
- PHYS:3750 Fundamentals of Micro and Nanofabrication** 3 s.h.  
Fundamentals of micro and nanofabrication processes; physical principles of photo and electron beam lithography, alternative nanolithography techniques, thin film deposition, molecular beam epitaxy, atomic layer deposition, self-assembly; metrology methods; physical and chemical processes of wet and plasma etching; clean room science, operations, safety protocols; sequential micro and nanofabrication processes involved in manufacture of semiconductor, photonic, nanoscale devices; imaging and characterization of micro and nanostructures; scientific and technological applications of emerging micro and nanodevices and systems. Prerequisites: BIOL:1141 or CHEM:1120 or PHYS:1612 or CHEM:1110 or CHEM:1060 or PHYS:1702 or PHYS:1611. Requirements: undergraduate lab course in chemistry, biology, physics, or engineering.
- PHYS:3756 Intermediate Laboratory** 3 s.h.  
Introduction to instruments and techniques of experimental physics and basic skills needed for carrying out experimental physics research; hands-on use of a variety of instruments and equipment. Prerequisites: PHYS:2704. Corequisites: PHYS:3811.
- PHYS:3811 Electricity and Magnetism I** 3 s.h.  
Introduction to electricity and magnetism; topics include electrostatics, magnetostatics, potential theory, and electric and magnetic fields in matter. Prerequisites: (MATH:3550 or MATH:2850) and (PHYS:1612 or PHYS:1702 or PHYS:1512).
- PHYS:3812 Electricity and Magnetism II** 3 s.h.  
Continuation of PHYS:3811; introduction to electricity and magnetism; topics include Maxwell's equations, electrodynamics, electromagnetic waves, radiation, and special relativity. Prerequisites: PHYS:3811.
- PHYS:3850 Electronics** 4 s.h.  
Design and construction of small circuits; use of measurement instruments—oscilloscope, multimeter, function generator; circuits, including transistors, operational amplifiers, digital, analog-to-digital conversion. Prerequisites: PHYS:1512 or PHYS:1612 or PHYS:1702. Requirements: physics or astronomy major.
- PHYS:4720 Introductory Optics** 3 s.h.  
Wave motion and superposition, electromagnetic theory, photons, propagation of light, geometrical and physical optics, interference, diffraction, polarization, and Fourier optics; optical components, devices, and systems. Prerequisites: (PHYS:1512 or PHYS:2703 or PHYS:1612) and (MATH:1560 or MATH:1860). Same as ECE:4720.
- PHYS:4726 Electro Optics** 3 s.h.  
Wave equation solutions; optical birefringence; finite beam propagation in free space, dielectric waveguides and fibers; optical resonators; nonlinear phenomena; electro-optic, acousto-optic modulation; optical detection, noise; application to communication systems. Requirements: for ECE:5790—ECE:3700; for PHYS:4726—PHYS:3812. Same as ECE:5790.
- PHYS:4728 Introductory Solid State Physics** 3 s.h.  
Phenomena associated with solid state; classification of solids and crystal structures, electronic and vibrational properties in solids; thermal, optical, magnetic, dielectric properties of solids. Prerequisites: PHYS:3741. Same as ECE:4728.
- PHYS:4731 Plasma Physics I** 3 s.h.  
Physics of ionized gases, including orbit theory, guiding center motion, adiabatic invariants, ionization balance description of plasmas by fluid variables and distribution functions; linearized wave motions, instabilities; magnetohydrodynamics. Prerequisites: PHYS:3812.
- PHYS:4740 Elementary Particles and Nuclear Physics** 3 s.h.  
Accelerators, particle detectors, passage of radiation through matter; nuclear structure, nuclear reactions; quark model of hadrons; strong, electromagnetic, weak interactions of elementary particles; gauge theories, intermediate vector bosons; unification of electromagnetic and weak interactions. Prerequisites: PHYS:3741.
- PHYS:4750 Advanced Laboratory** 3 s.h.  
Advanced experimental work and development of new experiments. Prerequisites: PHYS:3756.
- PHYS:4761 Mathematical Methods of Physics I** 3 s.h.  
Functions of complex variables, integration methods, linear vector spaces, tensors, matrix algebra. Prerequisites: MATH:2850.
- PHYS:4762 Mathematical Methods of Physics II** 3 s.h.  
Continuation of PHYS:4761; Hilbert space, special functions, Fourier transform and expansions in orthogonal polynomials, differential equations, Green's functions. Prerequisites: PHYS:4761.

- PHYS:4820 Optical Signal Processing** 3 s.h.  
Linear systems description of optical propagation; diffraction and angular plane wave spectrum; lenses as Fourier transformers, lens configurations as generalized optical processors; lasers, coherence, spatial frequency analysis; holography; convolvers, correlators, matched filters; synthetic aperture radar; optical computing. Requirements: for ECE:5780—ECE:3700; for PHYS:4820—PHYS:3812. Same as ECE:5780.
- PHYS:4860 Computational Physics** 3 s.h.  
Introduction to contemporary use of computers by physicists; topics such as numerical solutions of ordinary differential equations in classical mechanics, boundary value problems in electricity and magnetism, eigenvalue problems in quantum mechanics, Monte Carlo simulations in statistical mechanics, methods of data analysis. Prerequisites: PHYS:3741 and PHYS:3811 and PHYS:3710.
- PHYS:4905 Special Topics in Physics** arr.  
Introduction to scientific programming using the Python language and linear algebra for applications in physics.
- PHYS:4990 Reading in Physics** arr.  
Selected topics in physics.
- PHYS:4999 Undergraduate Research** arr.  
Supervised research leading to written report or oral presentation.
- PHYS:5000 Workshops and Special Training in Physics** arr.  
Workshops and special training opportunities for postbaccalaureate students; may include collaborations with other departments, institutions, or externally funded research organizations.
- PHYS:5710 Classical Mechanics** 3 s.h.  
Dynamics of mass points; Lagrange multipliers, small oscillations, Hamilton's equations; canonical transformations, Hamilton-Jacobi theory; chaos. Prerequisites: PHYS:3710.
- PHYS:5730 Statistical Mechanics I** 3 s.h.  
Probability concepts; kinetic equations; classical and quantum equilibrium statistical mechanics with applications, including ideal and imperfect gases and phase transitions, irreversible processes, fluctuation-dissipation theorems. Prerequisites: PHYS:3730 and PHYS:3741.
- PHYS:5741 Quantum Mechanics I** 3 s.h.  
Nonrelativistic quantum mechanics, Schrödinger wave mechanics, Hilbert space methods, perturbation theory, scattering, spin and angular momentum, identical particles, selected applications, introduction to relativistic theory. Prerequisites: PHYS:3741 and PHYS:3742.
- PHYS:5742 Quantum Mechanics II** 3 s.h.  
Continuation of PHYS:5741. Prerequisites: PHYS:5741.
- PHYS:5811 Classical Electrodynamics I** 3 s.h.  
Advanced electrostatics, boundary value problems, Green's functions, Maxwell's equations, radiation theory, physical optics, multipole expansion of radiation field.
- PHYS:5812 Classical Electrodynamics II** 3 s.h.  
Special relativity, motion of charges in fields, theories of radiation reaction, special topics. Prerequisites: PHYS:5811.
- PHYS:5905 Special Topics in Physics** 3 s.h.  
Selected topics in physics.
- PHYS:6723 Advanced Optics** 3 s.h.  
Classical theory of absorption and emission; laser theory, threshold, rate equations, saturation, spectral and spatial hole burning; resonators and Gaussian beam optics; dispersion and light scattering; nonlinear optics, three- and four-wave mixing, harmonic generation, parametric amplification, and stimulated scattering. Prerequisites: PHYS:3812.
- PHYS:7270 Ethics in Physics for Graduate Students** arr.  
Responsible conduct and ethics training.
- PHYS:7604 Ethics in Physics for Postdocs** 0 s.h.  
Responsible conduct and ethics training.
- PHYS:7720 Semiconductor Physics** 3 s.h.  
Electronic, optical, and materials properties of semiconductors. Prerequisites: PHYS:4728 and PHYS:5742. Same as ECE:7720.
- PHYS:7722 Advanced Condensed Matter** 3 s.h.  
Elementary excitations, plasmonics, exchange/magnetism, hyperfine interactions, resonance, superconductivity, topological materials. Prerequisites: PHYS:7720.
- PHYS:7729 Plasma Physics II** 3 s.h.  
Continuation of PHYS:4731; cold plasma waves, MHD stability, kinetic theory of plasmas, including Landau damping and velocity space instabilities; nonlinear evolution. Prerequisites: PHYS:4731.
- PHYS:7730 Advanced Plasma Physics I** 3 s.h.  
Microscopic plasma behavior: statistical mechanics of plasmas; Liouville equation; BBGKY hierarchy; Fokker-Planck equation and relaxation processes; Balescu-Lenard equation; Vlasov equation and linearized wave motion; shocks, nonlinear plasma motions, and instabilities; fluctuations and radiation processes; topics from recent literature.
- PHYS:7740 Introduction to Quantum Field Theory** 3 s.h.  
Quantization of relativistic and nonrelativistic field theories, covariant perturbation theory, theory of renormalization, dimensional regularization, renormalization group theory, introduction to gauge theories and anomalies. Prerequisites: PHYS:5742.
- PHYS:7746 Particle Physics** 3 s.h.  
Elementary particle properties and phenomenology, quark-parton models, quantum chromodynamics, unified theory of weak and electromagnetic interactions.
- PHYS:7760 General Relativity** 2-3 s.h.  
Einstein's theory of gravitation; principles of general relativity.
- PHYS:7761 Cosmology** 3 s.h.  
Einstein's theory of general relativity radically changed the way we understand the cosmos by providing a mathematical description of space-time itself—this is cosmology; the last three decades have shown remarkable evidence that cosmology is an experimentally testable theory; students explore mathematical underpinnings of cosmology by studying the early universe, the cosmic microwave background, inflation, big bang nucleosynthesis, neutrino physics, quantum field theory effects on space-time, and other issues. Prerequisites: PHYS:7760.
- PHYS:7840 Quantum Gauge Theories** 3 s.h.  
Gauge invariance, introductory group theory, Yang-Mills theories, electroweak theory, quantum chromodynamics, running coupling constants, operator product expansions, Ward identities, spontaneous symmetry breaking, chiral anomalies, instantons, monopoles, effective Lagrangians, supersymmetry, quantum gravity, introduction to string theory. Prerequisites: PHYS:7740.
- PHYS:7905 Special Topics in Physics** arr.



**PHYS:7920 Seminar: Condensed Matter Physics** arr.  
Current research.

**PHYS:7930 Seminar: Plasma Physics** arr.  
Current research. Same as ECE:7930.

**PHYS:7936 Seminar: Space Physics** arr.  
Current research.

**PHYS:7945 Seminar: Math/Physics** arr.  
Current research.

**PHYS:7946 Seminar: Nuclear and Particle Physics** arr.  
Current research.

**PHYS:7990 Research: Physics** arr.

**PHYS:7992 Individual Critical Study** arr.  
Essay on topic chosen in consultation with faculty member.  
Requirements: candidacy for M.S. with critical essay.

## Astronomy Courses

**ASTR:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**ASTR:1060 Big Ideas: Origins of the Universe, Earth, and Life** 3 s.h.  
Origin of the universe, the biochemistry of life, and the origin of life on Earth; for non-science majors. Recommendations: first-year or sophomore standing. GE: Natural Sciences without Lab. Same as BIOL:1060, EES:1060.

**ASTR:1070 Stars, Galaxies, and the Universe** 3-4 s.h.  
Students survey topics including the Sun; life cycles of stars including black holes and pulsars; diversity of galaxies including the Milky Way and distant quasars; cosmology—the history, structure, and fate of the universe; current results from recent astronomical observations; for non-science majors. Recommendations: closed to physics and astronomy majors. GE: Natural Sciences with Lab; Natural Sciences without Lab.

**ASTR:1079 Introductory Astronomy Laboratory** 1 s.h.  
Laboratory for ASTR:1070. GE: Natural Sciences Lab only.

**ASTR:1080 Exploration of the Solar System** 3-4 s.h.  
Survey of the solar system; topics include physical properties of the planets, comets, and asteroids; origin of the solar system; search for extrasolar planetary systems; search for life in the universe; current results of recent planetary space missions; night sky observation; for non-science majors. Recommendations: closed to physics and astronomy majors. GE: Natural Sciences with Lab; Natural Sciences without Lab.

**ASTR:1085 Citizen Astronomy** 3 s.h.  
Survey of topics in astronomy and astrophysics; topics include the Solar System and exoplanets, nearby stars in the Galaxy, distant galaxies and unseen black holes; focus on citizen science projects that allow students to examine real data; for non-science majors. GE: Natural Sciences without Lab.

**ASTR:1091 Life in the Universe** 3 s.h.  
Are we alone? Scientific foundations of this question, technology behind searches for extraterrestrial life in the solar system and on extrasolar planets; evolution of life on Earth, likelihood that such conditions exist elsewhere in the universe; cultural consequences of discovering extraterrestrial life. GE: Natural Sciences without Lab.

**ASTR:1771 Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy** 4 s.h.

Quantitative introduction to physical principles needed to understand astronomical phenomena (e.g., laws of motion, gravitation, radiation), astronomical instrumentation, properties structure, and evolution of solar system bodies, exoplanets, and the search for life. Requirements: four years of high school math. GE: Natural Sciences with Lab.

**ASTR:1772 Introductory Astronomy II: Stellar, Galactic, and Extragalactic Astronomy** 4 s.h.

Continuation of ASTR:1771; quantitative introduction to stellar, Galactic, and extragalactic astronomy; topics include the Sun, stellar evolution, stellar corpses such as neutron stars and black holes, the Milky Way galaxy, the interstellar medium, galaxies, cosmology, and fate of the universe. Requirements: four years of high school math. GE: Natural Sciences with Lab.

**ASTR:2991 Reading in Astronomy** arr.  
Selected topics in astronomy.

**ASTR:3500 Undergraduate Practicum** arr.  
Undergraduate practicum experiences that provide special opportunities for students to gain practical and hands-on training related to topics in astronomy; practicums typically arranged by individual faculty members. Requirements: application and acceptance into practicum.

**ASTR:3771 Introduction to Astrophysics I** 3 s.h.  
Topics include celestial mechanics, radiative transfer, stellar structure and evolution, and star formation; first in a two-semester sequence. Prerequisites: PHYS:2704 and ASTR:1772 and ASTR:1771 and (MATH:2850 or MATH:3550) and (MATH:2700 or MATH:2550). Recommendations: computer programming experience.

**ASTR:3772 Introduction to Astrophysics II** 3 s.h.  
Continuation of ASTR:3771; topics include post-main-sequence stellar evolution, stellar remnants, close binary stars, the Milky Way and other galaxies, active galactic nuclei, galaxy evolution, and cosmology; second in a two-semester sequence. Prerequisites: ASTR:3771.

**ASTR:4770 Radio Astronomy** 3 s.h.  
Survey of radio astronomy, emphasizing technical aspects; radiation, antennas, receivers, radio spectroscopy, interferometer arrays and aperture synthesis; emission mechanisms, pulsars, supernova remnants, radio galaxies.

**ASTR:4850 Astronomical Laboratory** 3 s.h.  
Introduction to instruments of optical (and sometimes multi-wavelength) astronomy and basic skills needed for carrying out observational astronomical research; hands-on use of observing equipment; nighttime observing sessions. Prerequisites: PHYS:2704 and ASTR:1772 and ASTR:1771.

**ASTR:4996 Reading in Astronomy** arr.

**ASTR:6782 Extragalactic Astronomy** 3 s.h.  
Normal and active galaxies, large scale structure, the early Universe, cosmology.

**ASTR:6785 The Interstellar Medium** 3 s.h.  
The interstellar medium; optical properties of small interstellar grains, radiative processes in interstellar gas, structure of HII regions, interstellar shock waves, supernova remnants, modification of interstellar medium by luminous stars, molecular clouds.

**ASTR:6790 Stellar Astrophysics** 3 s.h.  
Stellar interiors, nuclear astrophysics; advanced topics.

**ASTR:6870 Radiative Processes in Astrophysics 3 s.h.**

Physics of stars including interiors, spectra, nuclear processes, plasma hydrodynamics, and the extreme physics of condensed final states.

**ASTR:6880 High Energy Astrophysics 3 s.h.**

Detection of X-rays and gamma-rays, black holes and neutron stars, accretion onto compact objects, pulsars, supernova remnants, cosmic rays, and gamma-ray bursts.

**ASTR:7775 Special Topics in Astrophysics 1-3 s.h.**

Advanced lectures.

**ASTR:7830 Space and Astrophysical Plasma Physics 3 s.h.**

Dynamics and evolution of space and astrophysical plasmas; heliosphere, planetary magnetospheres, accretion disks; plasma waves, shock waves, turbulence.

**ASTR:7970 Seminar: Astrophysics and Space Physics arr.**

Current research.

**ASTR:7991 Research: Astronomy arr.**

Original research in observational, theoretical astronomy.

# Physics, B.A.

## Learning Outcomes

Physics majors will be able to:

- demonstrate competency in applying the basic laws of physics in classical and quantum mechanics, electromagnetism, thermodynamics, and statistical physics;
- solve complex, real-world problems using the principles of physics; and
- demonstrate competency in using basic instrumentation and in analyzing the data obtained.

## Requirements

The Bachelor of Arts with a major in physics requires a minimum of 120 s.h., including at least 44 s.h. of work for the major (minimum of 24 s.h. in physics plus 20 s.h. in supporting coursework). The B.A. program requires fewer physics courses than the B.S. program does, giving students a wider choice of electives. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major is designed for students who wish to build a foundation of knowledge in physics but do not plan a research-oriented career in the discipline. The B.A. program also is good preparation for students interested in secondary school science teaching; see "Teacher Licensure" below. Bachelor of Arts students majoring in physics who are interested in science teaching and in earning a graduate degree may enroll in a combined degree program offered by the College of Liberal Arts and Sciences and the College of Education; see "B.A./M.A.T. (Science Education Subprogram)" under Combined Programs [p. 940] in this section of the Catalog.

Students who earn a B.A. in physics may not earn a B.S. in applied physics or a B.S. in physics.

The B.A. with a major in physics requires the following courses or their equivalents.

Code	Title	Hours
	Mathematics Courses	8
	Physics Courses	15-19
	Elective Physics Courses	9-10
	Supporting Coursework	12
	<b>Total Hours</b>	<b>44-49</b>

## Mathematics Courses

Code	Title	Hours
Both of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4

## Physics Courses

Code	Title	Hours
These three courses:		
PHYS:1701	Physics I	4
PHYS:1702	Physics II	4
PHYS:2703	Physics III	4

Or these two courses:

PHYS:1611	Introductory Physics I	4
PHYS:1612	Introductory Physics II	4

Both of these:

PHYS:2704	Physics IV	4
PHYS:3756	Intermediate Laboratory	3

## Elective Physics Courses

Code	Title	Hours
Three of these:		
PHYS:3710	Intermediate Mechanics	3
PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3811	Electricity and Magnetism I	3
PHYS:3850	Electronics	4
PHYS:4720	Introductory Optics	3
PHYS:4728	Introductory Solid State Physics	3
PHYS:4740	Elementary Particles and Nuclear Physics	3

## Supporting Coursework

Students should work with their academic advisor to select courses that fit with their plan of study.

Code	Title	Hours
	Coursework from one these STEM subject areas or from coursework required for teacher licensure	12
	actuarial science (prefix ACTS)	
	biochemistry and molecular biology (prefix BMB)	
	biology (prefix BIOL)	
	chemistry (prefix CHEM)	
	computer science (prefix CS)	
	earth and environmental sciences (prefix EES)	
	geography (prefix GEOG)	
	mathematics (prefix MATH), except MATH:1210	
	physics (prefix PHYS)	
	psychology (prefix PSY)	
	statistics (prefix STAT)	

In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the coursework is accepted toward requirements for the major. Students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average, but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Double Major in Physics and Astronomy

Students working toward a Bachelor of Arts with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

### Combined Programs

## B.A./M.A.T. (Science Education Subprogram)

Bachelor of Arts students in physics who are interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduates majoring in biology, chemistry, environmental sciences, or physics, the combined program enables students to earn a B.A. and M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 19 s.h. of qualifying credit toward both degrees. For more information, see Science Education B.A./M.A.T. [p. 1524] in the Master of Arts in Teaching, M.A.T. (College of Education) section of the Catalog. Interested students should consult an advisor.

### Honors

## Honors in the Major

Students majoring in physics have the opportunity to graduate with honors in their major. They must maintain a University of Iowa g.p.a. of at least 3.33. Students must earn 6-8 s.h. in PHYS:4999 Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. They must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the physics major.

### Career Advancement

Physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work

in research, engineering, software development, teaching, finance, biomedical research, or consulting.

The degree leads to careers in medicine, law, science-related administration, business, or technical writing. It also is good preparation for students interested in secondary school science teaching.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** calculus II and physics II.

**Before the fifth semester begins:** physics III-IV and up to four more courses in the major.

**Before the seventh semester begins:** two to four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two or three more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Physics, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Research: students are strongly encouraged to be active participants in research within the department.		
GE CLAS Core: Sustainability <sup>a</sup>		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PHYS:1701	Physics I	4
MATH:1850	Calculus I <sup>b</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Social Sciences <sup>c</sup>		
CSI:1600	Success at Iowa	2
		<b>16-17</b>

**Spring**

PHYS:1702	Physics II	4
MATH:1860	Calculus II	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	

GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
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<b>Hours</b>	<b>14-15</b>
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**Second Year****Fall**

PHYS:2703	Physics III	4
MATH:2700	Introduction to Linear Algebra <sup>d</sup>	4
GE CLAS Core: Values and Culture <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5

<b>Hours</b>	<b>15-16</b>
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**Spring**

PHYS:2704	Physics IV	3 - 4
MATH:2850	Calculus III <sup>d</sup>	4
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5

<b>Hours</b>	<b>14-16</b>
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**Third Year****Fall**

PHYS:3756	Intermediate Laboratory	3
Major: physics elective course numbered 3000 or above <sup>f</sup>		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>g</sup>		1 - 3

<b>Hours</b>	<b>14-17</b>
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**Spring**

Major: additional STEM course in chosen thematic area		3
Major: physics elective course numbered 3000 or above <sup>f</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5
Elective course <sup>g</sup>		3

<b>Hours</b>	<b>13-14</b>
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**Fourth Year****Fall**

Major: additional STEM course in chosen thematic area		3
Major: physics elective course numbered 3000 or above <sup>f</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3

<b>Hours</b>	<b>15</b>
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**Spring**

Major: additional STEM course in chosen thematic area		3
Major: additional STEM course in chosen thematic area		3
Elective course <sup>g</sup>		3

Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>	

<b>Hours</b>	<b>15</b>
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<b>Total Hours</b>	<b>116-125</b>
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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d While this course is not a major requirement, it is strongly recommended and a prerequisite for many physics and astronomy courses in the department.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f See General Catalog for a list of approved courses.

g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Astronomy, B.A.

## Learning Outcomes

Astronomy majors will be able to:

- demonstrate understanding of the fundamental concepts in astrophysics such as gravity, the nature of light, the physical characteristics of matter, and the motions of astronomical objects in the night sky;
- demonstrate proficiency in each of the major areas of astronomy—cosmology, galaxies, accretion and compact objects, the life cycle, and properties of stars and solar system science;
- show a working knowledge of a broad array of astrophysical phenomena that are based upon fundamental concepts; and
- gain familiarity with astronomical observations, instrumentation, computational methods, and software.

## Requirements

The Bachelor of Arts with a major in astronomy requires a minimum of 120 s.h., including at least 49 s.h. of work for the major. The B.A. program requires fewer physics and mathematics courses than the B.S. program does, giving students a wider choice of electives. Students take calculus in addition to physics and astronomy courses, which include laboratories. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The program is designed for students who wish to build considerable knowledge in astronomy but do not plan a research-oriented career in the field. It is appropriate for students planning careers in secondary school science teaching or science-related administration.

The B.A. with a major in astronomy requires the following courses or their equivalents.

Code	Title	Hours
Mathematics Courses		8
Physics Courses		24-29
Astronomy Courses		17
<b>Total Hours</b>		<b>49-54</b>

## Mathematics Courses

Code	Title	Hours
Both of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4

## Physics Courses

If students select PHYS:3811 Electricity and Magnetism I, they must complete the prerequisite before they register for that course.

Code	Title	Hours
These three courses:		
PHYS:1701	Physics I	4
PHYS:1702	Physics II	4
PHYS:2703	Physics III	4
Or these two courses:		
PHYS:1611	Introductory Physics I	4

PHYS:1612	Introductory Physics II	4
All of these:		
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
PHYS:3756	Intermediate Laboratory	3
One of these:		
PHYS:3730	Statistical Physics	3
PHYS:4720	Introductory Optics	3
One of these:		
PHYS:3811	Electricity and Magnetism I	3
PHYS:3850	Electronics	4

## Astronomy Courses

Code	Title	Hours
All of these:		
ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy	4
ASTR:1772	Introductory Astronomy II: Stellar, Galactic, and Extragalactic Astronomy	4
ASTR:3771	Introduction to Astrophysics I	3
ASTR:3772	Introduction to Astrophysics II	3
ASTR:4850	Astronomical Laboratory	3

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, including further work in mathematics. In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.A. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the coursework is accepted toward requirements for the major. Students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average, but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

## Double Major in Physics and Astronomy

Students working toward a Bachelor of Arts with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

## Honors

### Honors in the Major

Students majoring in astronomy have the opportunity to graduate with honors in their major. They must maintain a University of Iowa g.p.a. of at least 3.33. Students must earn 6-8 s.h. in PHYS:4999 Undergraduate Research during their junior and senior years and conduct an investigation

under the guidance of a faculty member. They must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the astronomy major.

### Career Advancement

Astronomy graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in research, engineering, software development, teaching, finance, biomedical research, or consulting. Some graduates plan for careers in secondary school science teaching or science-related administration or plan to earn professional degrees.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** math through calculus I-II and physics I-II.

**Before the fifth semester begins:** physics III-IV and at least one more course in the major.

**Before the seventh semester begins:** three more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** five more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

#### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Astronomy, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Research: students are strongly encouraged to be active participants in research within the department.

Students can pursue a double major in astronomy and physics and earn more than 56 s.h. from the department toward these degrees but must also complete at least 56 s.h. outside of the Department of Physics & Astronomy.

GE CLAS Core: Sustainability <sup>a</sup>

Hours	0
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#### First Year

##### Fall

ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy	4
PHYS:1701	Physics I	4
MATH:1850	Calculus I <sup>b</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17-18</b>

##### Spring

ASTR:1772	Introductory Astronomy II: Stellar, Galactic, and Extragalactic Astronomy	4
PHYS:1702	Physics II	4
MATH:1860	Calculus II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
<b>Hours</b>		<b>15-16</b>

#### Second Year

##### Fall

PHYS:2703	Physics III	4
MATH:2700	Introduction to Linear Algebra <sup>c</sup>	4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>

##### Spring

PHYS:2704	Physics IV	3 - 4
MATH:2850	Calculus III <sup>c</sup>	4
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>14-16</b>

#### Third Year

##### Fall

ASTR:3771	Introduction to Astrophysics I <sup>f</sup>	3
PHYS:3756	Intermediate Laboratory	3
PHYS:3811	Electricity and Magnetism I	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5

Elective course <sup>g</sup>	1 - 3
<b>Hours</b>	<b>14-17</b>
<b>Spring</b>	
ASTR:3772 Introduction to Astrophysics II <sup>f</sup>	3
PHYS:3710 Intermediate Mechanics	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>	4 - 5
<b>Hours</b>	<b>13-14</b>
<b>Fourth Year</b>	
<b>Fall</b>	
PHYS:3730 Statistical Physics	3
GE CLAS Core: Historical Perspectives <sup>d</sup>	3
GE CLAS Core: Social Sciences <sup>d</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
ASTR:4850 Astronomical Laboratory <sup>f</sup>	3
GE CLAS Core: Values and Culture <sup>d</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Elective course <sup>g</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>118-127</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c While this course is not a major requirement, it is strongly recommended and a prerequisite for many physics and astronomy courses in the department.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Typically this course is offered every other year. Check MyUI for course availability since offerings are subject to change.

g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Physics, B.S.

## Learning Outcomes

Physics majors will be able to:

- demonstrate competency in applying the basic laws of physics in classical and quantum mechanics, electromagnetism, thermodynamics, and statistical physics;
- solve complex, real-world problems using the principles of physics; and
- demonstrate competency in using basic instrumentation and in analyzing the data obtained.

## Requirements

The Bachelor of Science with a major in physics requires a minimum of 120 s.h., including at least 58 s.h. of work for the major (minimum of 42 s.h. in physics plus 16 s.h. in supporting coursework). Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students must complete several required mathematics courses in addition to their required physics core. The department offers a wide range of upper-level electives and students are encouraged to explore different research areas. All students are strongly encouraged to get involved with research.

Students who earn a B.S. in physics may not earn a B.S. in applied physics or a B.A. in physics.

The B.S. with a major in physics requires the following courses or their equivalents.

Code	Title	Hours
Mathematics Courses		16
Introductory Physics Courses		8-12
Physics Core Courses		25
Upper-Level Elective Courses		9-11
<b>Total Hours</b>		<b>58-64</b>

## Mathematics Courses

Code	Title	Hours
All of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4

## Introductory Physics Courses

Code	Title	Hours
These three courses:		
PHYS:1701	Physics I	4
PHYS:1702	Physics II	4
PHYS:2703	Physics III	4
Or these two courses:		
PHYS:1611	Introductory Physics I	4
PHYS:1612	Introductory Physics II	4

## Physics Core Courses

Code	Title	Hours
All of these:		
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
PHYS:3730	Statistical Physics	3
PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:3756	Intermediate Laboratory	3
PHYS:3811	Electricity and Magnetism I	3
PHYS:3812	Electricity and Magnetism II	3

## Upper-Level Elective Courses

Students can only take these courses once: PHYS:3850 Electronics, PHYS:4750 Advanced Laboratory, or ASTR:4850 Astronomical Laboratory.

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed below, including further work in mathematics.

Code	Title	Hours
One of these:		
PHYS:3850	Electronics	4
PHYS:4750	Advanced Laboratory	3
ASTR:4850	Astronomical Laboratory	3
Two of these:		
PHYS:3850	Electronics	4
PHYS:4720	Introductory Optics	3
PHYS:4726	Electro Optics	3
PHYS:4728	Introductory Solid State Physics	3
PHYS:4731	Plasma Physics I	3
PHYS:4740	Elementary Particles and Nuclear Physics	3
PHYS:4750	Advanced Laboratory	3
PHYS:4761	Mathematical Methods of Physics I	3
PHYS:4762	Mathematical Methods of Physics II	3
PHYS:4820	Optical Signal Processing	3
PHYS:4860	Computational Physics	3
PHYS:4905	Special Topics in Physics	3
PHYS:5905	Special Topics in Physics	3
ASTR:3771	Introduction to Astrophysics I	3
ASTR:3772	Introduction to Astrophysics II	3
ASTR:4850	Astronomical Laboratory	3

In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the coursework is accepted toward requirements for the major. Students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become

part of their grade-point average, but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Students earning a B.S. with a double major in physics and astronomy may count more than 56 s.h. earned in the Department of Physics and Astronomy to the 120 s.h. required for graduation, but they must earn at least 56 s.h. in coursework outside the department in order to graduate.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Double Major in Physics and Astronomy

Students working toward a Bachelor of Science with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

## Honors

### Honors in the Major

Students majoring in physics have the opportunity to graduate with honors in their major. They must maintain a University of Iowa g.p.a. of at least 3.33. They must earn 6-8 s.h. in PHYS:4999 Undergraduate Research Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. Students must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the physics major.

## Career Advancement

Physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in research, engineering, software development, teaching, finance, biomedical research, or consulting.

The degree provides preparation for careers in industry, employment in research laboratories, and graduate study in physics and related sciences.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** calculus II and physics II.

**Before the fifth semester begins:** physics III-IV, introduction to linear algebra, calculus III, and up to two more courses in the major.

**Before the seventh semester begins:** two to four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two or three more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Physics, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Research: students are strongly encouraged to be active participants in research within the department.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PHYS:1701	Physics I	4
MATH:1850	Calculus I <sup>b</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Social Sciences <sup>c</sup>		
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
PHYS:1702	Physics II	4

MATH:1860	Calculus II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Second Year</b>		
<b>Fall</b>		
PHYS:2703	Physics III	4
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Values and Culture <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
MATH:2850	Calculus III	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>
<b>Third Year</b>		
<b>Fall</b>		
PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3811	Electricity and Magnetism I	3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		1 - 3
<b>Hours</b>		<b>14-17</b>
<b>Spring</b>		
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:3812	Electricity and Magnetism II	3
PHYS:3850	Electronics <sup>f</sup>	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>
<b>Fourth Year</b>		
<b>Fall</b>		
PHYS:3730	Statistical Physics	3
PHYS:3756	Intermediate Laboratory <sup>f</sup>	3
Major: upper-level physics course		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
Major: upper-level physics course		3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>g</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>118-126</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Students who choose PHYS:3850 as one of their two required laboratory courses are advised to take it before they take PHYS:3756 Intermediate Laboratory.

g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Applied Physics, B.S.

## Learning Outcomes

Applied physics majors will be able to:

- demonstrate competency in applying the basic laws of physics in a focused area of physics and a related applied field;
- solve complex, real-world problems using the principles of physics; and
- demonstrate competency in using theoretical tools, basic instrumentation, and in analyzing the data obtained.

## Requirements

The Bachelor of Science with a major in applied physics requires a minimum of 120 s.h., including at least 59-87 s.h. of work for the major. Total credit required for the major depends on a student's choice of concentration. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major in applied physics is intended primarily for students interested in a broad program of study in physics combined with a significant concentration of courses in a field that has immediate application to high-technology industry. The degree provides a foundation for a wide range of employment opportunities in high-technology industries, including research and development, product design and testing, sales, and quality control. It also is designed to include exposure to physics sufficient to allow students to continue with graduate studies in either physics or astronomy.

An essential component of each concentration is successful completion of a related one-semester internship or practicum experience in a research laboratory (an applied physics research report is required for the latter option). Well-prepared students will be able to complete the degree in four years. Students should work closely with their advisors on a graduation plan.

All applied physics students complete a common set of courses that includes calculus, linear algebra, physics, and an experiential learning course. They also complete the courses required for their chosen concentration. The department encourages students to take additional coursework; advisors can suggest electives that will enrich programs and help students prepare for graduate work.

Students who want to earn a double major in applied physics and astronomy must choose their coursework carefully; see "Double Major in Applied Physics and Astronomy" below.

Students who earn a B.S. in applied physics may not earn a B.A. or B.S. in physics.

The B.S. with a major in applied physics requires the following courses. Many upper-level physics courses have prerequisites; students should consult their advisors when choosing courses numbered 3000 or above.

Code	Title	Hours
	Common Requirements	37-41
	Concentration Area Courses	22-46
<b>Total Hours</b>		<b>59-87</b>

## Common Requirements

Students in all concentrations must successfully complete the following courses or their equivalents.

### Mathematics

Code	Title	Hours
All of these:		
MATH:1850 & MATH:1860	Calculus I-II	8
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4

### Physics

Code	Title	Hours
One of these sequences:		
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701 & PHYS:1702 & PHYS:2703	Physics I-II - Physics III (strongly preferred)	12
All of these:		
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3811	Electricity and Magnetism I	3

### Experiential Learning

Code	Title	Hours
One of these:		
A one-semester industrial internship (requires a research report)		
A one-semester practicum in a research laboratory (requires a research report)		

## Concentrations

Students select one of the four concentration areas below.

### Computer Science Concentration

Code	Title	Hours
All of these:		
PHYS:3730	Statistical Physics	3
PHYS:3756	Intermediate Laboratory	3
PHYS:3812	Electricity and Magnetism II	3
PHYS:3850	Electronics	4
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
One additional computer science course numbered 3000 or above		3
Two of these:		
CS:2630	Computer Organization	4
CS:2820	Introduction to Software Development	4
CS:3330	Algorithms	3

## Optics Concentration

Code	Title	Hours
All of these:		
PHYS:3730	Statistical Physics	3
PHYS:3756	Intermediate Laboratory	3
PHYS:3812	Electricity and Magnetism II	3
PHYS:3850	Electronics	4
PHYS:4720	Introductory Optics	3
Two of these:		
PHYS:4726	Electro Optics	3
PHYS:4728	Introductory Solid State Physics	3
PHYS:4820	Optical Signal Processing	3

## Solid-State Electronics Concentration

Code	Title	Hours
All of these:		
PHYS:3730	Statistical Physics	3
PHYS:4728	Introductory Solid State Physics	3
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ECE:3320	Introduction to Digital Design	3
ECE:3410	Electronic Circuits	4
ENGR:1300	Introduction to Engineering Computing	3
ENGR:2120	Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
One of these:		
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:3812	Electricity and Magnetism II	3

## Medical Physics Concentration

Code	Title	Hours
All of these:		
PHYS:3756	Intermediate Laboratory	3
PHYS:3850	Electronics	4
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
CHEM:2410	Organic Chemistry Laboratory	3
Two additional biology courses numbered 2000 or above		6-8
One of these:		
BIOS:4120	Introduction to Biostatistics	3
STAT:3510	Biostatistics	3
One of these:		
PHYS:3730	Statistical Physics	3
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:3812	Electricity and Magnetism II	3

PHYS:4750	Advanced Laboratory	3
PHYS:4905	Special Topics in Physics (when topic is physics of the body)	3

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements listed above, including further work in mathematics. In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the coursework is accepted toward requirements for the major. Students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average, but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

## Double Major in Applied Physics and Astronomy

Students working toward a Bachelor of Science with a double major in applied physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

## Honors

### Honors in the Major

Students majoring in applied physics have the opportunity to graduate with honors in their major. Departmental honors students must maintain a University of Iowa g.p.a. of at least 3.33. To graduate with honors in the major, they must earn 6-8 s.h. in PHYS:4999 Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. They must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

### University of Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the applied physics major.

## Career Advancement

Applied physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in research, engineering, software development, teaching, finance, biomedical research, or consulting.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** calculus II and physics II.

**Before the fifth semester begins:** physics III-IV, introduction to linear algebra, calculus III, one more course in the major, and up to four courses in another science or engineering department.

**Before the seventh semester begins:** two to four more courses in the major, up to three other science or engineering courses, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two or three more courses in the major or other science or engineering courses and all or part of an academic year research experience or a summer research experience or internship as approved by the applied physics coordinator.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Applied Physics, B.S.

#### Medical Physics Concentration

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PHYS:1701	Physics I	4
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
MATH:1850	Calculus I <sup>c</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
PHYS:1702	Physics II	4
CHEM:1120	Principles of Chemistry II	4
MATH:1860	Calculus II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
<b>Hours</b>		<b>15-16</b>

#### Second Year

##### Fall

PHYS:2703	Physics III	4
BIOL:1411	Foundations of Biology	4
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5

##### Hours

**16-17**

##### Spring

PHYS:2704	Physics IV	3 - 4
BIOL:1412	Diversity of Form and Function	4
MATH:2850	Calculus III	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5

##### Hours

**15-17**

#### Third Year

##### Fall

PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3811	Electricity and Magnetism I	3
CHEM:2210	Organic Chemistry I	3
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5

##### Hours

**16-17**

##### Spring

PHYS:3710	Intermediate Mechanics	3
PHYS:3850	Electronics	4
CHEM:2220	Organic Chemistry II	3
GE CLAS Core: Values and Culture <sup>e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>d</sup>		4 - 5

##### Hours

**17-18**

##### Summer

Internship: industrial internship or research practicum	3
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##### Hours

**3**

#### Fourth Year

##### Fall

PHYS:3756	Intermediate Laboratory	3
CHEM:2410	Organic Chemistry Laboratory	3
Major: biology course numbered 2000 or above <sup>f</sup>		3 - 4
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3

##### Hours

**15-16**

##### Spring

STAT:3510 or BIOS:4120	Biostatistics or Introduction to Biostatistics	3
Major: biology course numbered 2000 or above <sup>f</sup>		3 - 4
Major: medical concentration select one course <sup>g</sup>		3
GE CLAS Core: International and Global Issues <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)

<b>Hours</b>	<b>15-16</b>
<b>Total Hours</b>	<b>129-138</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Enrollment in math courses requires completion of a placement exam.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students in this concentration are required to complete two biology courses (BIOL) numbered 2000 or above (6-8 s.h.)
- g Choose from PHYS:3730, PHYS:3742, PHYS:3812, PHYS:4750, or PHYS:4905.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Astronomy, B.S.

## Learning Outcomes

Astronomy majors will be able to:

- demonstrate understanding of the fundamental concepts in astrophysics such as gravity, the nature of light, the physical characteristics of matter, and the motions of astronomical objects in the night sky;
- demonstrate proficiency in each of the major areas of astronomy—cosmology, galaxies, accretion and compact objects, the life cycle, and properties of stars and solar system science;
- show a working knowledge of a broad array of astrophysical phenomena that are based upon fundamental concepts; and
- gain familiarity with astronomical observations, instrumentation, computational methods, and software.

## Requirements

The Bachelor of Science with a major in astronomy requires a minimum of 120 s.h., including at least 63 s.h. of work for the major. The program provides balanced and integrated coursework in astronomy, mathematics, and physics that prepares students for graduate studies in astronomy, astrophysics, or related science disciplines. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students must complete several required mathematics courses in addition to the required physics and astronomy core. The department offers a wide range of upper-level electives and students are encouraged to explore different research areas. All students are strongly encouraged to get involved with research.

The B.S. with a major in astronomy requires the following courses or their equivalents.

Code	Title	Hours
Mathematics Courses		16
Physics Core Courses		24-28
Astronomy Core Courses		17
Upper-Level Physics Courses		6-7
Optional Upper-Level Elective Courses		
<b>Total Hours</b>		<b>63-68</b>

## Mathematics Courses

Code	Title	Hours
All of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4

## Physics Core Courses

Code	Title	Hours
These three courses:		
PHYS:1701	Physics I	4
PHYS:1702	Physics II	4
PHYS:2703	Physics III	4

Or these two courses:

PHYS:1611	Introductory Physics I	4
PHYS:1612	Introductory Physics II	4
All of these:		
PHYS:2704	Physics IV	4
PHYS:3710	Intermediate Mechanics	3
PHYS:3741	Introduction to Quantum Mechanics I	3
PHYS:3811	Electricity and Magnetism I	3
PHYS:3812	Electricity and Magnetism II	3

## Astronomy Core Courses

Code	Title	Hours
All of these:		
ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy	4
ASTR:1772	Introductory Astronomy II: Stellar, Galactic, and Extragalactic Astronomy	4
ASTR:3771	Introduction to Astrophysics I (offered every other year)	3
ASTR:3772	Introduction to Astrophysics II (offered every other year)	3
ASTR:4850	Astronomical Laboratory (offered every other year)	3

## Upper-Level Physics Courses

Code	Title	Hours
One of these:		
PHYS:3756	Intermediate Laboratory	3
PHYS:3850	Electronics	4
One of these:		
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:4731	Plasma Physics I	3

## Optional Upper-Level Elective Courses

Undergraduate majors who plan to pursue graduate study are advised to go as far as they can beyond the requirements above by taking one or more of these elective courses.

Code	Title	Hours
PHYS:3730	Statistical Physics	3
PHYS:3742	Introduction to Quantum Mechanics II	3
PHYS:4720	Introductory Optics	3
PHYS:4731	Plasma Physics I	3
PHYS:4740	Elementary Particles and Nuclear Physics	3
PHYS:4761	Mathematical Methods of Physics I	3
PHYS:4762	Mathematical Methods of Physics II	3
PHYS:4905	Special Topics in Physics	arr.

In planning this work, they should be guided by the College of Liberal Arts and Sciences maximum hours rule: Students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for



graduation, whether or not the coursework is accepted toward requirements for the major. Students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average, but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

## Double Major in Physics and Astronomy

Students working toward a Bachelor of Science with a double major in physics and in astronomy must complete all requirements for both majors and must earn a minimum of 56 s.h. outside the Department of Physics and Astronomy in order to graduate. Students interested in earning a double major should consult with their advisors. See Requirements for a Bachelor's Degree on the College of Liberal Arts and Sciences website.

### Honors

#### Honors in the Major

Students majoring in astronomy have the opportunity to graduate with honors in their major. They must maintain a University of Iowa g.p.a. of at least 3.33. Students must earn 6-8 s.h. in PHYS:4999 Undergraduate Research during their junior and senior years and conduct an investigation under the guidance of a faculty member. They must present a written report of their research (honors thesis) and describe their research results at a departmental seminar.

#### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the astronomy major.

### Career Advancement

Astronomy graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in research, engineering, software development, teaching, finance, biomedical research, or consulting.

About 70 percent of physics and astronomy graduates go on to graduate school. With help from the department's in-house recruiting office, they win acceptance to some of the best graduate programs in the country.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the

major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** calculus I-II and physics II.

**Before the fifth semester begins:** all of the remaining required math courses, physics III-IV, and two other courses in the major.

**Before the seventh semester begins:** four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** three more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Astronomy, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Research: students are strongly encouraged to be active participants in research within the department.		
Students can pursue a double major in astronomy and physics and earn more than 56 s.h. from the department toward these degrees but must also complete at least 56 s.h. outside of the Department of Physics & Astronomy.		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy	4
PHYS:1701	Physics I	4
MATH:1850	Calculus I <sup>b</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>17-18</b>
<b>Spring</b>		
ASTR:1772	Introductory Astronomy II: Stellar, Galactic, and Extragalactic Astronomy	4
PHYS:1702	Physics II	4
MATH:1860	Calculus II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
	<b>Hours</b>	<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
PHYS:2703	Physics III	4
MATH:2700	Introduction to Linear Algebra	4

GE CLAS Core: Diversity and Inclusion <sup>c</sup>	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>	4 - 5

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**Hours** **15-16**

### Spring

PHYS:2704	Physics IV	3 - 4
MATH:2850	Calculus III	4
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5

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**Hours** **14-16**

### Third Year

#### Fall

ASTR:3771	Introduction to Astrophysics I <sup>e</sup>	3
PHYS:3756	Intermediate Laboratory	3
PHYS:3811	Electricity and Magnetism I	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>f</sup>		1 - 3

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**Hours** **14-17**

#### Spring

ASTR:3772	Introduction to Astrophysics II <sup>e</sup>	3
PHYS:3710	Intermediate Mechanics	3
PHYS:3812	Electricity and Magnetism II	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5

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**Hours** **13-14**

### Fourth Year

#### Fall

PHYS:3741	Introduction to Quantum Mechanics I	3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
GE CLAS Core: Social Sciences <sup>c</sup>		3
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>f, g</sup>		3

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**Hours** **15**

#### Spring

ASTR:4850	Astronomical Laboratory <sup>e</sup>	3
PHYS:3742	Introduction to Quantum Mechanics II	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
Elective course <sup>f, g</sup>		3
Elective course <sup>f, g</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

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**Hours** **15**

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**Total Hours** **118-127**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in math courses requires completion of a placement exam.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students

should consult with an advisor about the best sequencing of courses.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Typically this course is offered every other year. Check MyUI for course availability since offerings are subject to change.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Students who plan to pursue graduate study are advised to go as far as they can beyond the minimum requirements. See General Catalog for a list of appropriate courses.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Physics, Minor

## Requirements

The undergraduate minor in physics requires a minimum of 15 s.h. in physics coursework, including 12 s.h. taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The 12 s.h. taken at the University of Iowa must be chosen from these:

Code	Title	Hours
PHYS:1612	Introductory Physics II	4
or PHYS:2703	Physics III	
PHYS:2704	Physics IV	3-4
Physics courses numbered 3000 or above		

Both PHYS:2703 Physics III and PHYS:2704 Physics IV have prerequisites, as do most physics courses numbered 3000 or above. Students must complete a course's prerequisites before they may enroll in the course.

# Astronomy, Minor

## Requirements

The undergraduate minor in astronomy requires a minimum of 15 s.h. in astronomy and physics courses, including 12 s.h. of coursework numbered 3000 or above and 12 s.h. taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Coursework numbered 3000 or above must include 6 s.h. chosen from these:

Code	Title	Hours
ASTR:3771	Introduction to Astrophysics I	3
ASTR:3772	Introduction to Astrophysics II	3
ASTR:4850	Astronomical Laboratory	3

Remaining work may be chosen from any astronomy or physics courses numbered 3000 or above.

Most University of Iowa courses for the minor have prerequisites; students must complete a course's prerequisites before they may enroll in the course.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Astronomy, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
12 semester hours for the Astronomy minor must be taken at the University of Iowa.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1850	Calculus I <sup>a</sup>	4
PHYS:1701	Physics I	4
ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy	4
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
MATH:1860	Calculus II	4
PHYS:1702	Physics II	4
ASTR:1772	Introductory Astronomy II: Stellar, Galactic, and Extragalactic Astronomy	4
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
MATH:2700	Introduction to Linear Algebra	4

PHYS:2703	Physics III	4
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
MATH:2850	Calculus III	4
PHYS:2704	Physics IV	4
<b>Hours</b>		<b>8</b>
<b>Third Year</b>		
<b>Fall</b>		
ASTR:3771	Introduction to Astrophysics I <sup>b</sup>	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
ASTR:3772	Introduction to Astrophysics II <sup>b</sup>	3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Minor: 3000-level or above course		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: 3000-level or above course (ASTR:4850 Astronomical Laboratory is recommended)		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>52</b>

a Enrollment in math courses requires completion of a placement exam.

b Typically this course is offered every other year. Check MyUI for course availability since offerings are subject to change.

# Physics, M.S.

Graduate study in physics and astronomy is highly individualized. Each entering graduate student is assigned a faculty advisor, who assists in preparing a plan of study and in guiding the student's progress.

## Learning Outcomes

Graduates will:

- understand the foundational principles that transcend many distinct areas, and learn the technical language, problem-solving skills, and training in technical listening and discussion;
- learn and practice advanced discourse in mathematical aspects that translate to physics;
- become familiar with the state-of-the-art experimental tools and equipment in the field;
- promote aspects of creativity and originality in the field and prepare for adaptability to new discoveries;
- learn and practice advanced discourse in experimental and observational aspects, including data and information mining, translating experimental observations to physical principles and vice versa; and
- learn analysis of data and computational skills as well as become familiar with state-of-the-art techniques for data processing.

## Requirements

The Master of Science program in physics requires a minimum of 30 s.h. of graduate credit. All students must earn the required 30 s.h. of graduate credit in courses numbered 4000 or above, with at least 15 s.h. in courses numbered 5000 or above. At least 24 s.h. must be completed under the auspices of the University of Iowa after admission to the Department of Physics and Astronomy. Students must maintain a program g.p.a. of at least 2.75.

Each student's plan of study should provide for as much advanced work as aptitude and previous preparation permit. Up to one-third of the program of study may be taken in related scientific fields other than physics (e.g., mathematics, chemistry, astronomy, geology, engineering).

The degree is offered with thesis or critical essay. Students who choose the thesis option must write a thesis based on an original experimental or theoretical investigation that they have conducted. Students may earn a maximum of 6 s.h. in PHYS:7990 Research: Physics or PHYS:7992 Individual Critical Study.

Students who choose the critical essay option must conduct an independent study of the literature on a particular area of physics and write a critical essay on that topic. Students may earn a maximum of 4 s.h. in PHYS:7990 Research: Physics or PHYS:7992 Individual Critical Study.

The M.S. may be a terminal degree or a step toward a Ph.D. In either case, the final examination is oral, conducted by a committee of three faculty members.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Students qualified for graduate study are encouraged to apply for fellowships and assistantships. Contact the Department of Physics and Astronomy chair.

## Career Advancement

Graduates have opportunities for employment in universities, colleges, and research laboratories in government and industry. Physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in engineering, software development, finance, or consulting.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Physics, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Physics course <sup>d</sup>		3
Physics course <sup>d</sup>		3
Physics course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Physics course <sup>d</sup>		3
Physics course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>d</sup>		3
Final Exam <sup>e</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>30</b>

- a Students must earn at least 15 s.h. in courses numbered 5000 or above. Up to one-third of the program of study may be taken in related scientific fields other than physics (e.g., mathematics, chemistry, astronomy, geology, engineering).
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.
- d Work with faculty advisor to determine appropriate upper-level graduate coursework and sequence.
- e Oral examination.

# Astronomy, M.S.

Graduate study in physics and astronomy is highly individualized. Each entering graduate student is assigned a faculty advisor, who assists in preparing a plan of study and in guiding the student's progress.

## Learning Outcomes

Graduates will:

- understand the foundational principles that transcend many distinct areas, and learn the technical language, problem-solving skills, and training in technical listening and discussion;
- learn and practice advanced discourse in mathematical aspects that translate to physics;
- become familiar with the state-of-the-art experimental tools and equipment in the field;
- promote aspects of creativity and originality in the field and prepare for adaptability to new discoveries;
- learn and practice advanced discourse in experimental and observational aspects, including data and information mining, translating experimental observations to physical principles and vice versa; and
- learn analysis of data and computational skills as well as become familiar with state-of-the-art techniques for data processing.

## Requirements

The Master of Science program in astronomy requires a minimum of 30 s.h. of graduate credit. Students must complete a minimum of 30 s.h. of graduate work, including at least 12 s.h. from the courses listed below, at least 3 s.h. numbered 5000 or above, and the remainder in courses numbered at least 4000 or above. At least 24 s.h. must be completed under the auspices of the University of Iowa after admission to the Department of Physics and Astronomy. Seminars do not count toward the minimum of 30 s.h. required for the degree. All students must maintain a g.p.a. of at least 2.75.

Up to one-third of the program of study may be taken in related scientific fields (e.g., meteorology, geology, electrical engineering); selection of such courses is encouraged.

The degree is offered either with or without thesis. The M.S. may be a terminal degree or a step toward a Ph.D. in physics with subprogram and a dissertation in astronomy or astrophysics. In either case the final examination is oral, conducted by a committee of three faculty members.

Students must select at least 12 s.h. from these.

Code	Title	Hours
ASTR:6782	Extragalactic Astronomy	3
ASTR:6785	The Interstellar Medium	3
ASTR:6790	Stellar Astrophysics	3
ASTR:6870	Radiative Processes in Astrophysics	3
ASTR:6880	High Energy Astrophysics	3
ASTR:7775	Special Topics in Astrophysics	1-3
ASTR:7830	Space and Astrophysical Plasma Physics	3

PHYS:7760	General Relativity	2-3
PHYS:7761	Cosmology	3

For the M.S. with thesis option, students may take no more than 6 s.h. in PHYS:7992 Individual Critical Study and ASTR:7991 Research: Astronomy; and for those who complete the M.S. without thesis and writing a critical essay, no more than 4 s.h. may be taken in those courses.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Students qualified for graduate study are encouraged to apply for fellowships and assistantships. Contact the Department of Physics and Astronomy chair.

## Career Advancement

Graduates have opportunities for employment in universities, colleges, and research laboratories in government and industry. Astronomy graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in engineering, software development, finance, or consulting.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Astronomy, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Required course <sup>d</sup>		3
Required course <sup>d</sup>		3
Required course <sup>d</sup>		3
		<b>Hours</b>
		<b>9</b>
<b>Spring</b>		
Required course <sup>d</sup>		3
Elective course (numbered 4000 or above) <sup>e</sup>		3
Elective course (numbered 4000 or above) <sup>e</sup>		3
		<b>Hours</b>
		<b>9</b>

**Second Year****Fall**

ASTR:7991	Research: Astronomy <sup>f</sup>	2
Elective course (numbered 5000 or above) <sup>e</sup>		3
Elective course (numbered 4000 or above) <sup>e</sup>		3
<b>Hours</b>		<b>8</b>

**Spring**

PHYS:7992	Individual Critical Study <sup>f</sup>	2
Elective course (numbered 4000 or above) <sup>e</sup>		2
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>30</b>

- a Students must complete at least 12 s.h. from list of approved required courses, at least 3 s.h. numbered 5000 or above, and the remainder in courses numbered at least 4000 or above. Note: seminars do not count toward the minimum of 30 s.h. required for the degree.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.
- d See the General Catalog for list of approved courses.
- e Work with faculty advisor to select appropriate coursework. Up to one-third of the program of study may be taken in related scientific fields (e.g., meteorology, geology, electrical engineering); selection of such courses is encouraged.
- f No more than 4 s.h. may be taken from ASTR:7991 and PHYS:7992.
- g Oral examination.



## Physics, Ph.D.

Graduate study in physics and astronomy is highly individualized. The department does not offer a Ph.D. in astronomy, but students may pursue a Ph.D. in physics with an astronomy subprogram and a dissertation in astronomy.

Each entering graduate student is assigned a faculty advisor, who assists in preparing a plan of study and in guiding the student's progress.

### Learning Outcomes

Graduates will:

- understand the foundational principles that transcend many distinct areas, and learn the technical language, problem-solving skills, and training in technical listening and discussion;
- learn, practice, and discover advanced discourse in mathematical aspects that translate to physics;
- become familiar with the state-of-the-art experimental tools and equipment in the field;
- develop skills for creativity and originality in the field and promote communication of new discoveries;
- learn and practice advanced discourse in experimental and observational aspects, including data and information mining, translating experimental observations to physical principles and vice versa; and
- learn analysis of data and computational skills as well as become familiar with state-of-the-art techniques for data processing.

### Requirements

The Doctor of Philosophy program in physics requires a minimum of 72 s.h. of graduate credit. At least 39 s.h. must be earned at the University of Iowa to complete the residency requirement. For students interested in doing doctoral work in astronomy, the department offers an astronomy subprogram, including a dissertation, within the Ph.D. program in physics. All students must maintain a program g.p.a. of at least 3.00.

All students must earn at least 24 s.h. in departmental courses numbered 5000 or above. They may not count credit earned in PHYS:7990 Research: Physics, PHYS:7992 Individual Critical Study, ASTR:7991 Research: Astronomy, or seminars.

All students must take comprehensive examinations; participate in advanced seminars; do original research in experimental physics, theoretical physics, or astrophysics; and prepare and defend a written dissertation based on this work.

Ph.D. students in physics without the astronomy subprogram must complete the following courses.

Code	Title	Hours
PHYS:4761- PHYS:4762	Mathematical Methods of Physics I-II (students who pass a written examination are exempt from this requirement)	6
PHYS:5710	Classical Mechanics	3
PHYS:5730	Statistical Mechanics I	3
PHYS:5741- PHYS:5742	Quantum Mechanics I-II	6
PHYS:5811- PHYS:5812	Classical Electrodynamics I-II	6

These courses freely use advanced mathematics (e.g., complex variables, tensor analysis). An introduction is provided in PHYS:4761 Mathematical Methods of Physics I and PHYS:4762 Mathematical Methods of Physics II. The selection of less advanced coursework depends on the adequacy of a student's preparation for graduate work; students' choice of more advanced and specialized courses depends on the direction in which their interests develop.

Ph.D. students in physics with the astronomy subprogram must complete a total of six courses from the following.

Code	Title	Hours
Four of these:		
ASTR:6782	Extragalactic Astronomy	3
ASTR:6785	The Interstellar Medium	3
ASTR:6790	Stellar Astrophysics	3
ASTR:6870	Radiative Processes in Astrophysics	3
ASTR:6880	High Energy Astrophysics	3
ASTR:7775	Special Topics in Astrophysics	3
ASTR:7830	Space and Astrophysical Plasma Physics	3
PHYS:7760	General Relativity	3
PHYS:7761	Cosmology	3
Two of these:		
PHYS:5710	Classical Mechanics	3
PHYS:5730	Statistical Mechanics I	3
PHYS:5741	Quantum Mechanics I	3
PHYS:5742	Quantum Mechanics II	3
PHYS:5811	Classical Electrodynamics I	3
PHYS:5812	Classical Electrodynamics II	3

After a student has chosen a research specialty, the student must submit a formal thesis proposal and defend the proposal in an oral comprehensive exam. The appropriate thesis advisor then becomes the candidate's general advisor and the chair of the comprehensive and final examination committee. The comprehensive exam must be taken before the beginning of the fourth year of graduate study.

### Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Financial Support

Students qualified for graduate study are considered for assistantships and encouraged to apply for fellowships and assistantships.

### Career Advancement

Graduates have opportunities for employment in universities, colleges, and research laboratories in government and industry. Physics graduates have mastered skills that are readily transferable to a number of fields. They might choose to work in engineering, software development, finance, or consulting.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Physics, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PHYS:4761	Mathematical Methods of Physics I <sup>d</sup>	3
PHYS:5710	Classical Mechanics	3
PHYS:5730	Statistical Mechanics I	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
PHYS:4762	Mathematical Methods of Physics II <sup>d</sup>	3
PHYS:5741	Quantum Mechanics I	3
PHYS:5811	Classical Electrodynamics I	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
PHYS:5742	Quantum Mechanics II	3
PHYS:5812	Classical Electrodynamics II	3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
PHYS:7990	Research: Physics	9
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
PHYS:7990	Research: Physics	9
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
PHYS:7990	Research: Physics	9
<b>Hours</b>		<b>9</b>

#### Spring

PHYS:7990	Research: Physics	9
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>72</b>

- a Students must earn at least 24 s.h. in departmental courses numbered 5000 or above, and may not include credit earned in PHYS:7990, PHYS:7992, ASTR:7991, or seminars.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.
- d Students who pass a written examination are exempt from this requirement.
- e Work with faculty advisor to determine appropriate coursework and sequence.
- f Dissertation defense.

# Political Risk Analysis

## Chair, Department of Political Science

- Brian H. Lai

**Undergraduate certificate:** political risk analysis

**Faculty:** <https://clas.uiowa.edu/polisci/people/faculty>

**Website:** <https://clas.uiowa.edu/polisci/>

The Certificate in Political Risk Analysis prepares students to work in a growing area of focus for many corporations and international organizations—political risk analysis or risk intelligence. Risk analysis focuses on the effect that country characteristics and events have on sovereign risk (the ability of a country to repay its debts), company security, supply chains, and the safety of individuals working or traveling in a country. Understanding this risk provides assistance to companies and organizations so that they can better manage their investments, assets, and activities in countries around the world based on threats they might face.

Career workshops, internship, and job opportunities also are provided.

The Certificate in Political Risk Analysis is administered by the Department of Political Science [p. 966].

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Political Risk Analysis [p. 964]

# Political Risk Analysis, Certificate

The Certificate in Political Risk Analysis prepares students to work in this highly interdisciplinary area, which requires a keen understanding of business practices and the political situation facing countries. Political risk analysis focuses on the effect that country characteristics and events have on sovereign risk (ability of a country to repay its debts), company security, supply chains, and the safety of individuals working or traveling in a country. Understanding this risk is part of helping companies better manage their investments, assets, and activities in foreign countries based on threats that a company might face.

The certificate demonstrates to companies that students have the requisite training to work in this area. The political risk analysis certificate was developed in conjunction with individuals working in this area and the Association of International Risk Intelligence Professionals. Feedback about the curriculum has been received from individuals working in the industry so that it provides the training that students need to be competitive in this area. Alumni are active in assisting students with advice on internships and careers.

## Learning Outcomes

Students will be able to:

- demonstrate knowledge of relevant economic and risk principles for an organization,
- demonstrate knowledge of country and international system factors that influence an organization, and
- analyze these system factors to show how they impact the risk for an organization.

## Requirements

The undergraduate Certificate in Political Risk Analysis requires a minimum of 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. Certificate courses cannot be taken pass/nonpass. A maximum of 6 s.h. of transfer credit may be accepted toward certificate requirements, with the approval of the political risk analysis advisor.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

The Certificate in Political Risk Analysis requires the following coursework.

## Core Courses

The course FIN:3400 has ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics as prerequisite courses; the prerequisites do not count toward the certificate.

## Financial Risk Principles

Code	Title	Hours
This course:		
FIN:3400	Principles of Risk Management and Insurance	3

## Quantitative Analysis

Code	Title	Hours
One of these:		
POLI:3000	Analyzing Political Data	3
STAT:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:3510	Biostatistics	3

## Politics Foundation

Code	Title	Hours
One of these:		
POLI:1400	Introduction to Comparative Politics	3
POLI:1500	Introduction to International Relations	3

## Elective Courses

Students select three courses from the following.

## Country and International Risk

Code	Title	Hours
POLI:2415	Latin American Politics	3
POLI:3405	Authoritarian Politics	3
POLI:3408	Chinese Politics and Society	3
POLI:3410	Russian Foreign Policy	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3418	Governance in the Middle East	3
POLI:3420	Southeast Asia: Politics and Development	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	3
POLI:3423	The Middle East: Policy and Diplomacy	3
POLI:3426	Outliers: Comparing Odd Countries	3
POLI:3428	Statecraft, Diplomacy, and World Order	3
POLI:3450	Problems in Comparative Politics	3
POLI:3503	Politics of Terrorism	3
POLI:3504	Globalization	3
POLI:3505	Civil Wars	3
POLI:3506	Consequences of War	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3512	International Conflict	3
POLI:3514	Regional Peace and Security	3
POLI:3516	The Politics of International Economics	3
POLI:3518	Water Wars: Conflict and Cooperation	3

POLI:3522	Ending Wars and Keeping Peace	3
POLI:3550	Problems of International Politics	3

## Experiential Learning Requirement

All students select one of the following after consultation with the political risk analysis advisor.

### Study Abroad

Code	Title	Hours
Students register for study abroad credit (prefix ABRD)		

### Research

Code	Title	Hours
POLI:3001	Hawkeye Poll	3
POLI:3127	Legislative Policy Seminar	arr.
POLI:3530	Diplomacy Lab	arr.
POLI:4701	Undergraduate Research Tutorial	3
URES:3992	Undergraduate Research and Creative Projects	0
URES:3993	Undergraduate Research and Creative Projects	1-4
URES:3994	Undergraduate Research and Creative Projects	1-4
URES:3995	ICRU Research Fellow	0

### Internship

Code	Title	Hours
POLI:4900	Government and Politics Internship	1-3

Another approved internship course

# Political Science

## Chair

- Brian H. Lai

**Undergraduate major:** political science (B.A., B.S.)

**Undergraduate minor:** political science

**Graduate degrees:** M.A. in political science; Ph.D. in political science

**Faculty:** <https://clas.uiowa.edu/polisci/people/faculty>

**Website:** <https://clas.uiowa.edu/polisci/>

The Department of Political Science offers undergraduate majors and minors as well as graduate degree programs. In addition to the programs of study in political science, it offers the B.A., B.S., and minor in international relations, and the undergraduate Certificate in Political Risk Analysis [p. 964]. It collaborates with other departments to offer the Certificate in Social Science Analytics [p. 1047]. The department also offers several courses that undergraduate students in all majors may use to fulfill GE CLAS Core [p. 20] requirements and a First-Year Seminar designed for entering undergraduate students.

## Related Certificates

### Political Risk Analysis

The Certificate in Political Risk Analysis prepares students to work in this highly interdisciplinary area, which requires a keen understanding of business practices and the political situation facing countries. Political risk analysis focuses on the effect that country characteristics and events have on sovereign risk (ability of a country to repay its debts), company security, supply chains, and the safety of individuals working or traveling in a country. Understanding this risk is part of helping companies better manage their investments, assets, and activities in foreign countries based on threats that a company might face. The Department of Political Science collaborates with the College of Business to offer the undergraduate program in political risk analysis; see Political Risk Analysis [p. 963] in the Catalog. The Department of Political Science administers the certificate.

### Social Science Analytics

The growth of big data and informatics calls for a new set of skills for social science students and an increased understanding of the logic of data collection and analysis. The certificate focuses on the application side of data analysis and allows focus to be on the specific research methods and quantitative skills using data-driven methods effective for more understanding in an increasingly complicated social-political world. The certificate offers an opportunity for interdisciplinary training on how data can be used to address important questions in the social sciences. The Department of Political Science collaborates with the Departments of Geographical and Sustainability Sciences, Sociology and Criminology, and Statistics and Actuarial Science to offer the undergraduate program in social science analytics; see Social Science Analytics [p. 1046] in the Catalog. The Department of Political Science administers the certificate.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Political Science (Bachelor of Arts) [p. 974]
- Major in Political Science (Bachelor of Science) [p. 978]

#### Minor

- Minor in Political Science [p. 982]

### Graduate Programs of Study

#### Majors

- Master of Arts in Political Science [p. 983]
- Doctor of Philosophy in Political Science [p. 984]

## Courses

Courses numbered below 2000 are introductory undergraduate courses. Course POLI:1000 First-Year Seminar does not count toward the major or the minor in political science.

Courses numbered 2000-4999 are considered advanced for undergraduates. Courses POLI:4900 Government and Politics Internship and POLI:3124 Guided Political Science Internship do not count toward the major or the minor in political science; they are offered only satisfactory/fail or pass/nonpass.

Courses numbered 5000-6000 are graduate core courses; those numbered 7000 or above are advanced graduate courses.

## Political Science Courses

### **POLI:1000 First-Year Seminar** **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

### **POLI:1001 Introduction to Politics** **3 s.h.**

Introduction to selected processes, institutions, or behaviors central to the study of politics.

### **POLI:1050 Big Ideas: Introduction to Information, Society, and Culture** **3 s.h.**

What is information? What does it teach us about societies and cultures? How is information used to shape societies and even personal preferences? What types of information are there and how can we understand and use them? Students work with faculty from multiple disciplines to investigate these questions using inquiry-based activities to build success in critical thinking and teamwork. GE: Quantitative or Formal Reasoning. Same as RELS:1050.

### **POLI:1100 Introduction to American Politics** **3 s.h.**

Structure and processes of American national government; how the United States manages political conflict; impact of the U.S. Constitution; effect of public opinion, interest groups, and media on government; role and evolution of Congress, presidency, bureaucracy, and Supreme Court. GE: Social Sciences.

- POLI:1200 Introduction to Political Behavior** 3 s.h.  
Patterns and basis of political behavior of American electorate; trends in voter turnout; vote choice; ideology, partisanship, and public opinion. GE: Social Sciences.
- POLI:1300 Introduction to Political Thought and Action** 3 s.h.  
Common problems, literature, analytic techniques. GE: Social Sciences; Values and Culture.
- POLI:1400 Introduction to Comparative Politics** 3 s.h.  
Politics worldwide, including all regions and levels of development; wide-ranging themes, including regime types, political change, political culture, public opinion, government structures, state-society relationship, electoral systems, public policy issues. GE: International and Global Issues; Social Sciences.
- POLI:1401 Introduction to Russian Politics** 3 s.h.  
Political dynamics in postcommunist countries of east-central Europe and Eurasia; imperial legacies, ideology and practice of communist politics, patterns of democracy and authoritarianism. GE: International and Global Issues; Social Sciences.
- POLI:1410 Introduction to Asian International Relations** 3 s.h.  
Examination of historical and current relationships between countries in Asia; conflict, cooperation, effect of international organizations, and role of non-Asian powers in the region (i.e., United States); North Korea-South Korea conflict; rivalry between Japan, China, and Korea; Association of Southeast Asian Nations (ASEAN); South China Sea dispute; rise of Asian economies; the United States pivot to Asia; how current explanations of international relations may or may not work in the context of Asia.
- POLI:1445 Introduction to Asian Politics: China** 3 s.h.  
How sociopolitical life in China is shaped by political structure, economic modernization, and traditional political culture; topics include historical, political, economic, and social conditions in contemporary China; course objectives are to broaden student's horizons in global affairs by learning about a foreign country that seems completely different and to sharpen student's analytical and communication skills. GE: International and Global Issues; Social Sciences.
- POLI:1449 Introduction to European Politics** 3 s.h.  
Political institutions, processes of selected European countries. GE: International and Global Issues; Social Sciences.
- POLI:1500 Introduction to International Relations** 3 s.h.  
Survey of key issues in international relations, including causes of wars, different types of theories of international relations, international organizations, and global environmental problems. GE: International and Global Issues; Social Sciences.
- POLI:1501 Introduction to American Foreign Policy** 3 s.h.  
Foreign policies: goals, basic themes and general patterns, problems encountered by policy makers, means employed in dealing with other nations and international organizations, processes by which policies are formulated, factors that influence structure of policies. GE: International and Global Issues; Social Sciences.
- POLI:1510 International Relations of Environmental Issues** 3 s.h.  
Why countries struggle to cooperate on pressing environmental issues; reducing greenhouse gas emissions, ozone depleting materials, and other environmental issues; examination and analysis of approaches taken to address global environmental issues.
- POLI:1600 Introduction to Political Communication** 3 s.h.  
Institutions, dynamics, issues of political communities considered as networks of communication; representative topics include political actors, ads, films, media, myths, news, publics, regulations, rhetorics, symbols. GE: Social Sciences.
- POLI:1601 Introduction to Social Media and Politics** 3 s.h.  
Politics in news, culture, commerce, campaigns, and government with attention to current media (e.g., cinema, internet, print, television). GE: Diversity and Inclusion.
- POLI:1700 Introduction to Political Analysis** 3 s.h.  
Tools necessary to analyze and solve puzzles in politics (i.e., Why do countries go to war rather than negotiate? Why do lifelong enemies become allies? Why do majorities act irrationally?); questions approached from a quantitative perspective (unlike most political analyses), in particular, game theory—a branch of mathematics that investigates how rational players act in situations (like those in politics) of strategic interaction. GE: Quantitative or Formal Reasoning.
- POLI:1800 Introduction to the Politics of Class and Inequality** 3 s.h.  
Introduction to issues of class and economic inequality in the U.S. and other countries; what class and economic inequality are, debates surrounding these definitions, and attempts to measure both of these concepts; research and arguments on economic and political explanations of economic inequality; different policies aimed at reducing economic inequality and debates over them. GE: Diversity and Inclusion.
- POLI:1900 Introduction to the Politics of Race** 3 s.h.  
Introduction to politics of race in the U.S.; history of racial and ethnic groups in the U.S., their relationship with each other, and their interactions with different levels of government. GE: Diversity and Inclusion.
- POLI:1950 Introduction to the Politics of Religion** 3 s.h.  
Introduction to the complex relationship between religion and politics; examination of historical and contemporary effect of religion on a wide range of areas (e.g., political culture, political parties, political behavior, public policy); consideration of important policy debates (e.g., role of religion in public life, religious discrimination, various social issues). GE: Diversity and Inclusion.
- POLI:2000 Designing Political Research** 3 s.h.  
How research is conducted on politics and government; students examine different research approaches (both qualitative and quantitative), learn how to read and understand published research on politics, demonstrate an understanding of different research approaches, and understand, interpret, and critically analyze published research on politics.
- POLI:2415 Latin American Politics** 3 s.h.  
Governmental institutions, major interest groups; focus on area as a whole. GE: International and Global Issues; Social Sciences. Same as LAS:2415.

- POLI:2417 Comparative Environmental Policy** 3 s.h.  
Analysis of environmental policy and governance processes; case examples and analysis primarily focus on water governance in local contexts outside the United States; causes and consequences of environmental policy differences; effects of government structure, society, and natural resource conditions on policy development, implementation, and environmental outcomes.
- POLI:2500 Politics of Natural Disasters** 3 s.h.  
Examination of local, national, and international politics that guide government action (and inaction) in the face of increasingly intense and increasingly frequent natural disasters; draws on core concepts from political science related to distributive politics, natural resource governance, state capacity, government responsiveness, and collective action.
- POLI:3000 Analyzing Political Data** 3 s.h.  
Creating knowledgeable evaluators of current research in political science; interpretation of different quantitative techniques with examples from current political science research.
- POLI:3001 Hawkeye Poll** 3 s.h.  
Basics of survey design, sampling, question wording, interpreting responses, and writing press releases; students work together to help design questions as part of the Hawkeye Poll, a collaborative teaching and research enterprise in the Department of Political Science.
- POLI:3035 Careers in Political Science and International Relations** 3 s.h.  
Introduction to careers available to students in political science and international relations by Department of Political Science alumni; focus on types of careers available in their fields, how to prepare for these careers, and how to find jobs in the field.
- POLI:3050 Problems in Methods** arr.  
Problems in political science research methods; data collection, interpretation, analysis.
- POLI:3100 American State Politics** 3 s.h.  
Approaches to analysis of political behavior in American state governments; emphasis on cultures, parties, actors, processes, issues.
- POLI:3101 American Constitutional Law and Politics** 3 s.h.  
Role of U.S. Supreme Court in American political system; emphasis on analysis of Supreme Court cases.
- POLI:3102 The U.S. Congress** 3 s.h.  
History of Congress, how congressional elections shape what legislators do, how laws are made in Congress, rules and maneuvers that shape these laws, and the future of Congress as one of the major institutions of American government; gain an understanding of Congress and why Americans continue to be confused and fascinated by this complicated branch and its politics.
- POLI:3104 Immigration Politics** 3 s.h.  
United States immigration policy and political consequences of Latina/o/x population growth; contrast of political experiences of Latina/o/x with groups and ideals of democratic political systems; analyses of past immigration policies; studies of public opinion, voter turnout, and campaign tactics. Same as LAS:3104, LATS:3104.
- POLI:3107 Writing in Political Science: Writing for "Science" and for "Politics"** 3 s.h.  
Examination of principles used in writing for science and writing for politics: science writing clearly explains its ideas to promote understanding, and political writing advocates for its ideas by highlighting and obscuring different pieces of information and "spinning" its findings to promote persuasion; students produce and analyze examples of both forms of writing.
- POLI:3109 Fixing America's Electoral System** 3 s.h.  
What's wrong with American politics and what can be done to fix it; overview of major problems facing American democracy from polarized political parties and money in politics, to low voter turnout and trust in government, to growing gap between super rich and middle class; focus on problem solving, including movement towards digital politics and new media, participatory democracy, reform of congressional elections and non-partisan redistricting, presidential elections (Electoral College), presidential nomination process, campaign finance, voter registration and voting, proportional representation. Requirements: no prior enrollment in POLI:3150 with subtitle Election Reform.
- POLI:3110 Local Politics** 3 s.h.  
Models of city government, relation to state and federal governments; rights, liabilities of municipalities; city elections, campaigns, issues; role of pressure groups.
- POLI:3111 American Public Policy** 3 s.h.  
Functions and policies of national government; emphasis on domestic policy making, impact of public policy.
- POLI:3113 Research in Judicial Politics** 3 s.h.  
Applied research training in courts and judicial politics.
- POLI:3114 Women and Politics in the United States** 3 s.h.  
Involvement of women in the U.S. political system; topics include political theories about women's involvement in politics and government, women and constitutional law, public policies that affect women, women's participation in politics at the mass and elite levels.
- POLI:3116 The Presidency** 3 s.h.  
Constitutional foundations, subsequent development, current status of the office of the presidency; evolution of presidential selection process; powers, structures, functions of the office; role of president as legislative, executive, and public leader.
- POLI:3117 Bureaucratic Politics and Public Administration** 3 s.h.  
Examination of bureaucracy from political, theoretical, and practical perspectives; what we mean by "bureaucracy" and how it developed over time; political control of bureaucracy; how bureaucracy performs its tasks, including behavior of bureaucrats; role of nonprofit service delivery in modern bureaucracy; how bureaucracy affects American policy and politics. Same as PBAF:3117.
- POLI:3118 Interest Groups** 3 s.h.  
Theory, organization, and structure of interest groups; how they influence Congress, executive branch, courts, elections.
- POLI:3120 The Criminal Justice System** 3 s.h.  
Role of actors, institutions that constitute and participate in the American criminal justice system.
- POLI:3121 The Judicial Process** 3 s.h.  
Role of courts, lawyers, judges, interest groups in the American political system.



- POLI:3123 State Politics in Iowa** 3 s.h.  
Introduction to Iowa government and politics; emphasis on Iowa Constitution, founding and history, political institutions, voting, political parties, mass movements and interest groups; evangelical movement in Iowa, immigration, and Iowa's role in national politics given the state's first-in-the-nation caucus.
- POLI:3124 Guided Political Science Internship** 1-9 s.h.  
Supervised professional work experience in government and nongovernment organizations, as well as private industry. Requirements: sophomore or higher standing.
- POLI:3126 Environmental Policy** 3 s.h.  
Analysis of environmental problems through an interdisciplinary approach drawing from economics, environmental economics, political economy, and political science; how environmental resources differ from other goods that economists study (usually there is no market for them); government policies that are needed to maintain and improve environmental quality; how governments are influenced by voters' policy preferences and by policy preferences of special interest groups; three main areas of political economy as it relates to environmental policy.
- POLI:3127 Legislative Policy Seminar** arr.  
Policy research for the Iowa Legislature.
- POLI:3128 Politics of the U.S. National Park System** 3 s.h.  
Examination of politics surrounding the U.S. National Park System and other federally managed lands; debates about the founding of the U.S. National Parks system; expansion, environmental effects, and current issues; role of important actors, such as the President, Congress, bureaucracies, land owners, and nongovernmental organizations.
- POLI:3150 Problems in American Politics** 1-3 s.h.  
Problems in studying American system; structures, functions, behavior.
- POLI:3160 Research Task Force: Solving Policy Problems Through Research** 3 s.h.  
How policy research assists elected officials and government bureaucrats to design and implement effective public policies; introduction to process of conducting policy research and preparing summary reports; students examine various theories and methods of policy research, then apply what they have learned by conducting original policy research on local, state, national, and international issues.
- POLI:3202 Political Psychology** 3 s.h.  
Political phenomena from psychological perspective; political behaviors of individuals, including decision making by elites and masses, evaluations of political candidates, mass mobilization, response to mass media; psychological concepts including stereotyping, social cognition, attitude, group identification.
- POLI:3203 Campaigns, Elections, and Voting Behavior** 3 s.h.  
Determinants of voting behavior; correlates of political participation, political apathy; political socialization processes; nature and functions of elections.
- POLI:3204 Public Opinion** 3 s.h.  
Role in making public policy; formation, change of political attitudes and opinions; political ideology; measurement of public opinion; how opinion polls are conducted; experience with interviewing and conducting public opinion research. Same as SOC:3525.
- POLI:3300 Postmodern Political Theory** 3 s.h.  
Major writers and intellectual trends, from 19th century to World War II.
- POLI:3302 Current Political Theory** 3 s.h.  
Thinkers or schools of thought, from World War II to present.
- POLI:3305 Modern Political Theory** 3 s.h.  
Major writers and intellectual trends in political thought from Renaissance and Reformation to 19th century.
- POLI:3306 Problems of Democracy** 3 s.h.  
Theory and practice of democracy; democratic ideals and the institutions and practices necessary for those ideals to work in everyday politics—power, equality, majority rule, participation, trust, representation.
- POLI:3350 Games of Politics** 3 s.h.  
Active learning component to many theories and concepts learned in political science and international relations; multitude of simulations (games) that provide a hands-on learning element to these concepts and theories; topics include alliances, balance of power, inequality, public opinion, gerrymandering, and policy making; students read materials connected to the specific weekly topic, complete a simulation tied to that topic, discuss links between topics; and complete a variety of assignments that tie these items together.
- POLI:3400 Political Economy** 3 s.h.  
Economic reasoning applied to political issues, including evolution of institutions, voting, leadership, interest groups, bargaining tactics, federalism, bureaucracy, fairness and compensation for wrongs, legitimacy of democracy, electoral cycles in economic policy, revolutions.
- POLI:3405 Authoritarian Politics** 3 s.h.  
Political dynamics in countries with authoritarian governing regimes; how those dynamics differ from their counterparts in democracies; how decisions are reached and get enforced; forms political struggles take; how interest groups pursue influence; ways individuals deal with the government; tension between regime control and societal progress.
- POLI:3408 Chinese Politics and Society** 3 s.h.  
Comprehensive introduction to modern Chinese history; current Chinese political system and political culture; public policy issues.
- POLI:3410 Russian Foreign Policy** 3 s.h.  
Russia's behavior as a major economic, military, and diplomatic power in the world and what shapes that behavior; Russians' perceptions of other countries; Russian national interests; capabilities and domestic political dynamics; implications for foreign policy of the United States and other countries.
- POLI:3411 Democracy: Global Trends and Struggles** 3 s.h.  
Diverse contemporary understandings and practices of democracy; worldwide democratization trends; what political, economic, cultural and transnational factors shape those trends; how elites and citizens struggle to promote or retard democracy; the news full of people around the world taking action to demand democracy and what this term, so highly prized, really means; what is known about when democracy will replace authoritarianism; how can democracies more fully live up to their promise.
- POLI:3418 Governance in the Middle East** 3 s.h.  
Institutions and social systems that are affected by political behavior; ways in which Islam, oil production, and international forces shape political evolution in the region; comparative political inquiry of the operation of government institutions in the context of specific historical legacies, economic structures, and population characteristics in Iran, Iraq, Egypt, Turkey, Saudi Arabia.

**POLI:3420 Southeast Asia: Politics and Development****3 s.h.**

Eleven states of Southeast Asia; governance, development strategies, domestic politics, approach to democracy and national identity; regional politics and important transnational issues; role of ASEAN, terrorism, trans-Pacific trade and investment issues, China's looming presence, impact of ongoing and historic conflicts; briefings, discussions, presentations.

**POLI:3422 Horn of Africa: Politics and Transnational Issues****3 s.h.**

Eight states in the Horn of Africa region; important transnational and regional issues; governance, development strategies, domestic politics, social and civic dynamics of countries in the region; wildlife trafficking, piracy, fight against HIV/AIDS, imprint of colonialism, secession, ethnic and national identities, democratization, role of women in society, impact of ongoing and historic conflicts; briefings, discussions, presentations.

**POLI:3423 The Middle East: Policy and Diplomacy****3 s.h.**

Nineteen states and entities of North Africa and the Middle East; issues of governance, development strategies, domestic politics, and approach to democracy and national identity; regional politics and important transnational issues; role of political Islam; impacts of the Arab Spring, terrorism, oil, role of women in society, ongoing and historic conflicts; briefings, discussions, presentations.

**POLI:3424 Global Development****3 s.h.**

Exploration of political and social causes and consequences of economic development; two important questions asked—Why are some countries rich while others are poor? What can be done to encourage growth in underdeveloped countries?

**POLI:3425 South Asia: Politics, Identity, and Conflict****3 s.h.**

Survey of the eight countries in the South Asia region; examination of governance in the eight countries; students explore the interaction of politics, identity, and conflict within and across the regional states; ethnic, religious, caste, class, and other identities that have long competed for primacy with national identities in South Asia, sometimes leading to armed conflict within countries and sometimes sparking war between countries, and the question—Am I first a Sri Lankan or a Tamil? What do I feel like most?

**POLI:3426 Outliers: Comparing Odd Countries****3 s.h.**

The 195 countries that make up today's international system vary greatly by demography, geography, cultural variables, income, and many other characteristics; United Nations member Nauru, for example, with only 10,000 people and eight square miles of territory was once ranked among the world's richest countries per capita; how being "odd" (compared to the norm) in key characteristics relates to sociopolitical outcomes like good governance, human development, or happiness; students write short research papers, participate in group projects, and engage in an active learning environment to explore governance in the world's "odd" countries.

**POLI:3427 Latinas/os/x and the Law****3 s.h.**

Introduction and survey of Latina/o/x legal history; topics include segregation, educational rights, immigration, voting rights, citizenship, and the criminal justice system. Same as AMST:3420, LATS:3420, SJUS:3420.

**POLI:3428 Statecraft, Diplomacy, and World Order****3 s.h.**

Exploration of the interaction of statecraft, diplomacy, and changing perceptions of world order; how a state fosters its interests and values vis-à-vis the world's other nations, international organizations, and nonstate actors given significant changes to traditional diplomacy and statecraft wrought by advances in technology, globalization, domestic political inputs, and requirements of conflict management; material ranges broadly in scope from long arc of regional competition over thousands of years to nuts and bolts of modern-day statecraft.

**POLI:3430 Environmental Politics and Indigeneity****3 s.h.**

Examination of contemporary environmental challenges through the lens of indigeneity; exploration of the concepts of environment and indigeneity, and development of a guiding framework for analyzing environmental challenges; application of this framework to analyze themes including climate change, biodiversity, food production, management of genetic resources, extractivism, and sustainable development; environmental/indigenous scholars and activists share their work and insights.

**POLI:3431 U.S. Energy Policy in Global Context****3 s.h.**

Historical and contemporary aspects of U.S. governmental planning and policy on a wide range of energy issues in global context. Same as GEOG:3780, GHS:3780, HIST:3240.

**POLI:3432 Agriculture Politics and Policy****3 s.h.**

Examination of local, national, and international politics and policies around agriculture including genetically modified organisms (GMOs), subsidies, trade, genetic seed banks, sustainability, and indigeneity.

**POLI:3450 Problems in Comparative Politics****3 s.h.**

Structures, functions, behaviors of different political systems.

**POLI:3503 Politics of Terrorism****3 s.h.**

Strategies of terrorists, insurgents, guerrillas, and other non-state actors; terrorists' use of the media; suicide attacks; al Qaeda and the U.S.-led War on Terrorism; counterinsurgency and counter-terrorism; self-starters and transnational terrorist networks; drone strikes and data-mining operations as counter-terrorism tools and the associated political controversies.

**POLI:3504 Globalization****3 s.h.**

Introduction to multidisciplinary literature on political economy and culture of globalization; major topics of debate on globalization.

**POLI:3505 Civil Wars****3 s.h.**

Causes, duration, management, and consequences of civil war; factors that create more frequent, longer civil wars (e.g., greed, grievance, ethnic conflict, state capacity); conflict management strategies for ending civil wars and minimizing long-term negative consequences.

**POLI:3506 Consequences of War****3 s.h.**

War's enduring effects: war's impact on individuals, including combatants and noncombatants; war's impact on states, including states' development, economic, political, and social effects; war's effects on the international system.

**POLI:3509 International Courts: The Intersection of Law and Politics** 3 s.h.

Introduction to important international courts including (Permanent) International Court of Justice, European Court of Justice, International Criminal Tribunal for Yugoslavia, International Criminal Tribunal for Rwanda, and International Criminal Court; the formation, design, and expansion of international courts from political and legal perspectives; states' capabilities, regime type, and war; intersection of domestic and international law, emphasizing the major legal systems in the world (civil law, common law, Islamic law).

**POLI:3512 International Conflict** 3 s.h.

International conflict as the primary ingredient of international politics; sources, causes, and effects of conflict, alliance structures, power distribution, geography, arms races, deterrence.

**POLI:3514 Regional Peace and Security** 3 s.h.

Analysis of the causes of peace and conflict between countries in various regions of the world; theories of zones of peace, security communities, regional security complexes.

**POLI:3516 The Politics of International Economics** 3 s.h.

Politics of international trade and financial systems, including rise of free trade in 19th century and breakdown between the two world wars, postwar trading system framed around the World Trade Organization, different types of international monetary systems, relations between rich countries and poor countries, and global environmental politics.

**POLI:3517 Global Justice** 3 s.h.

Introduction to normative issues in international politics (i.e., Under what conditions are wars just? When is intervention justified? Do wealthier nations owe anything to those elsewhere who are in need?); theoretical works on global justice by Rawls, Kant, Pogge, Walzer, and others; normative theories analyzed against background of empirical examples, such as recent humanitarian interventions, contemporary wars, current trade regime, global environmental problems; seminar. Requirements: no prior enrollment in POLI:3550 with subtitle Global Justice.

**POLI:3518 Water Wars: Conflict and Cooperation** 3 s.h.

How climate change may aggravate shortage of freshwater in water-stressed regions, producing warnings of conflict over international river basins or "water wars"; recent U.S. intelligence assessment notes that water may be used as a weapon between or within states, or to further terrorist aims in the future; management of international water resources including conflicts over cross-border rivers and maritime areas; common property resources, piracy, maritime security, peaceful and militarized conflict management of water-based conflicts, climate issues, natural disasters, United Nations Law of the Sea Convention.

**POLI:3519 Politics of Aging** 3 s.h.

Core concepts and methods related to aging and policies that address the needs of older persons; demographic measures of population health and aging, including incidence and distribution of specific conditions relevant in older age; theories of public policy and involvement of older persons in the political process; key historical and current policies, at both the federal and state/local levels, that influence service provision and the well-being of older persons in the United States. Same as ASP:3519.

**POLI:3522 Ending Wars and Keeping Peace** 3 s.h.

When are international and civil wars ripe for resolution? What determines intervention strategies for third parties, and why do attempts at conflict resolution so frequently fail? Students will investigate these questions and consider the process by which conflicts reach cease-fires and peace agreements, why some agreements last when others do not, and what can be done to make peace more durable; considering post-conflict societies and the lingering problems they face; topics include peacekeeping, mediation, the role of regional and international organizations, and post-conflict justice.

**POLI:3524 Politics and Multinational Enterprises** 3 s.h.

Relationship between business and politics by examining the operation of multinational business enterprises; how corporations interact with countries, subnational governments, interest groups, international organizations, and nongovernmental organizations.

**POLI:3525 Iowa Policy and Opinion Lab** 0-3 s.h.

Collaboration and study of policymaking and public opinion in Iowa; examination of policy choices in legislative, executive, and judicial branches; collection of survey data on public opinion among Iowans; students assist with research question development, data collection, data analysis, writing up results, and work with topics in these and other areas (e.g., race and crime, gender and social issues, health and COVID-19, environment); research group led by faculty in the Departments of Political Science and Journalism and Mass Communication.

**POLI:3526 Comparative Foreign Policy** 3 s.h.

Students examine, compare, and analyze foreign policy of different countries; exploration of differences in different types of foreign policy across countries, including use of military force and cooperation on global issues (e.g., climate change, terrorism); understanding and evaluation of explanations for these differences, ranging from variation in leaders, domestic institutions, public opinion, and other factors; critical analysis of research on understanding foreign policies of countries.

**POLI:3530 Diplomacy Lab** arr.

Students work in teams under the supervision of a faculty member on projects created by the U.S. Department of State; class meetings are arranged and most work will occur outside of the classroom; experiential learning course in partnership with the U.S. Department of State.

**POLI:3550 Problems of International Politics** 3 s.h.

Problems in studying international system, structures, functions, behavior.

**POLI:3560 Public Policy and Persuasion** 3 s.h.

Students build their skill set in policy analysis, formation, and communication through a social justice lens; engagement in service learning projects in one Iowa community, where work done directly impacts that community's ability to make changes; development of effective writing and oral presentation styles that can be adapted to different audiences; focus on homelessness policy using social policy and social justice concepts to explore work of policy makers who have "right-sized" existing systems to serve communities in crisis and propose solutions to systemic problems that disadvantage marginalized populations. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as PBAF:3560, RHET:3560, SJUS:3560.

- POLI:3570 Poverty Policy** 3 s.h.  
How poverty is regulated and addressed in the United States, and by federal, state, and local governments; particular focus on programs including Temporary Assistance for Needy Families (TANF), Section 8 housing, Medicaid, and Medicare; how these systems have changed over time; current models and innovations that have emerged in practice. Same as GHS:3570, PBAF:3570.
- POLI:3601 Politics of Film** 3 s.h.  
Issues in the popular politics of aesthetics, communication, culture, and myth, explored through analysis of films.
- POLI:3603 War and Film** 3 s.h.  
Exploration of one of the most significant political phenomena, war, as it is represented and understood through film; various film genres including classic war films, historical and historical fiction, documentary (e.g., *Battle of Algiers*, *Triumph of the Will*, *Invisible War*), comedy-drama (e.g., *Life is Beautiful*), and dark comedy or satire (e.g., *The Mouse that Roared*, *Tropic Thunder*); scholarly writings on international conflict; students discover and investigate themes related to nature of war, its underlying causes, and its consequences.
- POLI:3604 New Media and Public Opinion** 3 s.h.  
How do citizens give voice to their interest in and concerns about governing? New media and public opinion, measured by surveys, supplement each other, each with strengths and weaknesses; parallel moves of the two in elections and when important political decisions are being made.
- POLI:3701 Special Topics in Politics** 1-2 s.h.  
Presentations by distinguished lecturers on topics in the study of politics not covered in other courses.
- POLI:3710 Law School Readiness Seminar** 0-1 s.h.  
Engagement in a number of programs and educational activities in preparation for successful application to and completion of law school. Requirements: enrollment in College of Liberal Arts and Sciences Law School Readiness Program.
- POLI:3992 Political Science Undergraduate Research Projects** 0 s.h.  
Independent research with mentorship from a political science faculty member.
- POLI:3993 Political Science Undergraduate Research Projects** 1-4 s.h.  
Independent research with mentorship from a political science faculty member.
- POLI:3994 Political Science Undergraduate Research Projects** 1-4 s.h.  
Independent research with mentorship from a political science faculty member.
- POLI:4000 Honors Seminar on the Study of Politics** 3 s.h.  
Examination of big ideas in the study of politics and government that cut across the fields of American politics, comparative politics, international relations, and political theory. Requirements: honors standing in political science.
- POLI:4100 Honors Seminar on American Politics** 3 s.h.  
Ideas, issues, methods in selected area. Requirements: junior or senior honors standing in political science.
- POLI:4600 Honors Research Project** 3 s.h.  
Special research assistance to political science faculty. Requirements: junior or senior honors standing in political science.
- POLI:4601 Honors Senior Thesis** 3 s.h.  
Supervised research and writing. Requirements: honors standing in political science and more than one semester before graduation.
- POLI:4700 Independent Study** arr.  
Supervised special projects.
- POLI:4701 Undergraduate Research Tutorial** 3 s.h.  
Individual training in applied research.
- POLI:4702 Senior Research Project/Paper** 3 s.h.  
Supervised research and writing. Requirements: political science major and more than one semester before graduation.
- POLI:4800 Senior Seminar in International Relations** 3 s.h.  
Completion of final research project as a culmination of student's work in the major; research supervised by a faculty member; required for international relations major. Recommendations: taken during one of student's final two semesters at the University of Iowa.
- POLI:4801 Honors Senior Seminar in International Relations** 3 s.h.  
Honors capstone course for international relations majors.
- POLI:4802 International Relations Senior Seminar Preparation** 1 s.h.  
Preparation for international relations senior seminar.
- POLI:4900 Government and Politics Internship** 1-3 s.h.  
Undergraduate internships in state or national legislative office, executive agency, or with election campaign official.
- POLI:5000 Introduction to Political Analysis** 4 s.h.  
Conceptual problems of political analysis; empirical research strategies, philosophy of science. Requirements: M.A. or Ph.D. standing in political science.
- POLI:5001 Introductory Methodology** 3-4 s.h.  
Introduction to quantitative techniques in political science; set theory, probability distributions, estimation, testing; emphasis on acquiring mathematical skills for more advanced quantitative work in political science. Requirements: M.A. or Ph.D. standing in political science. Same as IGPI:5001.
- POLI:5003 Intermediate Methodology** 4 s.h.  
Techniques of data analysis; statistical models and their relationship to hypotheses tested. Requirements: doctoral standing in political science and one semester of intermediate statistics.
- POLI:5100 American Politics** 4 s.h.  
Major literature of American politics, emphasis on comparative, systemic, behavioral studies. Requirements: M.A. or Ph.D. standing in political science.
- POLI:5111 American Public Policy** 3 s.h.  
Introduction to study of public policy in the United States; development of analytical skills necessary to better understand and explain contemporary policy debates and public policy decision making that takes place at the local, state, and national levels in the United States; topics include a mix of theoretical approaches and substantive policy areas to better understand how policy is made, manipulated, and maintained; examination of demands and supports, institutional, and environmental variables that drive American public policy. Same as PBAF:5111.

- POLI:5117 Bureaucratic Politics and Public Administration** 3 s.h.  
Examination of bureaucracy from political, theoretical, and practical perspectives; what we mean by "bureaucracy" and how it developed over time; political control of bureaucracy; how bureaucracy performs its tasks, including behavior of bureaucrats; role of nonprofit service delivery in modern bureaucracy; how bureaucracy affects American policy and politics. Same as PBAF:5117.
- POLI:5200 American State Politics** 3 s.h.  
Approaches to analysis of political behavior in American state governments; emphasis on cultures, parties, actors, processes, issues. Same as PBAF:5200.
- POLI:5300 Political Theory** 4 s.h.  
Methods of political theory, epistemological and moral foundations of political inquiry; terms of political discourse (e.g., power, legitimacy, equality, ideological foundations of politics); schools of thought and current controversies in political theory. Requirements: M.A. or Ph.D. standing in political science.
- POLI:5400 Comparative Politics** 4 s.h.  
Conceptual, theoretical, and methodological issues in comparative study of politics; developments in comparative politics subfield. Requirements: M.A. or Ph.D. standing in political science.
- POLI:5500 International Politics** 4 s.h.  
Approaches to study of international politics. Requirements: M.A. or Ph.D. standing in political science.
- POLI:5700 Introduction to Formal Models in Political Science** 4 s.h.  
Use of formal mathematical models; current modeling techniques, applications in American politics, comparative politics, international politics. Requirements: M.A. or Ph.D. standing in political science.
- POLI:6635 Crossing Borders Seminar** 2-3 s.h.  
Taught in English. Same as AFAM:6635, ANTH:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, SPAN:6904.
- POLI:7002 Topics Methodology** 4 s.h.  
Application of advanced statistical techniques in political science; limited dependent variable regression techniques, simulation methods, missing data techniques, history/rare event analysis and maximum likelihood, and topics tailored to students' research; focus on learning how and when to apply these techniques.
- POLI:7003 Advanced Methodology** 4 s.h.  
Introduction to regression techniques for limited dependent and qualitative variables in political science; logit, probit, multinomial logit and probit, ordered logit and probit, event history models, event count models; emphasis on understanding how and when to apply these models.
- POLI:7100 Modeling American Politics** 4 s.h.  
Exploration of how well formal models explain the real world and how the fit between models and world can be improved.
- POLI:7150 Problems in American Politics** 4 s.h.  
Problems in study of American political system; structures, functions, behavior.
- POLI:7202 Public Opinion and Electoral Behavior** 4 s.h.  
Political attitudes and beliefs in mass publics; voting behavior; how electoral systems function.
- POLI:7270 Responsible Research in Political Science** 1 s.h.  
Concepts and practice of scholarly integrity, responsible conduct of research, and research ethics in political science; data management, mentor/trainee responsibilities, publication practices and responsible authorship, peer review, collaborative science, human subjects, animal welfare, research misconduct, and conflict of interest and commitment. Requirements: enrollment in political science M.A. or Ph.D. program.
- POLI:7409 Democratization and Authoritarianism** 4 s.h.  
Rival understandings and practices of democracy and authoritarianism, including challenges of quantifying them for comparative analyses; major theoretical and empirical approaches to studying democratization and other forms of regime change.
- POLI:7423 Comparative Parties and Elections** 4 s.h.  
Introduction to important questions and puzzles in the study of political parties; party formation and development, the role of parties in society, how parties are organized, party systems, electoral systems, party strategy and behavior, development of new parties, whether parties are still relevant, regeneration of communist parties in post-communist regimes, ethnic parties, failure of party consolidation.
- POLI:7450 Problems of Comparative Politics** 4 s.h.  
Problems in study of comparative political systems; structures, functions, behavior.
- POLI:7502 International Institutions and Cooperation** 4 s.h.  
Literature of international systems and international organization; major schools of thought in international relations theory, their utility in explaining evolution of the international system and recent developments in international organization and global governance.
- POLI:7503 International Conflict and Cooperation** 4 s.h.  
Recent theoretical and empirical debates in international relations literature; emphasis on formal and quantitative research.
- POLI:7550 Problems in International Politics** 4 s.h.  
Issues of international politics, emphasis on problems of theoretical analysis.
- POLI:7604 Responsible Research in Political Science: Postdocs** 1 s.h.  
Concepts and practice of scholarly integrity, responsible conduct of research, and research ethics in political science; data management, mentor/trainee responsibilities, publication practices and responsible authorship, peer review, collaborative science, human subjects, animal welfare, research misconduct, conflict of interest and commitment. Requirements: postdoctoral research scholar/fellow in political science.
- POLI:7701 Dynamic Models of International Politics** 2-4 s.h.  
Overview of several dynamic modeling techniques used to study international relations; modeling assumptions, the kinds of information models can provide, evaluation of models.
- POLI:7900 Readings Tutorial** arr.  
Independent study.
- POLI:7901 Research Tutorial** arr.  
Individual training in applied research.
- POLI:7910 Ph.D. Dissertation** arr.

## Political Science, B.A.

Most of the political science coursework required for the major is the same for B.A. and B.S. students, but the major for the B.S. includes a political science research component. The major for the B.S. also requires a set of mathematics/statistics courses, while the major for the B.A. does not.

The B.A. degree with a major in political science offers an option for an on-campus or an online program of study. See Requirements [p. 974] in this section of the Catalog.

### Learning Outcomes

Graduates will:

- possess a basic understanding of American and world politics,
- be able to apply a theoretical approach in political science to understand American or world politics,
- have effective written and oral communication skills, and
- be able to conceptualize problems and apply analytical tools to solve them.

### Requirements

The Bachelor of Arts with a major in political science requires a minimum of 120 s.h., including 36 s.h. of work for the major (all in political science courses). At least 18 s.h. of coursework for the major must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Credit earned in POLI:1000 First-Year Seminar, POLI:3124 Guided Political Science Internship, POLI:3710 Law School Readiness Seminar, POLI:3993 Political Science Undergraduate Research Projects, and POLI:4900 Government and Politics Internship does not count toward the major, but grades in these courses become part of a student's grade-point average.

In planning coursework, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: students earning a B.A. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the coursework is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

The B.A. with a major in political science requires the following coursework.

Code	Title	Hours
	Political Science Introductory Courses	15
	Additional Political Science Courses	21
<b>Total Hours</b>		<b>36</b>

## Political Science Introductory Courses

Code	Title	Hours
This course:		
POLI:1100	Introduction to American Politics	3
And four of these:		
POLI:1001	Introduction to Politics	3
POLI:1050	Big Ideas: Introduction to Information, Society, and Culture	3
POLI:1200	Introduction to Political Behavior	3
POLI:1300	Introduction to Political Thought and Action	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1401	Introduction to Russian Politics	3
POLI:1410	Introduction to Asian International Relations	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:1600	Introduction to Political Communication	3
POLI:1601	Introduction to Social Media and Politics	3
POLI:1700	Introduction to Political Analysis	3
POLI:1800	Introduction to the Politics of Class and Inequality	3
POLI:1900	Introduction to the Politics of Race	3
POLI:1950	Introduction to the Politics of Religion	3

## Additional Political Science Courses

Code	Title	Hours
All of these:		
At least seven additional political science courses numbered 2000 or above, excluding POLI:3124, POLI:3710, POLI:3992, POLI:3993, and POLI:4900		21

## Emphases in Political Science

Students may elect to complete one or two emphasis areas while fulfilling the requirements for the major. Emphasis areas are indicated on the transcript at graduation if students complete the emphasis and request recognition from the department.

Each emphasis consists of four courses. Emphases are available in American institutions, identity politics, international relations, political behavior, political communication, political theory, politics of foreign countries,

and public policy. For courses approved in each area, contact the Department of Political Science.

## Online B.A.

The Department of Political Science offers an online B.A. degree with a major in political science intended for students who are not able to attend courses that meet on campus. The online program enables students to complete their B.A. degree from anywhere in the world. For more information, see Online Political Science B.A. on the Department of Political Science website.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students majoring in political science have the opportunity to graduate with honors in the major. Departmental honors students must maintain a UI g.p.a. of at least 3.33 and a major g.p.a. of at least 3.50. In addition to maintaining the minimum grade-point average requirements, students must complete 6-9 s.h. in specific departmental honors courses with a grade of B or higher in each course. They also are encouraged to enroll in honors sections of introductory courses whenever available. The required honors courses are included in the minimum 36 s.h. of political science coursework for the major.

Students earning departmental honors must include the following courses in their major coursework.

### Honors Seminar

Code	Title	Hours
This course:		
POLI:4000	Honors Seminar on the Study of Politics	3

### Experiential Learning

Code	Title	Hours
One of these:		
POLI:3001	Hawkeye Poll	3
POLI:3113	Research in Judicial Politics	3
POLI:3124	Guided Political Science Internship	1-9
POLI:3127	Legislative Policy Seminar	arr.
POLI:3525	Iowa Policy and Opinion Lab	0-3
POLI:3530	Diplomacy Lab	arr.
POLI:4701	Undergraduate Research Tutorial	3
POLI:4900	Government and Politics Internship	3

Another course or experience, study abroad, internship credit, or research work (approved by the honors director) 0-3

## Final Honors Project

Code	Title	Hours
One of these:		
POLI:4600	Honors Research Project	3
POLI:4601	Honors Senior Thesis	3

Students who choose to write an honors thesis are required to schedule an oral discussion of their completed honors thesis, mainly to enrich the intellectual experience of its author. A student discusses the thesis with a faculty committee including the thesis director and the department's honors director or a faculty member designated by that official. The committee may withhold approval of fundamentally inadequate theses, but directors are to schedule theses for discussion only when they are ready. The discussion typically concentrates on exploring thesis ideas from several perspectives rather than whether to approve a thesis.

For more information about honors in the political science major, contact the Department of Political Science honors advisor.

## National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of coursework in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the political science major.

## Career Advancement

A recent survey showed that graduates with political science degrees have higher average salaries than graduates in all other social sciences, excluding students with economics degrees. The Department of Political Science organizes career workshops for its students throughout the year.

The workshops are led by former political science students who have achieved distinction in business, law, campaign operations, local government, elected office, or other fields.

The department has an active alumni mentorship program. Students can be connected to alumni to learn about careers, networking opportunities, and mentorship. The department also offers an opportunity for students to complete the last year of their collegiate career in Washington D.C.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

In addition to the following checkpoints, honors students must complete POLI:4000 Honors Seminar on the Study of Politics and one additional honors seminar before the seventh semester begins.

**Before the fifth semester begins:** two courses in the major.

**Before the seventh semester begins:** six courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** eight courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Political Science, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
POLI:1100	Introduction to American Politics <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>14-16</b>
<b>Spring</b>		
Major: introductory-level course numbered POLI:1XXX <sup>b</sup>		3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-18</b>

## Second Year

### Fall

Major: introductory-level course numbered POLI:1XXX <sup>b</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>	4 - 5
Elective course <sup>d</sup>	3
<b>Hours</b>	
<b>14-15</b>	

### Spring

Major: introductory-level course numbered POLI:1XXX <sup>b</sup>	3
Major: upper-level course numbered POLI:2XXX or above <sup>f</sup>	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>	4 - 5
Elective course <sup>d</sup>	3
<b>Hours</b>	
<b>16-17</b>	

## Third Year

### Fall

Major: introductory-level course numbered POLI:1XXX <sup>b</sup>	3
Major: upper-level course numbered POLI:2XXX or above <sup>f</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
<b>Hours</b>	
<b>15</b>	

### Spring

Major: upper-level course numbered POLI:2XXX or above <sup>f</sup>	3
Major: upper-level course numbered POLI:2XXX or above <sup>f</sup>	3
GE CLAS Core: Values and Culture <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
<b>Hours</b>	
<b>15</b>	

## Fourth Year

### Fall

Major: upper-level course numbered POLI:2XXX or above <sup>f</sup>	3
GE CLAS Core: Historical Perspectives <sup>e</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
<b>Hours</b>	
<b>15</b>	

### Spring

Major: upper-level course numbered POLI:2XXX or above <sup>f</sup>	3
Major: upper-level course numbered POLI:2XXX or above <sup>f</sup>	3
GE CLAS Core: International and Global Issues <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3



Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>120-126</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f For the political science major upper-level is defined as those courses numbered 2000 or above, excluding POLI:3124, POLI:3710, POLI:3992, POLI:3993, and POLI:4900.
- g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Political Science, B.S.

Most of the political science coursework required for the major is the same for B.S. and B.A. students, but the major for the B.S. includes a political science research component. The major for the B.S. also requires a set of mathematics/statistics courses, while the major for the B.A. does not.

## Learning Outcomes

Graduates will:

- possess a basic understanding of American and world politics,
- be able to apply a theoretical approach in political science to understand American or world politics,
- have effective written and oral communication skills, and
- be able to conceptualize problems and apply analytical tools to solve them.

## Requirements

The Bachelor of Science with a major in political science requires a minimum of 120 s.h., including at least 46 s.h. of work for the major (36 s.h. in political science courses and 10-11 s.h. of approved mathematics/statistics courses). At least 18 s.h. of political science coursework for the major must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Credit earned in POLI:1000 First-Year Seminar, POLI:3124 Guided Political Science Internship, POLI:3710 Law School Readiness Seminar, POLI:3993 Political Science Undergraduate Research Projects, and POLI:4900 Government and Politics Internship does not count toward the major, but grades in these courses become part of a student's grade-point average.

In planning coursework, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: students earning a B.S. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the coursework is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

The B.S. with a major in political science requires the following coursework.

Code	Title	Hours
	Political Science Introductory Courses	15
	Additional Political Science Courses	21
	Mathematics/Statistics Courses	10-11
<b>Total Hours</b>		<b>46-47</b>

## Political Science Introductory Courses

Code	Title	Hours
This course:		
POLI:1100	Introduction to American Politics	3
And four of these:		
POLI:1001	Introduction to Politics	3
POLI:1050	Big Ideas: Introduction to Information, Society, and Culture	3
POLI:1200	Introduction to Political Behavior	3
POLI:1300	Introduction to Political Thought and Action	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1401	Introduction to Russian Politics	3
POLI:1410	Introduction to Asian International Relations	3
POLI:1445	Introduction to Asian Politics: China	3
POLI:1449	Introduction to European Politics	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:1600	Introduction to Political Communication	3
POLI:1601	Introduction to Social Media and Politics	3
POLI:1700	Introduction to Political Analysis	3
POLI:1800	Introduction to the Politics of Class and Inequality	3
POLI:1900	Introduction to the Politics of Race	3
POLI:1950	Introduction to the Politics of Religion	3

## Additional Political Science Courses

Code	Title	Hours
These:		
	Political science courses numbered 2000 or above, excluding POLI:3124, POLI:3710, POLI:3992, POLI:3993, and POLI:4900	15
This course:		
POLI:3000	Analyzing Political Data	3
One of these:		
POLI:4600	Honors Research Project	3
POLI:4701	Undergraduate Research Tutorial	3

## Mathematics/Statistics Courses

Students complete one of the following sets of mathematics/statistics courses with a g.p.a. of at least 2.00. Other sets

of courses may be used with written approval of the B.S. program advisor.

## Set 1

Code	Title	Hours
MATH:1380	Calculus and Matrix Algebra for Business	4
or MATH:1550	Engineering Mathematics I: Single Variable Calculus	
or MATH:1850	Calculus I	
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
STAT:6513	Intermediate Statistical Methods	3

## Set 2

Code	Title	Hours
MATH:1850	Calculus I	4
or MATH:1550	Engineering Mathematics I: Single Variable Calculus	
MATH:1860	Calculus II	4
or MATH:1560	Engineering Mathematics II: Multivariable Calculus	
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Emphases in Political Science

Students may elect to complete one or two emphasis areas while fulfilling the requirements for the major. Emphasis areas are indicated on the transcript at graduation if students complete the emphasis and request recognition from the department.

Each emphasis consists of four courses. Emphases are available in American institutions, identity politics, international relations, political behavior, political communication, political theory, politics of foreign countries, and public policy. For courses approved in each area, contact the Department of Political Science.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students majoring in political science have the opportunity to graduate with honors in the major. Departmental honors students must maintain a UI g.p.a. of at least 3.33 and a major g.p.a. of at least 3.50. In addition to maintaining the minimum grade-point average requirements, students must complete 9 s.h. in specific departmental honors courses with a grade of B or higher in each course. They also are encouraged to enroll in honors sections of introductory courses whenever available.

The required honors courses are included in the minimum 36 s.h. of political science coursework for the major.

Students earning departmental honors must include the following courses in their major coursework.

### Honors Seminar

Code	Title	Hours
This course:		
POLI:4000	Honors Seminar on the Study of Politics	3

### Experiential Learning

Code	Title	Hours
One of these:		
POLI:3001	Hawkeye Poll	3
POLI:3113	Research in Judicial Politics	3
POLI:3124	Guided Political Science Internship	1-9
POLI:3127	Legislative Policy Seminar	arr.
POLI:3525	Iowa Policy and Opinion Lab	0-3
POLI:3530	Diplomacy Lab	arr.
POLI:4701	Undergraduate Research Tutorial	3
POLI:4900	Government and Politics Internship	1-3

Another course or experience, study abroad, internship credit, or research work (approved by the honors director) 0-3

### Final Honors Project

Code	Title	Hours
One of these:		
POLI:4600	Honors Research Project	3
POLI:4601	Honors Senior Thesis	3

Students who choose to write an honors thesis are required to schedule an oral discussion of their completed honors thesis, mainly to enrich the intellectual experience of its author. A student discusses the thesis with a faculty committee including the thesis director and the department's honors director or a faculty member designated by that official. The committee may withhold approval of fundamentally inadequate theses, but directors are to schedule theses for discussion only when they are ready. The discussion typically concentrates on exploring thesis ideas from several perspectives rather than whether to approve a thesis.

For more information about honors in the political science major, contact the Department of Political Science honors advisor.

### National Honor Society

The department sponsors a chapter of Pi Sigma Alpha. Students who have a cumulative g.p.a. of at least 3.30, have attained junior standing, and have completed 15 s.h. of coursework in political science are considered for membership. Contact the Department of Political Science honors advisor for more information.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the political science major.

## Career Advancement

A recent survey showed that graduates with political science degrees have higher average salaries than graduates in all other social sciences, excluding economics. The Department of Political Science organizes career workshops for its students throughout the year. The workshops are led by former political science students who have achieved distinction in business, law, campaign operations, local government, elected office, or other fields.

The department has an active alumni mentorship program. Students can be connected to alumni to learn about careers, networking opportunities, and mentorship. The department also offers an opportunity for students to complete the last year of their collegiate career in Washington D.C.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

In addition to the following checkpoints, honors students must complete POLI:4000 Honors Seminar on the Study of Politics and one additional honors seminar before the seventh semester begins.

**Before the fifth semester begins:** two courses in the major.

**Before the seventh semester:** eight courses in the major, including two of the three required mathematics/statistics courses and POLI:3000 Analyzing Political Data; and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** 11 courses in the major, including POLI:4600 Honors Research Project or POLI:4701 Undergraduate Research Tutorial.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Political Science, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
	<b>Hours</b>	<b>0</b>

### First Year

#### Fall

POLI:1100	Introduction to American Politics <sup>b</sup>	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-17</b>

#### Spring

Major: introductory-level course numbered POLI:1XXX		3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>

### Second Year

#### Fall

Major: introductory-level course numbered POLI:1XXX		3
Major: calculus course <sup>b, f, g</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>

#### Spring

POLI:3000	Analyzing Political Data	3
Major: calculus or statistics course <sup>f</sup>		3 - 4
Major: introductory-level course numbered POLI:1XXX		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>

### Third Year

#### Fall

Major: introductory-level course numbered POLI:1XXX		3
Major: upper-level course numbered POLI:2XXX or above <sup>h</sup>		3
Major: statistics course <sup>f</sup>		3
GE CLAS Core: Values and Culture <sup>e</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

#### Spring

Major: upper-level course numbered POLI:2XXX or above <sup>h</sup>		3
Major: upper-level course numbered POLI:2XXX or above <sup>h</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4

Elective course <sup>d</sup>	2 - 3
<b>Hours</b>	<b>15-16</b>
<b>Fourth Year</b>	
<b>Fall</b>	
POLI:4600 Honors Research Project or POLI:4701 or Undergraduate Research Tutorial	3
GE CLAS Core: Historical Perspectives <sup>e</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
Major: upper-level course numbered POLI:2XXX or above <sup>h</sup>	3
Major: upper-level course numbered POLI:2XXX or above <sup>h</sup>	3
GE CLAS Core: International and Global Issues <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>121-129</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students complete an approved set of mathematics/statistics courses (10-11 s.h.).

g Enrollment in math courses requires completion of a placement exam.

h For the political science major upper-level is defined as those courses numbered 2000 or above, excluding POLI:3124, POLI:3710, POLI:3992, POLI:3993, and POLI:4900.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Political Science, Minor

## Requirements

The undergraduate minor in political science requires a minimum of 15 s.h. in political science courses, including 12 s.h. in courses numbered 2000 or above and 12 s.h. taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Credit from POLI:1000 First-Year Seminar, POLI:3124 Guided Political Science Internship, POLI:3710 Law School Readiness Seminar, POLI:3993 Political Science Undergraduate Research Projects, and POLI:4900 Government and Politics Internship does not count toward the minor requirements.

Students may complete an emphasis area; see "Emphases in Political Science" under the B.A. in political science [p. 974] or the B.S. in political science [p. 978] in the Catalog. Emphasis areas in the minor are not recorded on a student's transcript; however, a student may request a letter from the Department of Political Science noting the completion of an emphasis area in the minor.

# Political Science, M.A.

The department usually offers the master's degree only as a preliminary step toward the Ph.D. degree.

## Learning Outcomes

Students will:

- demonstrate in-depth knowledge of two major fields in the discipline and competency in one minor field (the minor field may be within the discipline, in an interdisciplinary subject, or in another related discipline);
- demonstrate advanced research skills, including advanced statistical analysis and broad knowledge of a range of theoretical and methodological approaches relevant to their field of research;
- demonstrate effective teaching skills following the pedagogical standards of the discipline;
- be familiar with and follow disciplinary norms and standards, including understanding issues related to ethical practices in research; professional, public, and collegial engagement; and instruction; and
- demonstrate a full understanding of the research enterprise, including an ability to engage others' work and an ability to make original and substantial contributions to the field.

## Requirements

The Master of Arts program in political science requires a minimum of 30 s.h. of graduate credit, with a cumulative g.p.a. of at least 3.25. No thesis is required. Each student's record is reviewed by a final examination committee, which may waive the final oral examination.

A first-year evaluation committee convenes at the end of a student's first year of courses; if the committee finds that the student's work provides sufficient evidence of the research and writing skills ordinarily demonstrated in a master's thesis, it may recommend that the student be allowed to proceed with a doctoral program. When the first-year evaluation committee finds the quality of a student's work inadequate for recommending continuation toward the Ph.D., the committee may recommend that the student be permitted to seek the nonthesis M.A. as a terminal degree.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

# Political Science, Ph.D.

The doctoral program in political science is nationally recognized as a leader in the discipline, with outstanding research faculty in each of the major subfields and a reputation for outstanding graduate training.

Graduate study in political science emphasizes the Doctor of Philosophy program. The department usually offers the master's degree only as a preliminary step toward the Ph.D.

## Learning Outcomes

Students will:

- demonstrate in-depth knowledge of two major fields in the discipline and competency in one minor field (the minor field may be within the discipline, in an interdisciplinary subject, or in another related discipline);
- demonstrate advanced research skills, including advanced statistical analysis and broad knowledge of a range of theoretical and methodological approaches relevant to their field of research;
- demonstrate effective teaching skills following the pedagogical standards of the discipline;
- be familiar with and follow disciplinary norms and standards, including understanding issues related to ethical practices in research; professional, public, and collegial engagement; and instruction; and
- demonstrate a full understanding of the research enterprise, including an ability to engaging others' work and an ability to make original and substantial contributions to the field.

## Requirements

The Doctor of Philosophy program in political science requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.40.

The program is designed to prepare students for research, teaching, and scholarly endeavor in academic settings and private or governmental institutions. It produces graduates who are deeply committed to the study of politics, familiar with fundamental knowledge about political processes, well trained in methods and techniques for careful investigation of basic and applied research questions, and determined to make contributions to the discipline of political science and to society.

The department usually admits six to eight Ph.D. students each year, so students work closely with faculty members, often collaborating on research and publication. Graduate students know one another and enjoy supportive, congenial working conditions.

Five fields of study are available: American politics, comparative politics, international relations, formal theory, and research methods. Each student chooses three fields of study for qualifying examinations.

Doctoral study usually lasts four to five years. The first-year curriculum for all students consists of core courses equally divided between substance and methodology. Emphasis is on basic research methods, including quantitative methods, that political scientists must understand thoroughly. Special attention is given to research design, collection of observations, and data analysis and interpretation.

The second and third years of study are spent in small seminars with focused, substantive topics. Papers written for these seminars might be submitted to journals or read at professional meetings. Students must complete their qualifying examinations by the end of the third year. They take their comprehensive examination (oral defense of the dissertation proposal) by the middle of the first semester of their fourth year.

The fourth and fifth years are spent on dissertation research and writing. Students who do basic research and gather data abroad often require an additional year to complete the dissertation.

The following courses are required during the first and second years of graduate study.

Code	Title	Hours
<b>First Year, Fall Semester</b>		
POLI:5000	Introduction to Political Analysis	4
POLI:5001	Introductory Methodology	4
A 5000-level field seminar (see "Field Seminars" below)		
<b>First Year, Second Semester</b>		
POLI:5003	Intermediate Methodology	4
Two 5000-level field seminars (see "Field Seminars" below)		
<b>Second Year</b>		
POLI:7003	Advanced Methodology	4

## Field Seminars

The 5000-level field seminars are as follows.

Code	Title	Hours
POLI:5100	American Politics	4
POLI:5400	Comparative Politics	4
POLI:5500	International Politics	4
POLI:5700	Introduction to Formal Models in Political Science	4

Students must complete the appropriate 5000-level course before enrolling in a 7000-level course. In unusual circumstances and with the permission of the instructor teaching the higher-level course, a student may enroll in that course and the 5000-level course at the same time.

Graduate students are expected to take at least 12 s.h. of coursework per semester through their second year of graduate study. Typically, this is in regularly scheduled courses rather than readings courses. During the third year, students are expected to take a minimum of 12 s.h. of regularly scheduled coursework; readings courses should be limited to the second semester of the third year. Students may take up to 12 s.h. in readings courses (not counting coursework accumulated in summer terms, when readings courses are often all that is available).

## Core Graduate Courses

Code	Title	Hours
POLI:5000	Introduction to Political Analysis	4
POLI:5001	Introductory Methodology	3-4
POLI:5100	American Politics	4
POLI:5400	Comparative Politics	4
POLI:5500	International Politics	4



POLI:5700	Introduction to Formal Models in Political Science	4
POLI:6635	Crossing Borders Seminar	2-3

## Advanced Graduate Courses

Code	Title	Hours
POLI:5003	Intermediate Methodology	4
POLI:5111	American Public Policy	3
POLI:5117	Bureaucratic Politics and Public Administration	3
POLI:5200	American State Politics	3
POLI:7002	Topics Methodology	4
POLI:7003	Advanced Methodology	4
POLI:7100	Modeling American Politics	4
POLI:7150	Problems in American Politics	4
POLI:7202	Public Opinion and Electoral Behavior	4
POLI:7270	Responsible Research in Political Science	1
POLI:7409	Democratization and Authoritarianism	4
POLI:7423	Comparative Parties and Elections	4
POLI:7450	Problems of Comparative Politics	4
POLI:7502	International Institutions and Cooperation	4
POLI:7503	International Conflict and Cooperation	4
POLI:7550	Problems in International Politics	4
POLI:7701	Dynamic Models of International Politics	2-4
POLI:7900	Readings Tutorial	arr.
POLI:7901	Research Tutorial	arr.
POLI:7910	Ph.D. Dissertation	arr.

## Quantitative Methods

All doctoral students must demonstrate at least minimal competence in quantitative methods. Students must earn at least a B grade in POLI:5001 Introductory Methodology, POLI:5003 Intermediate Methodology, and POLI:7003 Advanced Methodology. Students who do not meet this requirement must take a substitute course selected by faculty members who teach the quantitative methods courses.

## Postcomprehensive Registration

Graduate College regulations require that students be registered at the University of Iowa each semester after passing the comprehensive examination until their degree is awarded, and that this registration accurately reflects the amount and type of work undertaken, the use of University facilities, and the amount of consultation with the faculty. After passing their comprehensive examination, students working on their dissertation research should register in POLI:7910 Ph.D. Dissertation. No more than 30 s.h. are granted for dissertation preparation.

The Guide to Doctoral Study, available from the Department of Political Science and on its website, provides a comprehensive statement of departmental requirements.

## Admission

Because the number of positions available in the Ph.D. program is limited, the competition for admission is keen. However, applicants who did not major in political science or who are not acquainted with quantitative research methods are not at a disadvantage.

The deadline for application and consideration for assistantships and fellowships is January 7.

Admission requirements include a baccalaureate degree, an undergraduate g.p.a. of at least 3.30 on a four-point scale (or its equivalent for international applicants), and three letters of recommendation from persons who can comment upon the applicant's academic ability and motivation. For applicants who have pursued graduate work elsewhere, a graduate g.p.a. of at least 3.50 is required.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students may only enter the program in the fall semester.

## Career Advancement

The Doctor of Philosophy program in political science is designed to prepare students for careers in research and teaching. All students receive a thorough grounding in research methods. It is this grounding that permits teachers to be critical consumers of the research they read and permits researchers to undertake significant theoretical and empirical work.

Because the faculty and the graduate student body is not large, there is ample opportunity to collaborate with individual faculty members in research endeavors. In addition, students spend some time as apprentice teachers in large undergraduate classes.

Ph.D. graduates secure employment in a wide variety of academic and nonacademic settings. In particular, they work in highly ranked research universities and teaching colleges throughout the United States and the world. Over the last decade, almost all graduates seeking academic positions found jobs.

Iowa graduates use their training to build distinguished research records that allow them to move to some of the nation's top institutions.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Political Science, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.40 or higher. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
POLI:5000	Introduction to Political Analysis	4
POLI:5001	Introductory Methodology <sup>d</sup>	4
	Field Seminar course <sup>e</sup>	4
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
POLI:5003	Intermediate Methodology <sup>d</sup>	4
	Field Seminar course <sup>e</sup>	4
	Field Seminar course <sup>e</sup>	4
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
POLI:7003	Advanced Methodology <sup>d</sup>	4
	Elective course <sup>f</sup>	4
	Elective course <sup>f</sup>	4
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
	Elective course <sup>f</sup>	4
	Elective course <sup>f</sup>	4
	Elective course <sup>f</sup>	4
<b>Hours</b>		<b>12</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Qualifying Exams <sup>g</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
	Elective course <sup>f</sup>	4
	Elective course <sup>f</sup>	4
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
	Elective course <sup>f</sup>	4
	Elective course <sup>f</sup>	4
<b>Hours</b>		<b>8</b>
<b>Fourth Year</b>		
<b>Fall</b>		
POLI:7910	Ph.D. Dissertation	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Comprehensive Exam <sup>h</sup>		
POLI:7910	Ph.D. Dissertation	3
<b>Hours</b>		<b>3</b>

### Fifth Year

<b>Fall</b>		
POLI:7910	Ph.D. Dissertation	1
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
POLI:7910	Ph.D. Dissertation	1
	Final Exam <sup>i</sup>	
<b>Hours</b>		<b>1</b>
<b>Total Hours</b>		<b>72</b>

a Five fields of study are available: American politics, comparative politics, international relations, formal theory, and research methods.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c A graduate student's Graduate College Program GPA is comprised of all courses that are approved degree requirements.

d Must earn grade of B or better.

e Choose from POLI:5100, POLI:5400, POLI:5500, POLI:5700.

f Includes field of study concentration coursework selected from core or advanced graduate courses in the department; may take up to 12 s.h. of readings courses, research, and thesis credit. Work with faculty advisor to determine appropriate coursework and sequence.

g Must be completed by end of the third year; students choose three fields of study for qualifying examinations.

h Includes oral defense of dissertation proposal and must be completed by spring semester of the fourth year.

i Dissertation defense.

# Psychological and Brain Sciences

## Chair

- Mark S. Blumberg

**Undergraduate major:** psychology (B.A., B.S.)

**Undergraduate minor:** psychology

**Graduate degrees:** M.A. in psychology; Ph.D. in psychology

**Faculty:** <https://psychology.uiowa.edu/people/faculty>

**Website:** <https://psychology.uiowa.edu>

The Department of Psychological and Brain Sciences offers an undergraduate major and minor as well as graduate degree programs. It also offers courses that undergraduate students in all majors may use to satisfy the GE CLAS Core [p. 20] Social Sciences requirement, a course approved for the Diversity and Inclusion requirement, and a First-Year Seminar designed for entering undergraduate students.

The department also collaborates with the Department of Biology to offer an undergraduate degree in neuroscience. See the B.S. in neuroscience [p. 917] in the Catalog.

## Faculty

Faculty members of the Department of Psychological and Brain Sciences are nationally and internationally renowned leaders in a variety of subdisciplines. Their research is funded by numerous federal and private research grants, their findings are documented in many publications, and their research and teaching accomplishments have earned them many awards.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Psychology (Bachelor of Arts) [p. 994]
- Major in Psychology (Bachelor of Science) [p. 998]

#### Minor

- Minor in Psychology [p. 1003]

### Graduate Programs of Study

#### Majors

- Master of Arts in Psychology [p. 1004]
- Doctor of Philosophy in Psychology [p. 1006]

## Facilities

The department's facilities for graduate training and research are among the finest in the country. The Department of Psychological and Brain Sciences is housed in three buildings. The newly constructed Psychological and Brain Sciences Building contains modern laboratories devoted to research in cognitive science, developmental science, and cognitive neuroscience. The building also houses administrative and faculty offices, an undergraduate advising center, classrooms, breakout rooms, conference rooms, and commons spaces.

The Kenneth W. Spence Laboratories of Psychology, which connects with the Psychological and Brain Sciences Building on each floor, houses additional laboratories devoted to research in human psychology, animal housing and testing facilities associated with laboratories in behavioral neuroscience, offices, meeting rooms, a mechanical shop, and a computer support facility. The adjacent and recently renovated Stuit Hall houses laboratories for many of the clinical science faculty, as well as offices, meeting rooms, and the Seashore Psychology Clinic.

The research and teaching activities of the department benefit greatly from the facilities and staff of other University entities and local agencies, including University of Iowa Hospitals & Clinics, the Iowa Neuroscience Institute, the VA Iowa City Health Care, the University Counseling Service, the Center for Disabilities and Development, the Wendell Johnson Speech and Hearing Clinic, the Center for Health Policy and Research, and the School of Social Work.

## Courses

The following courses are open to first-year students who have satisfactorily completed an introductory psychology course (PSY:1001 Elementary Psychology or equivalent). Other courses numbered from 1000-2999 are considered lower-level undergraduate courses.

- PSY:2301 Introduction to Clinical Psychology
- PSY:2401 Introduction to Developmental Science
- PSY:2501 Introduction to Social Psychology
- PSY:2601 Introduction to Cognitive Psychology
- PSY:2701 Introduction to Behavioral Neuroscience

Before enrolling in any advanced undergraduate courses, students must complete all specified lower-level prerequisites or obtain consent of the instructor. Courses numbered 3000-4999 are considered advanced undergraduate courses. Those numbered 5000-7610 are considered graduate-level courses.

### Psychological and Brain Sciences Courses

**PSY:1000 First-Year Seminar** **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

**PSY:1001 Elementary Psychology** **3 s.h.**

Psychology as a behavioral science. GE: Social Sciences.

**PSY:1010 Your Brain Unlocked: Learning About Learning** **1 s.h.**

Research about the human mind and brain that students can use to foster academic success at the UI; presentation of research findings that indicate best practices for studying, learning, and succeeding at the UI (not a remedial study skills course); topics range from retrieving information stored in memory to maintaining psychological health under stress; course format consists of lecture, student response to reading assignments, and discussion; readings are primarily original documents (journal articles).

**PSY:1501 Everyone's a Little Bit Biased: The Science Behind Prejudice** 3 s.h.

Tendencies to view and/or respond in favorable or unfavorable ways to individuals based solely on social group membership; social psychological concepts, underlying principles, and theories to understand how stereotypic beliefs, prejudicial attitudes, and discriminatory actions impact individuals and reinforce social inequality. GE: Diversity and Inclusion.

**PSY:2105 Winning Hearts and Minds: Understanding Social Influence** 1 s.h.

What social psychologists have discovered about changing people's attitudes and behavior; social influence strategies including applications to fundraising, public service campaigns, religious cults, sales, and political campaigns.

**PSY:2130 Advanced Psychology for Pre-Medical Track** 3 s.h.

Psychology as a behavioral science; elementary psychology in more depth, advanced topics. Prerequisites: PSY:1001. Requirements: non-psychology major.

**PSY:2301 Introduction to Clinical Psychology** 3 s.h.

Introduction to abnormal psychology; scientist-practitioner model, training, ethics, research methods in clinical psychology; current approaches to intellectual, personality, behavioral assessment; theories, research on treatment of psychological disorders. Prerequisites: PSY:1001. GE: Social Sciences.

**PSY:2401 Introduction to Developmental Science** 3 s.h.

Current research in developmental science; prenatal development, brain development, motor and physical development, perceptual development, language development, cognitive development, aspects of socio-emotional development; emphasis on modern theoretical approaches. Prerequisites: PSY:1001. GE: Social Sciences.

**PSY:2501 Introduction to Social Psychology** 3 s.h.

Research and theories on people's thoughts, feelings, and behaviors in social situations; attitudes, attributions, person perception, aggression, stereotypes and prejudice, attraction, relationships, social influence, group processes, altruism. Prerequisites: PSY:1001.

**PSY:2601 Introduction to Cognitive Psychology** 3 s.h.

Individual human cognition; perception, attention, memory, language, learning, problem solving, decision making, thought considered from viewpoint of information processing. Prerequisites: PSY:1001. GE: Social Sciences.

**PSY:2701 Introduction to Behavioral Neuroscience** 4 s.h.

Biological mechanisms of behavior; comparative study of behavior, behavioral organization, animal intelligence, social behavior, communication; behavioral neuroscience, how brain systems control sensation, movement, homeostasis, emotion, learning.

**PSY:2811 Research Methods and Data Analysis in Psychology I** 3 s.h.

Foundational knowledge in psychological research methods and corresponding statistical concepts; basic concepts of statistics, statistical inference, and research design as applied in psychological research; study of descriptive statistics, measurement, survey design, correlational analyses, and regression analysis; first in a sequence of two courses. Prerequisites: PSY:1001 or PSY:2701. GE: Quantitative or Formal Reasoning.

**PSY:2812 Research Methods and Data Analysis in Psychology II** 3 s.h.

Foundational knowledge in psychological research methods and corresponding statistical concepts; basic concepts of statistics, statistical inference, and research design as they are applied in psychological research; study of experimental control, experimental design, and hypothesis testing; second in a sequence of two courses. Prerequisites: PSY:2811 with a minimum grade of C-.

**PSY:2930 Abnormal Psychology: Health Professions** 3 s.h.

Introduction to psychological disorders; description of psychopathology; general issues in etiology and treatment; for non-psychology students in allied health professions. Prerequisites: PSY:1001. Requirements: non-psychology major.

**PSY:2975 Introduction to Cognitive Neuroscience** 3 s.h.

Analysis of brain systems and neuroanatomy that underlie cognitive tasks such as vision, hearing, emotion, attention, language, decision making, learning, and memory. Prerequisites: PSY:2701.

**PSY:3005 Scientific Communication in Psychology** 3 s.h.

Training in modes of communication in psychological science; scientific writing; APA format for scientific papers; describing psychological research; creating research presentations tailored to different audiences. Prerequisites: PSY:2811 with a minimum grade of C-.

**PSY:3010 Health Psychology** 3 s.h.

Psychological contributions to understanding etiology, prevention, treatment of physical illness; basic and clinical research that addresses reciprocal effects of behavior and physical health. Prerequisites: PSY:2811 with a minimum grade of C- and (PSY:2301 with a minimum grade of C- or PSY:2501 with a minimum grade of C- or PSY:2701 with a minimum grade of C-).

**PSY:3020 Mind and Behavior** 3 s.h.

Theories of what it is to act and know, of what intelligence might be in animals, humans, machines; perspectives from philosophy, psychology. Prerequisites: PSY:2811 with a minimum grade of C- and (PSY:2701 with a minimum grade of C- or PSY:2601 with a minimum grade of C-). Requirements: junior or senior standing.

**PSY:3030 Social and Personality Development** 3 s.h.

Emotional, social, and personality development from infancy to adolescence; major theories and empirical research; child temperament, parent-child relationship, and social context as contributors to individual differences. Prerequisites: PSY:2811 with a minimum grade of C- and (PSY:2501 with a minimum grade of C- or PSY:2401 with a minimum grade of C-).

**PSY:3035 Science of Emotion** 3 s.h.

Scientific study of emotion from psychological and neuroscientific perspectives; theories, measurements, and mechanisms (e.g., physiological, psychological, neural); perception, expression, and function of emotion. Prerequisites: PSY:2811 with a minimum grade of C- and (PSY:2501 with a minimum grade of C- or PSY:2601 with a minimum grade of C- or PSY:2701 with a minimum grade of C-).

- PSY:3040 Psychology of Learning** 3 s.h.  
Psychological science of acquired behavior; interests in experimental study of Pavlovian conditioning, operant conditioning, cognition in humans and nonhuman animals, relevance to behavioral adaptation. Prerequisites: PSY:2811 with a minimum grade of C- and (PSY:2701 with a minimum grade of C- or PSY:2601 with a minimum grade of C-).
- PSY:3050 Applied Psychology: Addressing Real-World Problems** 3 s.h.  
Bridging the basic applied research divide in psychology; contributions of cognitive, clinical, social, and developmental psychology to understand real-world problems (e.g., traffic safety, screen time). Prerequisites: PSY:2301 with a minimum grade of C- or PSY:2401 with a minimum grade of C- or PSY:2501 with a minimum grade of C- or PSY:2601 with a minimum grade of C-.
- PSY:3055 Interdisciplinary Science of Sound and Hearing** 3 s.h.  
Introduction to physics of sound, biology/psychology of hearing, and audio technology; theories and experimental methods; music, speech, and environmental sounds. Same as CSD:3119, MUS:3055.
- PSY:3060 Sensation and Perception** 3 s.h.  
Principles of sensory processes in vision, audition, and other modalities; perception of objects and events.
- PSY:3066 Aging Mind and Brain** 3 s.h.  
Current theories and research on cognitive, affective, socioemotional, and decision-making changes that occur during aging; behavioral, cognitive, and cognitive neuroscience methodologies applied to study of aging in these domains; lifespan perspective with emphasis on decline and adaptation. Prerequisites: PSY:2811 with a minimum grade of C- and (PSY:2701 with a minimum grade of C- or PSY:2601 with a minimum grade of C-).
- PSY:3075 The Damaged Brain** 3 s.h.  
Understanding relationships between brain structure and function with emphasis on how brain trauma and illnesses affect cognition and behavior; foundations of neuropsychology, structure of nervous system, functional specialization of brain, cognitive functions, and assessments of brain disorders. Prerequisites: PSY:2811 with a minimum grade of C-.
- PSY:3230 Psychopharmacology** 3 s.h.  
How drugs act to influence behavior; general principles of drug action on the nervous system; licit and illicit drugs, use/abuse, historical perspective on drug use. Prerequisites: PSY:2811 with a minimum grade of C- or (HHP:1300 with a minimum grade of C- or HHP:1350 with a minimum grade of C- or HHP:3500 with a minimum grade of C- or HHP:3550 with a minimum grade of C-). Same as HHP:3230.
- PSY:3250 Neuroscience of Learning and Memory** 3 s.h.  
Major topics in the neuroscience of learning and memory; focus on anatomical, cellular, molecular bases of various learning and memory processes. Prerequisites: (PSY:2701 with a minimum grade of C- or BIOL:2753 with a minimum grade of C-) and PSY:2811 with a minimum grade of C-.
- PSY:3265 Cognitive and Clinical Neuroscience of Executive Functions** 3 s.h.  
Major topics in cognitive and clinical neuroscience of executive functions; focus on attention, working memory, cognitive control, and executive dysfunction in psychiatric and neurological disorders. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2701 with a minimum grade of C-.
- PSY:3270 Neurobiology of Stress** 3 s.h.  
Introduction to concept of stress and physiological systems involved; factors modulating stress vulnerability versus resilience; stress interactions with other systems with health relevance; emphasis on current research on brain mechanisms. Prerequisites: PSY:2701 with a minimum grade of C- and PSY:2811 with a minimum grade of C-.
- PSY:3275 The Science of Sleep** 3 s.h.  
What is the brain doing during sleep? Why do we and other animals exhibit an altered state of consciousness that renders us unresponsive to the outside world? These questions and many others are subjects of the rapidly growing field of sleep research, including neurobiological basis of sleep drive and biological clock, cognitive and emotional functions of sleep, significance of dreams, relationship between sleep and psychopathology, and impact of sleep on society (i.e., serendipitous discoveries and major disasters attributable to sleep). Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2701 with a minimum grade of C-.
- PSY:3320 Abnormal Psychology** 3 s.h.  
Etiology, phenomenology, and treatment of child and adult DSM-IV psychological disorders (e.g., mood disorders, psychotic disorders, anxiety disorders, personality disorders). Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2301 with a minimum grade of C-.
- PSY:3330 Childhood Psychopathology** 3 s.h.  
Major forms of childhood psychopathology; current theoretical approaches and methodological issues in diagnosis, conceptualization, treatment of developmental psychopathology. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2301 with a minimum grade of C-.
- PSY:3340 Behavior Modification** 3 s.h.  
Basic approaches to modification of clinically distressing behavior; learning theory principles underlying techniques, translation into procedures, experimental evaluation of effectiveness. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2301 with a minimum grade of C-.
- PSY:3350 Psychotherapies** 3 s.h.  
Current theories and research on frequently used psychotherapeutic approaches; focus on methodology in psychotherapy research, specific types of therapy, and empirically supported therapies. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2301 with a minimum grade of C-.
- PSY:3360 The Psychosis Spectrum** 3 s.h.  
Severe mental illnesses including schizophrenia, bipolar disorder, and depression with psychotic features; neurobiological basis for hallucinations, delusions, and impaired cognition; current genetic, neuroscience, clinical, cultural, and evolutionary perspectives on causes, course, and treatment of severe mental illness. Prerequisites: PSY:2301 with a minimum grade of C- or PSY:2701 with a minimum grade of C-.
- PSY:3420 Cognitive Development of Children** 3 s.h.  
Developmental research, theory concerning children's concepts, thinking, problem solving, memory, communication. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2401 with a minimum grade of C-.

- PSY:3460 Language and Communication Development** 3 s.h.  
Vocal and social development from prelinguistic communication through early language; precursors of language development; social cognitive aspects of language development; comparative perspectives of communication development. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2401 with a minimum grade of C-.
- PSY:3530 Personality** 3 s.h.  
Classic theoretical models and contemporary empirical research in personality, including influence of heredity and environment, consistency and stability of behavior. Prerequisites: PSY:2811 with a minimum grade of C- and (PSY:2301 with a minimum grade of C- or PSY:2501 with a minimum grade of C-).
- PSY:3540 Attitude Change** 3 s.h.  
Current theoretical approaches; laboratory and field methods of research; basic processes of change considered within broader framework of psychology. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2501 with a minimum grade of C-.
- PSY:3560 Psychology of Gender** 3 s.h.  
Origins of gender roles, gender socialization in childhood, gender differences across lifespan; research on gender differences in cognition, emotions, behavior, physical and mental disorders, communication. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2501 with a minimum grade of C-.
- PSY:3570 Social Cognition** 3 s.h.  
Research and theory on cognitive structures and processes that underlie judgment, decision, belief, and behavior in social situations; attribution, heuristics, schemas, person perception, stereotypes, attitudes. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2501 with a minimum grade of C-.
- PSY:3575 Social Cognition in Autism** 3 s.h.  
Introduction to social, cognitive, and neural mechanisms in autism spectrum disorder (ASD); topics include emotion processing, theory of mind, social attention, main theories of autism, and relevant research techniques (e.g., eye tracking); discussion of insights from neuroscience, as well as approaches to train/improve social cognition in ASD. Prerequisites: PSY:2811 with a minimum grade of C- and (PSY:2601 with a minimum grade of C- or PSY:2501 with a minimum grade of C-).
- PSY:3580 Judgment and Decision Making** 3 s.h.  
Processes and biases that shape judgments and decisions of various types (e.g., about other people, the future, competitions, products, medical treatments, health risks, crime suspects). Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2501 with a minimum grade of C-.
- PSY:3590 Stereotyping and Prejudice** 3 s.h.  
Research and theory on prejudice, stereotyping, discrimination, and stigmatization; focus on nature, origins, and impact of prejudice and stereotypes. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2501 with a minimum grade of C-.
- PSY:3620 Human Memory** 3 s.h.  
Contemporary psychological theory and research on short-term and long-term memory, acquisition processes, related topics in cognition. Prerequisites: PSY:2811 with a minimum grade of C- and PSY:2601 with a minimum grade of C-.
- PSY:3670 Language Processes** 3 s.h.  
Psychological processes involved in using languages, including speech perception and production, the meaning of words, understanding and producing sentences, and basics of discourse and pragmatics; developmental and neural bases of language processes. Prerequisites: (PSY:2811 with a minimum grade of C- and PSY:2601 with a minimum grade of C-) or CSD:1015 or LING:3001. Same as LING:3670.
- PSY:3680 Introduction to Computational Cognitive Modeling** 3 s.h.  
Introduction to computational modeling as a methodology for studying cognition; role and use of computational models as a framework for thinking about cognition; emphasis on hands-on simulation exercises. Prerequisites: (PSY:2811 with a minimum grade of C- and (CS:1020 with a minimum grade of C- or CS:1110 with a minimum grade of C-) and PSY:2601 with a minimum grade of C-) or (STAT:1020 and (CS:1020 with a minimum grade of C- or CS:1110 with a minimum grade of C-) and PSY:2601 with a minimum grade of C-).
- PSY:3994 Research Practicum in Psychology** arr.  
Small-group participation in faculty research projects; literature review, study planning, data collection, analysis, interpretation, write-up.
- PSY:3995 Advanced Research Practicum** 1-3 s.h.  
Individual participation in faculty research projects; significant reading and writing. Requirements: two semesters of PSY:3994 or HONR:3994.
- PSY:3996 External Practicum in Psychology** 1-3 s.h.  
Student participation in career-related professional activities in community and University of Iowa agencies.
- PSY:3997 Teaching/Advising Practicum in Psychology** 1-3 s.h.  
Participation in faculty teaching as undergraduate teaching assistant or the Psychology Peer Advisor Program.
- PSY:3998 Individual Readings and Projects** 1-3 s.h.  
Requirements: psychology major and undergraduate standing.
- PSY:3999 Independent Research in Neuroscience** 2-3 s.h.  
Independent scientific research related to the field of neuroscience. Same as BIOL:3999.
- PSY:4020 Laboratory in Psychology** 4 s.h.  
Laboratory study of an aspect of behavior; topics in a particular area (e.g., learning and memory, perception, social behavior, operant behavior, physiological processes). Prerequisites: PSY:2701 and PSY:2812 with a minimum grade of C-.
- PSY:4025 Laboratory in Cognitive Neuroscience** 4 s.h.  
Practical, hands-on experience analyzing data from three of the most common methods of cognitive neuroscience—scalp electroencephalography (brain waves), functional magnetic resonance imaging (brain imaging), and transcranial magnetic stimulation (brain stimulation). Prerequisites: PSY:2975 and PSY:2812. Requirements: neuroscience major.
- PSY:4090 Psychology Seminar** 3 s.h.  
Readings from original sources, presentations, papers, student participation. Prerequisites: PSY:2812 with a minimum grade of C-. Requirements: junior or senior standing.
- PSY:4990 Honors Thesis Research** 1-3 s.h.  
Supervised original project; leads to written thesis, oral defense. Requirements: honors standing.

- PSY:4995 Honors Research in Neuroscience** arr. 3 s.h.  
Independent scientific research related to the field of neuroscience. Requirements: honors standing in neuroscience, UI g.p.a. of at least 3.33, and neuroscience g.p.a. of at least 3.33. Same as BIOL:4995.
- PSY:5050 Quantitative Methods in Psychology** 4 s.h.  
Overview of statistical methods based on the general linear model, including ANOVA, ANCOVA, and multiple regression; how to conduct these analyses using SPSS. Requirements: first-year graduate standing in psychology.
- PSY:5055 Mixed-Effects Modeling in Psychology** 4 s.h.  
Introduction to mixed-effects analysis of hierarchically structured and cross-classified psychological data using R. Prerequisites: PSY:5050.
- PSY:5070 Programming for Psychologists** 3 s.h.  
Basics of programming; experiment design, stimulus delivery and response recording using Python; implementation of online testing using JavaScript; data analysis of behavioral data using Python; basic machine learning techniques and their applications to data analysis implemented using Python. Requirements: PSY:2812 or graduate standing.
- PSY:5080 Foundations in Cognitive Neuroscience** 4 s.h.  
Key concepts and findings in human cognitive neurosciences.
- PSY:5203 Fundamental Neurobiology I** 3 s.h.  
Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity, functional neuroanatomy, sensory, motor and autonomic systems; emotion, memory, sleep, language, attention and cognition, neuronal development; focus on systems and developmental neurobiology; first in a two-semester sequence. Same as BIOL:5653, NSCI:5653.
- PSY:5204 Fundamental Neurobiology I Discussion** 2 s.h.  
Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5653 lecture material. Same as BIOL:5658, NSCI:5658.
- PSY:5205 Fundamental Neurobiology II** 3 s.h.  
Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity; functional neuroanatomy, sensory, motor and autonomic systems; emotion, memory, sleep, language, attention and cognition, neuronal development; focus on molecular/cellular neurobiology and neurophysiology; second in a two-semester sequence. Prerequisites: BIOL:5653 or NSCI:5653 or PSY:5203. Same as BIOL:5654, NSCI:5654.
- PSY:5206 Fundamental Neurobiology II Discussion** 2 s.h.  
Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5654 lecture material. Same as BIOL:5659, NSCI:5659.
- PSY:5212 Foundations in Behavioral and Cognitive Neuroscience** 4 s.h.  
Concepts, methods, and findings in behavioral and cognitive neurosciences. Prerequisites: BIOL:3253. Same as NSCI:5212.
- PSY:5320 Descriptive Psychopathology** 3 s.h.  
Psychiatric syndromes, including description, etiology, experimental and clinical research; development, function of classification systems.
- PSY:5330 Principles of Psychological Assessment** 3 s.h.  
Assessment theory and basic psychometric principles in test construction, evaluation, application; ethical, social, psychological, and psychometric issues and controversies in assessment.
- PSY:5365 Seminar: Neuropsychology and Neuroscience** arr. 3 s.h.  
Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as NEUR:5365, NSCI:5365.
- PSY:5410 Proseminar in Developmental Science** 3 s.h.  
Introduction to developmental process and developmental science; topics organized around mechanisms of development, with cross-disciplinary focus.
- PSY:5610 Proseminar in Cognition and Perception** 3 s.h.  
Broad overview of study of cognition, including cognitive psychology, computer science and artificial intelligence, linguistics, neuroscience, philosophy of mind.
- PSY:5710 Introduction to Health and Behavioral Science** 3 s.h.  
Evolution of health psychology; survey of major physiological systems in which pathology is affected by behavioral processes; review of theoretical approaches, experimental paradigms from behavioral science as they may apply to assessment of health problems; prevention, intervention, psychological adaptation to physical disease.
- PSY:6070 Practical Introduction to Theoretical Methods for Brain Sciences** 3 s.h.  
Introductory overview of how mathematical and computational models are used to model and explain the mind and brain; encoding/decoding, learning and optimization, differential equations (e.g., Hodgkin-Huxley model of spiking neurons), dynamical systems, probability and statistics, information theory and inference, efficient coding.
- PSY:6101 Cognitive Science of Language Proseminar I** 3 s.h.  
Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6101, LING:6101.
- PSY:6102 Cognitive Science of Language Proseminar II** 3 s.h.  
Survey of five major disciplines within language sciences: formal linguistic, communication disorders, psychological, neuroscience, and computational approaches. Requirements: graduate standing in communication sciences and disorders, linguistics, psychology, or neuroscience. Same as CSD:6102, LING:6102.
- PSY:6230 Foundations of Learning, Memory, and Cognition** 3 s.h.  
Determinants of adaptive behavior in humans and animals; emphasis on behavioral analysis of learning, memory, and cognition; relevance of laboratory research to real life activities.
- PSY:6265 Neuroscience Seminar** 0-1 s.h.  
Research presentations. Same as ACB:6265, BIOL:6265, MPB:6265, NSCI:6265.

- PSY:6280 Structural and Functional MRI Methods and Application** 3 s.h.  
Introduction to basic principles of magnetic resonance imaging and its application to psychology; imaging of brain structure; focus on functional MRI. Requirements: graduate-level introductory statistics.
- PSY:6340 Psychological Therapies** 3 s.h.  
Historical development and current status of empirically based therapies for psychological disorders, including anxiety, depression, schizophrenia, childhood disorders; emphasis on critical evaluation of therapy techniques.
- PSY:6360 Psychosis: Neurobiological, Cultural, and Evolutionary Perspectives** 4 s.h.  
Severe mental illnesses including schizophrenia, bipolar disorder, and depression with psychotic features; neurobiological basis for hallucinations, delusions, and impaired cognition; current genetic, neuroscience, clinical, cultural, and evolutionary perspectives on causes, course, and treatment of severe mental illness.
- PSY:6370 Principles of Neuropsychology** 3 s.h.  
Principles of human neuropsychology, including foundations (history, methods, approaches), major functional systems (vision, memory, language, spatial processing), executive functions (emotional processing and personality), and applications (experimental, clinical). Recommendations: prior coursework in psychological assessment, psychopathology, and neuroanatomy.
- PSY:6440 Developmental Cognitive Neuroscience** 3 s.h.  
Overview of current developmental cognitive neuroscience theory, research, and methods (PET, fMRI, optical imaging, EEG, ERPs); neural development, computational neuroscience, and methods.
- PSY:6460 Translating Developmental Science to Applied Problems** 3 s.h.  
Relationship between basic and applied research in development; individual differences work and how applied work informs theory.
- PSY:6480 Computational Approaches to Development** 3 s.h.  
Use of computational models to understand development; model development, specific approaches, model evaluation, and hands-on model work.
- PSY:6580 Moral Psychology** 3 s.h.  
Research and theory on cognitive and affective processes that underpin moral judgment and moral behavior; neuroscience approaches to moral judgment; political differences in moral judgment; development, evolution, and clinical variation in morality.
- PSY:6590 Judgment and Decision Making** 3 s.h.  
Theory and research on how people gather, perceive, and use information when making judgments and decisions; includes risky and uncertain contexts; social and nonsocial contexts.
- PSY:7010 Professional Writing in Psychological and Brain Sciences** 2 s.h.  
Development of writing skills for research papers, fellowship applications, and grant proposals; workshop.
- PSY:7070 Seminar: Behavioral Biomedical Interface** 1 s.h.  
Ongoing seminar; discussion of research at behavioral-biomedical interface. Requirements: acceptance to Behavioral Biomedical Interface Training Program.
- PSY:7110 Research Projects** arr.
- PSY:7120 M.A. Thesis Research** arr.
- PSY:7130 Ph.D. Dissertation Research** arr.
- PSY:7150 Current Topics in Psychology** 3 s.h.
- PSY:7160 Problems in Psychology** arr.  
Individual study.
- PSY:7170 Teaching Practicum** arr.  
Supervised practice in teaching.
- PSY:7210 Seminar: Advanced Topics in Behavioral and Cognitive Neuroscience** 3 s.h.
- PSY:7270 Principles of Scholarly Integrity** 1 s.h.  
Training in responsible conduct of research; student/mentor responsibilities; authorship and reviewing; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects; data handling. Requirements: enrollment in graduate psychology or biology program. Same as BIOL:7270.
- PSY:7310 Seminar: Orientation to Clinical Research** 0-1 s.h.  
Issues in clinical research, including use of databases, advisor/advisee relationships, preparation of IRB proposals, paper presentation and publication, common early career problems, funding resources.
- PSY:7330 Seminar: Acceptance and Commitment Therapy** 1 s.h.  
Core processes of acceptance and commitment therapy (ACT); case conceptualization and targeted intervention across a range of psychiatric and physical diagnoses; emphasis on therapeutic stance and theoretical underpinnings of ACT; readings, discussion, video review, therapist-patient role play, and discussion of ongoing cases.
- PSY:7331 Seminar: Advanced Acceptance and Commitment Therapy** 1 s.h.  
Core processes of acceptance and commitment therapy (ACT) and implementation in clinical practice; theoretical underpinnings of ACT theory; ACT research; case conceptualization and targeted intervention across a range of psychiatric and physical diagnoses; reading, discussion, video review, therapist-patient role play, and discussion of ongoing cases. Prerequisites: PSY:7330.
- PSY:7350 Introductory Practicum** arr.  
Orientation to Department of Psychology clinic, including instruction in interviewing, observation of clinic procedures, attendance at clinic rounds under supervision of clinical psychology faculty members.
- PSY:7355 Assessment Practicum** arr.  
Supervised practice in psychological assessment techniques.
- PSY:7360 Therapy Practicum** arr.  
Supervised practice and clinical experience in application and evaluation of psychological therapies.
- PSY:7365 External Practicum** arr.  
Supervised practice and clinical experience in field setting; psychological assessment techniques and/or application, evaluation of psychological therapies.
- PSY:7370 Supervision and Consultation Practicum** arr.  
Supervision and training of less advanced students; consultation to other programs and agencies.



**PSY:7604 Principles of Scholarly Integrity** 0 s.h.

Training in responsible conduct of research and scholarly activities; student/mentor responsibilities; authorship; plagiarism/falsification/fabrication of data; intellectual property; conflict of interest; fiscal, institutional, societal; treatment of human and animal subjects; data handling. Requirements: postdoctoral standing in psychology or biology. Same as BIOL:7604.

**PSY:7610 Seminar: Cognitive Psychology** 2-3 s.h.**PSY:7620 Seminar: Human Perception and Performance** 1 s.h.

Professional issues and current topics relevant to psychologists studying human perception and performance.

# Psychology, B.A.

An undergraduate degree in psychology provides students with skills that are relevant to many career paths. The major in psychology is designed to contribute to students' general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as areas such as business, law, communication, medicine, and the allied health sciences. Students who intend to enter the job market immediately after graduation should complement their psychology major with substantial preparation in another program that is more closely tied to their area of interest (e.g., education, social work, business, journalism, nursing). Almost all vocational opportunities in psychology require advanced degrees.

The Bachelor of Arts (B.A.) degree has fewer specific requirements than the Bachelor of Science (B.S.) degree and places less emphasis on methodology. The program leaves time for students to supplement the psychology major with another program of study.

Students who change to a psychology major after two years of undergraduate work may find they do not have sufficient background for the B.S. program. They may wish to enrich the B.A. program with courses in experimental psychology and other advanced electives if they intend to pursue graduate work in psychology or a related field.

Students begin with a general introductory course, followed by methodology and data analysis courses, and introductory courses in several broad areas: behavioral neuroscience, developmental science, clinical psychology, cognitive psychology, and social psychology. These courses are followed by upper-level psychology courses selected by each student. For additional information regarding the undergraduate major and career information, visit Undergraduate Program on the Department of Psychological and Brain Sciences website.

The department maintains excellent facilities to support teaching and research on human and animal behavior. All faculty members are directly engaged in research, and they bring to their undergraduate teaching the excitement that such activity generates. Many opportunities exist for interested and capable students to participate in current research projects in the department.

The department has an active undergraduate organization, the Iowa Students Psychology Association, which is open to all interested students. The group sponsors speakers, films, career days, and student symposia.

## Learning Outcomes

The learning outcomes for students in the Department of Psychological and Brain Sciences align with several of the learning goals from the American Psychological Association's guidelines for undergraduate psychology education. These learning outcomes expand and deepen students' foundational knowledge obtained through the GE CLAS Core [p. 20] program.

Psychology majors will:

- understand psychology as an empirical science;
- graduate with a knowledge base in psychology, including an understanding of the major principles and theories in the field's main content areas;

- have learned how to use scientific reasoning to understand psychological phenomena and how to interpret and conduct psychological research; and
- be able to apply their knowledge of psychology to real world situations and recognize the importance of ethical standards and diversity in psychology.

## Requirements

The Bachelor of Arts with a major in psychology requires a minimum of 120 s.h., including 46-47 s.h. of work for the major, with at least 34 s.h. in psychology courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer credits must be approved by the department, and transfer students must complete at least 18 s.h. of psychology courses at the University of Iowa.

The major for the B.A. is designed for students who wish to gain considerable knowledge in psychology but do not necessarily plan a professional career in the discipline. It is appropriate for students preparing for careers in law, business, counseling, social work, or secondary school teaching (see "Teacher Licensure" below). It can be combined with a second major more easily than can the Bachelor of Science program.

Choice of a degree program should be dictated by a student's personal career goals. B.A. students interested in pursuing graduate study in psychology or other social sciences may enrich their program by taking courses in mathematics, statistics, research methods, and the natural sciences.

B.A. and B.S. students complete the same psychology core and psychology electives. The major for the B.A. also requires an additional statistics or computer science course plus a second concentration area.

Students are advised to take PSY:1001 Elementary Psychology as the first course in the major; however, if a student must take PSY:1001 for the first time after completing another psychology course with a higher number, the student may do so. Students may retake PSY:1001 for a second-grade-only option; however, this must be completed before taking any upper-level psychology courses (PSY:3000-PSY:3800). Students may not retake PSY:1001 after taking an upper-level psychology course; this is considered regression and no credit will be awarded.

The B.A. with a major in psychology requires the following courses or their equivalents.

Code	Title	Hours
	Psychology Core	6
	Lower-Level Psychology Requirements	19
	Upper-Level Psychology Electives	9
	Cognate Requirement	3-4
	Second Concentration Area Courses	9
<b>Total Hours</b>		<b>46-47</b>

## Psychology Core

All majors complete the following coursework for the psychology core.

Code	Title	Hours
Both of these:		
PSY:1001	Elementary Psychology	3

PSY:2811	Research Methods and Data Analysis in Psychology I	3
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## Lower-Level Psychology Requirements

Students take these courses after completing PSY:1001 Elementary Psychology.

Code	Title	Hours
All of these:		
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:2812	Research Methods and Data Analysis in Psychology II	3

## Upper-Level Psychology Electives

Students take three advanced psychology courses (total of 9 s.h.) after satisfactorily completing the psychology core and other specified prerequisites. Psychology courses (prefix PSY) numbered 3000 or above may be used to fulfill this requirement, except those in the following list.

Code	Title	Hours
PSY:3994	Research Practicum in Psychology	arr.
PSY:3995	Advanced Research Practicum	1-3
PSY:3996	External Practicum in Psychology	1-3
PSY:3997	Teaching/Advising Practicum in Psychology	1-3
PSY:3998	Individual Readings and Projects	1-3
PSY:3999/ BIOL:3999	Independent Research in Neuroscience	2-3
PSY:4020	Laboratory in Psychology	4
PSY:4025	Laboratory in Cognitive Neuroscience	4
PSY:4090	Psychology Seminar	3
PSY:4990	Honors Thesis Research	1-3
PSY:4995/ BIOL:4995	Honors Research in Neuroscience	arr.

## Additional Requirements

### Cognate Requirement

Students complete one of the following math, statistics, or computer science courses.

Code	Title	Hours
<b>Statistics</b>		
BIOS:4120	Introduction to Biostatistics	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4

STAT:3510/ IGPI:3510	Biostatistics	3
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STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
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### Computer Science

CS:1020	Principles of Computing	3
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CS:1110	Introduction to Computer Science	3
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CS:1210	Computer Science I: Fundamentals	4
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### Mathematics

MATH:1860	Calculus II	4
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MATH:2700	Introduction to Linear Algebra	4
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## Second Concentration Area

Students complete 9 s.h. of graded coursework in a single department other than the Department of Psychological and Brain Sciences. Courses used to fulfill this requirement must be taken at the University of Iowa and may not be used to fulfill GE CLAS Core requirements. A second major or a minor may be used to fulfill the requirement.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students majoring in psychology have the opportunity to graduate with honors in the major. They must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a minimum g.p.a. of 3.50 in the major.

There are two routes for honors in the major, one of which involves a thesis project as a capstone. For students who pursue honors without a thesis, other experiences constitute the capstone. Both routes include extra coursework. Interested students are encouraged to read Honors in the Psychology Major on the department's website.

### National Honor Society

The department sponsors a chapter of Psi Chi, the national honor society in psychology and affiliate of the American Psychological Association. Students who have a g.p.a. of at least 3.00 overall and in psychology coursework and who have completed 9 s.h. of psychology courses may request a membership application form. Consult the department's academic coordinator for more information.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the psychology major.

## Combined Programs

### B.A./M.P.H. (Community and Behavioral Health Subprogram)

Bachelor of Arts students majoring in psychology who are interested in earning a Master of Public Health degree with a community and behavioral health subprogram may apply to the combined B.A./M.P.H. program offered by the College of Liberal Arts and Sciences and the College of Public Health. The program permits students to count 12 s.h. of credit toward the requirements for both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. For information about the public health program, see Community and Behavioral Health Subprogram [p. 2079] in the Master of Public Health, M.P.H. section of the Catalog.

## Admission

Admission to the psychology major is open; any University of Iowa undergraduate student may enter the B.A. program.

Entering first-year and transfer students who have completed less than 30 s.h. of coursework and are interested in entering the B.S. program are admitted to the B.A. program until they satisfy the admission requirements for the B.S. program. New transfer students who meet the admission requirements for the B.S. program may choose to enter the B.S. or the B.A. program.

Students in the B.A. program may switch to the B.S. program if they meet admission requirements at the time of the request. Students may switch from the B.S. to the B.A. program at any time.

## Career Advancement

The major in psychology is designed to contribute to students' general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as in areas such as business, law, communication, medicine, and the allied health sciences.

Undergraduate psychology students who do not intend to enroll in graduate school immediately after earning their bachelor's degree frequently earn a second major in a discipline that has broad opportunities for employment, such as education, social work, business, journalism, or nursing.

Learn more about careers in psychology at the American Psychological Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the

major are those required to complete the major; they may be offered by departments other than the major department.

In addition to courses in psychology, the B.A. requires three graded courses in a second concentration area.

**Before the third semester begins:** PSY:1001 Elementary Psychology.

**Before the fifth semester begins:** PSY:2811 Research Methods and Data Analysis in Psychology I and one or more lower-level psychology requirements.

**Before the seventh semester begins:** four courses in the major (including PSY:2701 Introduction to Behavioral Neuroscience and PSY:2812 Research Methods and Data Analysis in Psychology II), one course in the second concentration area, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two additional courses in the major and an additional course in the second concentration area.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Psychology, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		
<b>0</b>		
<b>First Year</b>		
<b>Fall</b>		
PSY:1001	Elementary Psychology <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		
<b>15-17</b>		
<b>Spring</b>		
Major: lower-level psychology course (or elective course)		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
<b>Hours</b>		
<b>16-18</b>		
<b>Second Year</b>		
<b>Fall</b>		
PSY:2811	Research Methods and Data Analysis in Psychology I	3
Major: lower-level psychology course		3

GE CLAS Core: Historical Perspectives <sup>c</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>	4 - 5
Elective course <sup>e</sup>	2 - 3

**Hours 15-17**

### Spring

PSY:2812 Research Methods and Data Analysis in Psychology II	3
Major: lower or upper-level psychology course	3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>	4 - 5
Elective course <sup>e</sup>	3

**Hours 16-17**

### Third Year

#### Fall

PSY:2701 Introduction to Behavioral Neuroscience	4
Major: lower or upper-level psychology course	3
Major: second area of concentration course	3
GE CLAS Core: Values and Culture <sup>c</sup>	3
Elective course <sup>e</sup>	3

**Hours 16**

#### Spring

Major: second area of concentration course	3
Major: lower or upper-level psychology course	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>	3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>	4
Elective course <sup>e</sup>	2 - 3
Major: cognate course <sup>b</sup>	3 - 4

**Hours 18-20**

### Fourth Year

#### Fall

Major: lower or upper-level psychology course	3
GE CLAS Core: Quantitative or Formal Reasoning (if not met by cognate course) <sup>c</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3

**Hours 12**

#### Spring

Major: second area of concentration course	3
Major: lower or upper-level psychology course	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>f</sup>

**Hours 15**

**Total Hours 123-132**

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

# Psychology, B.S.

An undergraduate degree in psychology provides students with skills that are relevant to many career paths. The major in psychology is designed to contribute to students' general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as in areas such as business, law, communication, medicine, and the allied health sciences. Students who intend to enter the job market immediately after completing an undergraduate degree should complement their psychology major with substantial preparation in another program more closely tied to the world of work (e.g., education, social work, business, journalism, nursing). Almost all vocational opportunities in psychology require advanced degrees.

The psychology major for the Bachelor of Science is intended for students who plan to pursue advanced work in psychology or in a related discipline. It requires a specific grade-point average for admission and certain courses in experimental psychology, mathematics, and natural science. The program leaves time for students to supplement the psychology major with another program of study.

Students who change to a psychology major after two years of undergraduate work may find they do not have sufficient background for the B.S. program.

Students begin with a general introductory course, followed by methodology and data analysis courses, and introductory courses in several broad areas: behavioral neuroscience, developmental science, clinical psychology, cognitive psychology, and social psychology. These courses are followed by upper-level psychology courses selected by each student. For additional information regarding the undergraduate major and career information, visit Undergraduate Program on the Department of Psychological and Brain Sciences website.

The department maintains excellent facilities to support teaching and research on human and animal behavior. All faculty members are directly engaged in research, and they bring to their undergraduate teaching the excitement that such activity generates. Many opportunities exist for interested and capable students to participate in current research projects in the department.

The department has an active undergraduate organization, the Iowa Students Psychology Association, which is open to all interested students. The group sponsors speakers, films, career days, and student symposia.

## Learning Outcomes

The learning outcomes in the Department of Psychological and Brain Sciences align with several of the learning goals from the American Psychological Association's guidelines for undergraduate psychology education. These learning outcomes expand and deepen students' foundational knowledge obtained through the GE CLAS Core [p. 20] program.

Psychology majors will:

- understand psychology as an empirical science;
- graduate with a knowledge base in psychology, including an understanding of the major principles and theories in the field's main content areas;

- have learned how to use scientific reasoning to understand psychological phenomena and how to interpret and conduct psychological research; and
- be able to apply their knowledge of psychology to real world situations and recognize the importance of ethical standards and diversity in psychology.

## Requirements

The Bachelor of Science with a major in psychology requires a minimum of 120 s.h., including 54-56 s.h. of work for the major, with at least 41 s.h. in psychology courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer credits must be approved by the department, and transfer students must complete at least 18 s.h. of psychology courses at the University of Iowa.

The major for the B.S. emphasizes research methodology, so the B.S. may be the degree of choice for students who plan to do graduate work in psychology and related research fields. However, a Bachelor of Science is not required for graduate study in psychology. Choice of a degree program should be dictated by a student's personal career goals.

B.A. and B.S. students complete the same psychology core and psychology electives. The major for the B.S. also requires additional psychology topics courses and natural science courses plus mathematics, statistics, or computer science courses. Unlike the B.A., there is no second area course requirement.

Students are advised to take PSY:1001 Elementary Psychology as the first course in the major; however, if a student must take PSY:1001 for the first time after completing another psychology course with a higher number, the student may do so. Students may retake PSY:1001 for a second-grade-only option; however, this must be completed before taking any upper-level psychology courses (PSY:3000-PSY:3800). Students may not retake PSY:1001 after taking an upper-level psychology course; this is considered regression and no credit will be awarded.

The B.S. with a major in psychology requires the following courses or their equivalents.

Code	Title	Hours
	Psychology Core	6
	Lower-Level Psychology Requirements	19
	Upper-Level Psychology Electives	9
	Psychology Topics Courses	7
	Natural Science Courses	7
	Mathematics, Statistics, or Computer Science Courses	6-8
<b>Total Hours</b>		<b>54-56</b>

## Psychology Core

All majors complete the following coursework for the psychology core.

Code	Title	Hours
Both of these:		
PSY:1001	Elementary Psychology	3
PSY:2811	Research Methods and Data Analysis in Psychology I	3

## Lower-Level Psychology Requirements

Students take these courses after completing PSY:1001 Elementary Psychology.

Code	Title	Hours
All of these:		
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:2812	Research Methods and Data Analysis in Psychology II	3

## Upper-Level Psychology Electives

Students take three advanced psychology courses (total of 9 s.h.) after satisfactorily completing the psychology core and other specified prerequisites. Psychology courses (prefix PSY) numbered 3000 or above may be used to fulfill this requirement, except those in the following list.

Code	Title	Hours
PSY:3994	Research Practicum in Psychology	arr.
PSY:3995	Advanced Research Practicum	1-3
PSY:3996	External Practicum in Psychology	1-3
PSY:3997	Teaching/Advising Practicum in Psychology	1-3
PSY:3998	Individual Readings and Projects	1-3
PSY:3999/ BIOL:3999	Independent Research in Neuroscience	2-3
PSY:4020	Laboratory in Psychology	4
PSY:4025	Laboratory in Cognitive Neuroscience	4
PSY:4090	Psychology Seminar	3
PSY:4990	Honors Thesis Research	1-3
PSY:4995/ BIOL:4995	Honors Research in Neuroscience	arr.

## Additional Requirements Psychology Topics Courses

Code	Title	Hours
Both of these:		
PSY:4020	Laboratory in Psychology	4
PSY:4090	Psychology Seminar	3

## Natural Science Courses

Code	Title	Hours
At least 7 s.h. from these:		
BIOL:1140	Human Biology: Nonmajors	4

BIOL:1141	Human Biology: Health Professions	4
BIOL:1251	How the Brain Works (and Why it Doesn't)	3-4
BIOL:1370	Understanding Evolution	3
BIOL:1411	Foundations of Biology	4
BIOL:2120	Good Genes Gone Bad: Genetic Disorders of Notable Celebrities	3
BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOL:2512	Fundamental Genetics	4
CHEM:1070	General Chemistry I	3
CHEM:1080	General Chemistry II	3
CHEM:1090	Supplemental Chemistry Lab	1
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
CHEM:1160	Principles of Chemistry Lab	2
CSD:2111	Basic Acoustics for Speech and Hearing	3
CSD:3112	Anatomy and Physiology of Speech Production	4
CSD:3113	Introduction to Hearing Science	4
CSD:3116/ LING:3116	Basic Neuroscience for Speech and Hearing	3
HHP:1100	Human Anatomy	3
HHP:1110	Human Anatomy Laboratory	1
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:1300	Fundamentals of Human Physiology	3
HHP:1310	Human Physiology Laboratory	1
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:1400	Human Anatomy and Physiology	3
PHYS:1400	Basic Physics	3-4
PHYS:1409	Basic Physics Lab	1
PHYS:1410	Physics of Sound	3-4
PHYS:1511	College Physics I	4
PHYS:1512	College Physics II	4
PHYS:1611	Introductory Physics I	4
PHYS:1612	Introductory Physics II	3-4
PHYS:1619	Introductory Physics II Lab	1

## Mathematics, Statistics, or Computer Science Courses

Code	Title	Hours
At least two courses from these:		
BIOS:4120	Introduction to Biostatistics	3
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4
CS:2230	Computer Science II: Data Structures	4
CS:2520	Human-Computer Interaction for Informatics	3

MATH:1380	Calculus and Matrix Algebra for Business	4
MATH:1440	Mathematics for the Biological Sciences	4
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:3200/ IGPI:3200/ISE:3760	Applied Linear Regression	3
STAT:3210	Experimental Design and Analysis	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students majoring in psychology have the opportunity to graduate with honors in the major. They must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a minimum g.p.a. of 3.50 in the major. There are two routes for honors in the major, one of which involves a thesis project as a capstone. For students who pursue honors without a thesis, other experiences constitute the capstone. Both routes include extra coursework. Interested students are encouraged to read Honors in the Psychology Major on the department's website.

### National Honor Society

The department sponsors a chapter of Psi Chi, the national honor society in psychology and affiliate of the American Psychological Association. Students who have a g.p.a. of at least 3.00 overall and in psychology coursework and who have completed 9 s.h. of psychology courses may request a membership application form. Consult the department's academic coordinator for more information.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the psychology major.

## Admission

Admission to the major is selective. To be eligible for admission to the B.S. program, students must have completed 30 s.h. of college coursework (excluding any credit by exam) and must have a cumulative g.p.a. of 2.67 or higher. There is no limit on the number of qualified students admitted to the B.S. program. Students who do not meet the minimum admission requirements may petition the department in writing, presenting additional evidence of their qualifications.

Entering first-year and transfer students who have completed less than 30 s.h. of coursework and are interested in entering the B.S. program are admitted to the B.A. program until they satisfy the admission requirements for the B.S. program. New transfer students who meet the admission requirements for the B.S. program may choose to enter the B.S. or the B.A. program.

Students in the B.A. program may switch to the B.S. program if they meet admission requirements at the time of the request. Students may switch from the B.S. to the B.A. program at any time.

## Career Advancement

The major in psychology is designed to contribute to students' general liberal arts and sciences education and to provide a foundation for postbaccalaureate training in psychology and closely related disciplines as well as areas such as business, law, communication, medicine, and the allied health sciences.

Undergraduate psychology students who do not intend to enroll in graduate school immediately after earning their bachelor's degree frequently earn a second major in a discipline that has broad opportunities for employment, such as education, social work, business, journalism, or nursing.

Learn more about careers in psychology at the American Psychological Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

The psychology major for the B.S. is open only to students who have earned 30 s.h. and have a g.p.a. of at least 2.67. Students complete 7 s.h. of natural science coursework, either as part of the GE CLAS Core [p. 20] or in addition to



it. Students also must complete two quantitative and formal reasoning courses which may require some preliminary work.

**Before the third semester begins:** PSY:1001 Elementary Psychology and one additional course in the major.

**Before the fifth semester begins:** one course for the department's quantitative and formal reasoning requirement and three additional courses in the major, including PSY:2811 Research Methods and Data Analysis in Psychology I and PSY:2812 Research Methods and Data Analysis in Psychology II.

**Before the seventh semester begins:** two more courses in the major, one course for the major's natural science requirement, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** second course for the department's quantitative and formal reasoning requirement and two more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Psychology, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSY:1001	Elementary Psychology <sup>b</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: lower-level psychology course (or elective course)		
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Second Year</b>		
<b>Fall</b>		
PSY:2811	Research Methods and Data Analysis in Psychology I	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
GE: Natural Sciences without Lab <sup>b, f</sup>		3

Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	2 - 3
<b>Hours</b>	
<b>15-17</b>	

#### Spring

PSY:2812	Research Methods and Data Analysis in Psychology II	3
Major: lower or upper-level psychology course		
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Third Year

##### Fall

PSY:2701	Introduction to Behavioral Neuroscience	4
Major: lower or upper-level psychology course		
Major: lower or upper-level psychology course		
GE CLAS Core: Values and Culture <sup>c</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>16</b>

##### Spring

Major: first mathematics, statistics, or computer science course <sup>b, f, g</sup>		
Major: lower or upper-level psychology course		
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		
GE CLAS Core: Natural Sciences with Lab <sup>b, f</sup>		
Elective course <sup>e</sup>		
<b>Hours</b>		<b>15-17</b>

#### Fourth Year

##### Fall

PSY:4020	Laboratory in Psychology	4
Major: lower or upper-level psychology course		
GE CLAS Core: International and Global Issues <sup>c</sup>		
Elective course <sup>e</sup>		
Elective course <sup>e</sup>		
<b>Hours</b>		<b>15</b>

##### Spring

PSY:4090	Psychology Seminar	3
Major: lower or upper-level psychology course		
Major: second mathematics, statistics, or computer science course <sup>b, f, g</sup>		
Elective course <sup>e</sup>		
Elective course <sup>e</sup>		

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

<b>Hours</b>		<b>14-15</b>
<b>Total Hours</b>		<b>122-132</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Choose from an approved list to meet Psychology B.S. major requirements.
- g Enrollment in math courses requires completion of a placement exam.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Psychology, Minor

## Requirements

The undergraduate minor in psychology requires a minimum of 15 s.h. of psychology courses (prefix PSY), including 12 s.h. taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass or satisfactory/fail. Before registering for a psychology course, students must complete the course's prerequisites.

A minor in psychology complements majors in a variety of disciplines. Department advisors can help students identify courses for the minor that are especially appropriate for their major.

# Psychology, M.A.

Graduate study in psychology is designed for students seeking the Ph.D. degree. Students enrolled in the doctoral program may elect to receive a Master of Arts (M.A.) degree when they have completed the necessary requirements.

## Learning Outcomes

Students will:

- develop skills to design and carry out independent and team-based research projects,
- develop understanding of multiple statistical techniques to support independent data analysis skills,
- develop skills to effectively communicate research results to a range of audiences in both written and oral formats,
- develop capability to independently teach a course, and
- follow the highest ethical standards when conducting research and communicating results.

## Requirements

The Master of Arts program in psychology requires 30 s.h. of graduate credit with thesis, and 37 s.h. of graduate credit without thesis. Students must maintain a cumulative and program g.p.a. of at least 3.00 to earn the degree. The department ordinarily offers the M.A. only to students enrolled in the Ph.D. program.

Thesis students must earn 24 of the required 30 s.h. at the University of Iowa. Coursework for the thesis program must include a statistics course and at least an additional 8 s.h. earned in Department of Psychological and Brain Sciences courses and seminars, or in courses or seminars that meet area-specific requirements for one of the training areas. Thesis students also must complete an acceptable scholarly thesis and perform successfully in an oral defense of their thesis.

Nonthesis students must earn 30 of the required 37 s.h. at the University of Iowa. Coursework for the nonthesis program must include a statistics course and at least an additional 15 s.h. earned in Department of Psychological and Brain Sciences courses and seminars, or in courses and seminars that meet area-specific requirements for one of the training areas. Nonthesis students also must perform successfully on an examination covering their area of specialization.

## Graduate Training Areas

### Behavioral and Cognitive Neuroscience

The program in behavioral and cognitive neuroscience focuses on the analysis of learning, memory, attention, motivation, aging, sensory processing, and sleep, in both human and nonhuman subjects, through the application of behavioral and biological principles. Special faculty strengths are in neurobiology of learning and memory, cognitive neuroscience, motivation and emotion, developmental psychobiology, comparative psychology, neuropharmacology, neuroendocrinology, and neuroanatomy. Students in this program have the opportunity to learn state-of-the-art techniques in computer-controlled experimentation and electronic instrumentation as well as advanced analytic and laboratory methods in neurophysiology, nonhuman neurosurgery, histology, neuroimaging, and assays of biochemical activity.

Faculty members in the behavioral and cognitive neuroscience area interact extensively with colleagues in other divisions in the department, in the Iowa Neuroscience Institute, and in many basic science and clinical departments in the Carver College of Medicine, including anatomy and cell biology, otolaryngology—head and neck surgery, pharmacology, internal medicine, pediatrics, psychiatry, and neurology. These collaborative activities provide excellent research and training opportunities for students interested in emerging interdisciplinary fields.

### Clinical Science

The clinical science training program emphasizes a scientific approach to the understanding of psychological disorders and the influence of psychological factors on human relationships and health. The program is accredited by the Psychological Clinical Science Accreditation System (PCSAS), has been continuously accredited by the Commission on Accreditation of the American Psychological Association since 1948, and is a charter member of the Academy for Psychological Clinical Science.

The program is designed for students who are interested primarily in helping to advance scientific understanding of clinical phenomena and in acquiring the research skills necessary to do so. Faculty members and students have active research collaborations with colleagues from many departments in the University's Carver College of Medicine and College of Public Health and at the VA Iowa City Health Care. Many of the program's faculty members conduct externally funded research programs that use cutting-edge behavioral science to develop improved understanding of mechanisms, processes, and interventions for mental disorders. Faculty members have strong training records, and the program's graduates have gone on to top-tier research, teaching, and clinical service positions.

The clinical psychology program provides the first-hand clinical experience and opportunities to develop clinical competence that are integral to clinical research. It closely integrates practicum experience in the Seashore Psychology Clinic with coursework and supervised research experience. Advanced students have opportunities to gain additional clinical experience through placement in the Benton Neuropsychology Clinic, Women's Wellness and Counseling Service, adult and child psychiatry clinics, the Iowa City VA Health Care System, and other venues.

### Cognition

The cognition training area is guided by the philosophy that understanding cognitive processes requires an understanding of how they develop and interact with other cognitive processes. In this pursuit, the area strives for empirical and theoretical rigor.

The area's laboratories have overlapping research domains, so most topics are studied by multiple laboratories with multiple methodologies. Areas of strength include categorization, computational modeling, cognitive control, cognitive development, language and language learning, learning and memory, visual cognition, attention, and working memory.

Students in cognition take basic courses and seminars in specialty areas, but they devote most of their time to research activities. Students work closely with a faculty mentor at first and then become progressively independent as they gain knowledge and skills. The program encourages students to work with more than one faculty member, both in the program

and across the department and the University. Students often combine basic work on cognition with work in areas such as neuroscience, neuropsychology, psychiatry, educational psychology, and human factors engineering.

## Individualized Graduate Training Option

The purpose of the individualized graduate training option is to provide flexibility to graduate students who want to pursue a specialized course of study that does not easily fit within the other three graduate training areas. This training option also may be appropriate for students who have strong interdisciplinary research interests involving coursework in other departments. Students can choose the individualized training option when applying to the Ph.D. program or may petition the Committee on Graduate Studies to switch to the individualized option after beginning the Ph.D. program. Oversight of students in the individualized training option is provided by the student's Research Advisory Committee, the Director of Graduate Studies, and the Committee on Graduate Studies.

### Admission

Since the graduate program in psychology is designed primarily for students seeking the Ph.D., all applicants are considered on that basis.

The application deadline is December 1. Applications may be submitted any time but are considered only once each year—between December 1 and February 1—for admission the following fall. Admission decisions are based on a composite consideration of prior academic and research performance, letters of reference, and an applicant's statement about background and purpose. Admission materials are reviewed initially by faculty members in the applicant's primary training area.

An undergraduate major in psychology—including a laboratory course in experimental psychology, a course in statistics, and additional work in the natural sciences and in mathematics—is desirable but not required. Students who have not had such a background but are strongly qualified on other grounds may be admitted. They may be asked to remedy deficiencies in background work with certain courses or independent study before embarking on the regular graduate program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Career Advancement

Students who pursue a master's degree in psychology have many opportunities to teach psychology in community colleges or high schools or to find employment in a business, school, or hospital.

Learn more about careers in psychology at the American Psychological Association website.

# Psychology, Ph.D.

Graduate study in psychology is designed for students seeking the Ph.D. degree. Students enrolled in the doctoral program may elect to receive a Master of Arts (M.A.) degree when they have completed the necessary requirements.

## Learning Outcomes

Students will:

- develop skills to design and carry out independent and team-based research projects,
- develop understanding of multiple statistical techniques to support independent data analysis skills,
- develop skills to effectively communicate research results to a range of audiences in both written and oral formats,
- develop capability to independently teach a course, and
- follow the highest ethical standards when conducting research and communicating results.

## Requirements

The Doctor of Philosophy program in psychology requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative and program g.p.a. of at least 3.00 to earn the degree. The 72 s.h. required for the Ph.D. includes at least 33 s.h. in the Department of Psychological and Brain Sciences. All students must satisfy, through one of several options, requirements in statistics and research methods. Those entering without previous graduate work usually require at least five years to complete the program; those entering with previous graduate training may require less, depending on the nature of the earlier preparation.

The Ph.D. program places strong emphasis on preparation for research, teaching, and other scholarly endeavors, whether in academic settings or in industrial, governmental, or medical institutions. The intent is to produce graduates who are deeply committed to the study of psychology, familiar with fundamental knowledge about psychological processes, well trained in the methods and techniques for careful investigation of basic and applied problems, and determined to make contributions to the discipline of psychology and to society.

Graduate training is organized in three broad areas: behavioral and cognitive neuroscience, clinical science, and cognition. The department also offers an individualized graduate training option which allows students to design their own course of study. Within and across those areas, graduate training may be guided by additional organizing themes such as developmental science, developmental psychopathology, visual perception, health psychology, and social psychology. Entering students are expected to identify one of the three broad areas as their primary area and to follow a specific program that develops a thorough understanding of the substantive material and methods of investigation central to that subdiscipline, combined with the student's specific research goals. Regardless of specialty training, all students must meet course requirements in statistics and research methods, and they are expected to take courses in content areas other than their primary one. The training area programs are sufficiently flexible to permit students to develop substantial competence in a second training area.

During each of the first two semesters, graduate students ordinarily take two or three courses—for example, a statistics course, a course or two in the primary training area, and/or an outside area elective. Students also begin their research under the supervision of their advisor and with the guidance of their research advisory committee.

Near the end of the fall semester of the second year, students submit a report describing their research to date. At the beginning of the following semester, they present their research at the annual graduate research symposium.

During subsequent years, students continue selected coursework in their training and interest areas and continue to develop their research programs. In addition, they develop a prospectus for the dissertation research and take the comprehensive examination, which covers material in the specialty area. The final year is devoted primarily to conducting the Ph.D. study and writing the dissertation. In the Ph.D. final examination, students present an oral defense of their dissertation and are expected to relate the dissertation work to broader issues in the discipline of psychology.

## Graduate Training Areas

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departments in the University's Carver College of Medicine and College of Public Health and at the VA Iowa City Health Care. Many of the program's faculty members conduct externally funded research programs that use cutting-edge behavioral science to develop improved understanding of mechanisms, processes, and interventions for mental disorders. Faculty members have strong training records, and the program's graduates have gone on to top-tier research, teaching, and clinical service positions.

The clinical psychology program provides the first-hand clinical experience and opportunities to develop clinical competence that are integral to clinical research. It closely integrates practicum experience in the Seashore Psychology Clinic with coursework and supervised research experience. Advanced students have opportunities to gain additional clinical experience through placement in the Benton Neuropsychology Clinic, Women's Wellness and Counseling Service, adult and child psychiatry clinics, the VA Iowa City Health Care, and other venues. After five to six years of on-campus work, including completion of all coursework and most of the dissertation, students serve a one-year internship at an approved site.

## Cognition

The cognition training area is guided by the philosophy that understanding cognitive processes requires an understanding of how they develop and interact with other cognitive processes. In this pursuit, the area strives for empirical and theoretical rigor.

The area's laboratories have overlapping research domains, so most topics are studied by multiple laboratories with multiple methodologies. Areas of strength include categorization, computational modeling, cognitive control, cognitive development, language and language learning, learning and memory, visual cognition, attention, and working memory.

Students in cognition take basic courses and seminars in specialty areas, but they devote most of their time to research activities. Students work closely with a faculty mentor at first and then become progressively independent as they gain knowledge and skills. The program encourages students to work with more than one faculty member, both in the program and across the department and the University. Students often combine basic work on cognition with work in areas such as neuroscience, neuropsychology, psychiatry, educational psychology, and human factors engineering.

## Individualized Graduate Training Option

The purpose of the individualized graduate training option is to provide flexibility to graduate students who want to pursue a specialized course of study that does not easily fit within the other three graduate training areas. This training option also may be appropriate for students who have strong interdisciplinary research interests involving coursework in other departments. Students can choose the individualized training option when applying to the Ph.D. program, or may petition the Committee on Graduate Studies to switch to the individualized option after beginning the Ph.D. program. Oversight of students in the individualized training option is provided by the student's Research Advisory Committee, the Director of Graduate Studies, and the Committee on Graduate Studies.

## Admission

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An undergraduate major in psychology—including a laboratory course in experimental psychology, a course in statistics, and additional work in the natural sciences and in mathematics—is desirable but not required. Students who have not had such a background but are strongly qualified on other grounds may be admitted. They may be asked to remedy deficiencies in background work with certain courses or independent study before embarking on the regular graduate program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

All students admitted to the Ph.D. program in psychology are guaranteed five years of financial support, as long as they make satisfactory progress and remain in good academic standing. Financial support is provided through fellowships, teaching assistantships, research assistantships, and traineeships, depending on merit and availability. No separate application for financial aid is required.

## Career Advancement

Learn more about careers in psychology at the American Psychological Association website.

# Public Digital Arts

## Coordinator, Division of Performing Arts

- Roland Racevskis

## Chair, Department of Theatre Arts

- Mary Beth Easley

## Director, Public Digital Arts

- Daniel W. Miller (Art and Art History)

## Coordinator, Public Digital Arts

- Daniel S. Fine (Dance/Theatre Arts)

**Undergraduate certificate:** public digital arts

**Faculty:** <https://pda.uiowa.edu/people>

**Website:** <https://pda.uiowa.edu/>

The curricular goal of the public digital arts certificate program is to give students skills to make works of art that are informed by digital technology, scholarship, and disciplinary tradition. Digital technologies keep transforming how people create, perform, and experience art. At the core of the public digital arts cluster is a commitment to innovation and interdisciplinary collaboration in research, teaching, creative work, and the public expression of the University's creative research and scholarship.

Upon completion of the certificate program, students will be able to develop and realize artistic visions using digital technology and work collaboratively with other artists, engineers, or computer scientists. Most courses will include a public dimension, where projects are shown to a public audience.

The Department of Theatre Arts [p. 1159], which administers the Certificate in Public Digital Arts, partners with the College of Engineering [p. 1539], the Schools of Music [p. 858] and Art and Art History [p. 103], and the Departments of Computer Science [p. 319] and Cinematic Arts [p. 236], to offer the certificate.

## Programs

## Undergraduate Program of Study Certificate

- Certificate in Public Digital Arts [p. 1010]

## Courses

## Public Digital Arts Courses

### DIGA:2800 Digital Arts: An Introduction 3 s.h.

Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, CS:2800, DANC:2800, MUS:2800, THTR:2800.

### DIGA:2880 Installations and Interactive Performance 3 s.h.

Introduction to aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human computer interaction, and engineering; foundations of creating interactive experiences that use digital photos, video, text, real-world objects, sensor data, live bodies moving in space, Kinect 2 sensors, cameras, and multiple video outputs (e.g., projectors, LED displays); use of Isadora, an interactive, node-based programming software, to create immersive mediated performances, interactive installations, embodied user-based experiences, and user-manipulated virtual environments. GE: Engineering Be Creative. Same as DANC:2880, THTR:2880.

### DIGA:2890 Producing and Directing Digital Video 3 s.h.

Introduction to basic concepts, theories, and practical applications of digital video production for multiple distribution streams, with focus on aesthetic and technical principles; development of proficiency in contemporary approaches to digital media production by understanding the production pipeline from ideation to preproduction, production, postproduction, and through to distribution. GE: Engineering Be Creative. Same as DANC:2890, INTM:2890, THTR:2890.

### DIGA:3285 New Musical Instruments: From Design to Performance 3 s.h.

Acoustic principles of selected traditional instruments (e.g., winds, strings, percussion) as well as principles of electroacoustic sound production (e.g., analog synthesizers, microphones, transducers); students work in teams to build, test, and improve their own musical instrument and experiment with its playing modes; projects may include inharmonic variations upon classical instruments, musical bots, guitar or voice-processing pedals, transducer-driven DIY Gamelans, and more; for composers, performers, engineers, and sound enthusiasts who want to design, build, and/or perform with new musical instruments. GE: Engineering Be Creative. Same as MUS:3285.

### DIGA:3840 Robotic Art Studio 4 s.h.

Exploration, design, and creation of interactive artworks, kinetic sculpture, robotic art, sound works, light art, and performance environments; application of basic electronics and mechanical techniques; use of programmable micro-controller Arduino. Prerequisites: SCLP:2810 or CERM:2010 or INTM:2710 or MTL:2910 or TDSN:2210. GE: Engineering Be Creative. Same as SCLP:3840.

### DIGA:3876 Video for Performance 3 s.h.

Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:2890 or THTR:5890 or CINE:1834. GE: Engineering Be Creative. Same as CINE:3876, DANC:3876, INTM:3876, THTR:3876.



**DIGA:3895 Performance, Art, and New Technologies in Society** **3 s.h.**

Students pitch projects and work in interdisciplinary groups to create original live performances and installations based on major technological innovations that have deeply impacted society and live performance in late 20th and early 21st centuries; daily hands-on making; examination of theoretical texts and performances that address impact of technology on human condition to contextualize students' own art/technology projects; exploration and adaptation of technologies/aesthetics for live performance and art including telepresence and liveness, artificial intelligence and big data, augmented and virtual reality. Prerequisites: MUS:2800 or THTR:2880 or CS:1110 or CS:1210 or SCLP:4835. Same as DANC:3895, THTR:3895.

**DIGA:4835 Electronic Objects and Spaces** **4 s.h.**

Aesthetic use of electronics to sequence and control motion, light, and sound; introduction to basic electronics through hands-on workshops and discussions; demonstrations on how to build an Arduino, integrated circuits, power supplies, soldering, prototyping, motors, sensors; projects integrating electronics with objects and spaces; artist screenings and critiques. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or INTM:2710 or MTLs:2910 or TDSN:2210). GE: Engineering Be Creative. Same as SCLP:4835.

**DIGA:4840 Air, Actuators, and Motors** **4 s.h.**

Introduction to wide range of motors, actuators, and air devices available for integration in art projects; various forms of motor control and necessary means to power these devices; DC and AC motors, stepper motors, solenoids, electro magnets, relays, pneumatics, inflatables, and other air-driven devices; development of a project utilizing one or more systems; examples and media demonstrations to show how artists and scientists employ these systems. Prerequisites: ARTS:1510 and ARTS:1520 and (SCLP:2810 or CERM:2010 or INTM:2710 or MTLs:2910 or TDSN:2210). GE: Engineering Be Creative. Same as SCLP:4840.

# Public Digital Arts, Certificate

## Learning Outcomes

The certificate provides the following competencies.

- The ability to think about and develop works of art that use digital technology in creative ways.
- The ability to participate in critical discourse about such artistic works.
- The ability to collaborate across disciplines on artistic projects at the intersection of the physical and digital worlds.
- The ability to use art and digital technology to identify, attract, and interact with audiences in a meaningful and creative way.

## Requirements

The undergraduate Certificate in Public Digital Arts requires a minimum of 24 s.h. of coursework, including at least 18 s.h. earned at the University of Iowa or in approved study abroad courses. Students must maintain a g.p.a. of at least 2.00 in coursework for the certificate. Courses taken pass/nonpass do not count toward the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Students should declare their intent to earn the certificate at the College of Liberal Arts and Sciences Undergraduate Programs office, at the Academic Advising Center, or on MyUI.

Students complete two core courses, five track courses, and one capstone project. They must meet with the certificate director or a public digital arts advisor every semester to discuss their course selections and plan for the capstone course.

The Certificate in Public Digital Arts requires the following coursework.

## Required Core Courses

Code	Title	Hours
Both of these:		
ARTS:2800/ CINE:2800/CS:2800/ DANC:2800/ DIGA:2800/ MUS:2800/ THTR:2800	Digital Arts: An Introduction	3
THTR:3895/ DANC:3895/ DIGA:3895	Performance, Art, and New Technologies in Society	3

## Track Courses

Students must complete five courses from one track (15 s.h.). At least one of the electives must be taken from the Department of Computer Science (prefix CS), unless students have already taken a college-level introductory computer science course or proficiency can be demonstrated. Students

who wish to count a course not listed in a track may submit a request for approval to the certificate director.

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for a course. Some of these courses also have specific restrictions such as only open to certain majors.

- Interactive Design and Intelligent Spaces Track [p. 1010]
- New Modes of Storytelling Track [p. 1011]
- Sound Design Track [p. 1011]
- Visual Design Track [p. 1012]
- Choose Your Own Adventure Track [p. 1012]

## Interactive Design and Intelligent Spaces Track

From human-computer interaction to experiential museum experiences, people are constantly interacting and interfacing with both the physical and digital worlds. How does embedded computation change the way we experience our surroundings? Do immersive environments change the way we experience art and performance?

In this track, students explore how the human body interacts with and can control computers, digital technologies, visual and aural media, and so on, in order to create unique, engaging, and embodied user experiences. Students explore the value of and practical skills needed to create dynamic spaces within the built environment that react to their physical surroundings and the inhabitants within.

## Fundamentals

Code	Title	Hours
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
CS:2520	Human-Computer Interaction for Informatics	3
CS:4980	Topics in Computer Science II (when topic is virtual reality)	3
INTM:2710/ CINE:2869	Introduction to Intermedia	3
May include this course:		
THTR:2880/ DANC:2880/ DIGA:2880	Installations and Interactive Performance	3

## Specialized

Code	Title	Hours
CERM:3010	Ceramics III: Slip Casting	4
CS:3980	Topics in Computer Science I (when topic is hybrid mobile application development)	3
ISE:5650	Mechatronics Engineering for Smart Device Design	3
ISE:5995	Contemporary Topics in Industrial Engineering (when topic is creative engineering design)	arr.
MUS:3285/ DIGA:3285	New Musical Instruments: From Design to Performance	3
MUS:4250	Composition: Electronic Media I	3

MUS:4251	Composition: Electronic Media II	3
SCLP:2810	Undergraduate Sculpture I	3
SCLP:3840/ DIGA:3840	Robotic Art Studio	4
SCLP:4835/ DIGA:4835	Electronic Objects and Spaces	4
SCLP:4840/ DIGA:4840	Air, Actuators, and Motors	4
TDSN:2210	Introduction to 3D Design	3
TDSN:2240/ CEE:2240	Digital Drafting with AutoCAD	3
TDSN:2250	Digital Prototyping	3
THTR:3230/ ARTS:3230	Scene Design I	3
THTR:3250	Lighting Design I	3
THTR:3260	Sound Design for the Theatre	3
THTR:3270	Entertainment Design	3
THTR:4230	Scene Design II	3
THTR:4250	Lighting Design II	3

## New Modes of Storytelling Track

Digital and emerging technologies are changing the ways stories are told and experienced. How can we as storytellers, artists, and engineers use digital media and new technologies to engage 21st-century audiences? Students explore the ideas and technologies that are shaping new modes of storytelling through a variety of transdisciplinary methods across multiple platforms, such as live performances, online experiences, mobile technologies, digital video, immersive installations, and augmented and virtual reality.

### Fundamentals

Code	Title	Hours
ANIM:2125	Introduction to Animation	3
ANIM:3125	Animation I	4
ARTS:2000/ ASP:2000/ EDTL:2000/ RHET:2000	Big Ideas: Creativity for a Lifetime	3
CINE:1100	The Art of Smartphone Filmmaking	3
CINE:1834/ THTR:1834	Modes of Film and Video Production	4
CINE:4843	Film/Video Production: Image Design	4
CINE:4845	Film/Video Production: Editing	4
CINE:4890	Media Production Workshop	4
CNW:2770	The Art and Craft of Writing for New Media	3
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
CS:2520	Human-Computer Interaction for Informatics	3
CW:3218/ INTD:3200	Creative Writing for New Media	3
THTR:3230/ ARTS:3230	Scene Design I	3

## Specialized

Code	Title	Hours
CINE:2866	Film/Video Production: Nonfiction	3
CINE:2868	Film/Video Production: Fiction	3
CINE:4841	Film/Video Production: Sound Design	4
COMM:1840	Introduction to Media Production	3
CS:4980	Topics in Computer Science II (when topic is virtual reality)	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3
DANC:3050	Body/Image: Dance and Media in Discourse and Practice	3
INTM:2710/ CINE:2869	Introduction to Intermedia	3
MUS:3285/ DIGA:3285	New Musical Instruments: From Design to Performance	3
MUS:4250	Composition: Electronic Media I	3
MUS:4251	Composition: Electronic Media II	3
SCLP:2810	Undergraduate Sculpture I	3
SCLP:3840/ DIGA:3840	Robotic Art Studio	4
SCLP:4835/ DIGA:4835	Electronic Objects and Spaces	4
SCLP:4840/ DIGA:4840	Air, Actuators, and Motors	4
THTR:3250	Lighting Design I	3
THTR:4230	Scene Design II	3
THTR:4250	Lighting Design II	3
May include this course:		
THTR:2880/ DANC:2880/ DIGA:2880	Installations and Interactive Performance	3
May include this course:		
THTR:2890/ DANC:2890/ DIGA:2890/ INTM:2890	Producing and Directing Digital Video	3

## Sound Design Track

Sound is a critical component to the audience experience of traditional and new media. Students focus on sound design by selecting additional courses in electronic music production and composing, audio engineering, and acoustics, among others.

This track provides an opportunity for students to focus their training in (or specialize in) the theory and practical skills needed to create and produce sound design for live public performances in theater, dance, and/or music that use digital and new technologies; interactive sound art; public art exhibitions, installations, or gallery settings; music and sound recordings for analog and digital release; internet, mobile technology, and new media applications; augmented and virtual reality; and games.

## Fundamentals

Code	Title	Hours
CINE:4841	Film/Video Production: Sound Design	4
MUS:3780	Audio Recording I	3
MUS:3781	Audio Recording II	3
MUS:4250	Composition: Electronic Media I	3
MUS:4251	Composition: Electronic Media II	3
THTR:3260	Sound Design for the Theatre	3

## Specialized

Code	Title	Hours
CS:1110	Introduction to Computer Science	3
CS:3980	Topics in Computer Science I (when topic is interactive multimedia programming)	3
CS:4980	Topics in Computer Science II (when topic is virtual reality)	3
JMC:2020	Multimedia Storytelling	3
JMC:3440	Multimedia Narratives	3-4
MUS:3190	Center for New Music Ensemble (when topic is LOUi laptop orchestra)	1
MUS:3280	Spectral Nature of Sound: Acoustics, Analysis, and Resynthesis	3
MUS:3285/ DIGA:3285	New Musical Instruments: From Design to Performance	3
SCLP:3840/ DIGA:3840	Robotic Art Studio	4
SCLP:4835/ DIGA:4835	Electronic Objects and Spaces	4
May include this course:		
THTR:2890/ DANC:2890/ DIGA:2890/ INTM:2890	Producing and Directing Digital Video	3

## Visual Design Track

Visual modes of communication consume our daily experience, from informational road signs to internet interfaces to the omnipresence of digital screens. Visual design is a crucial aspect to telling stories and communicating in both traditional and new media. Students focus on visual design by selecting additional courses in digital video, theatrical design, graphic design, 3D design, and animation, among others.

The track provides an opportunity for students to focus their training in (or specialize in) the theory and practical skills needed to create and produce visual design for live public performances in theater, dance, and/or music that use digital and new technologies; interactive visual art; public art exhibitions, installations, or gallery settings; film and video productions for analog and digital release; internet, mobile technology, and new media applications, including 360 video; augmented and virtual reality; and games.

## Fundamentals

Code	Title	Hours
ANIM:2125	Introduction to Animation	3
ANIM:3125	Animation I	4
CINE:1834/ THTR:1834	Modes of Film and Video Production	4
CS:1110	Introduction to Computer Science	3
CS:2110	Programming for Informatics	4
CS:2520	Human-Computer Interaction for Informatics	3
THTR:3202	Graphic Design for the Entertainment Industry	2-3
THTR:3230/ ARTS:3230	Scene Design I	3
THTR:3250	Lighting Design I	3
THTR:3270	Entertainment Design	3
THTR:4230	Scene Design II	3
THTR:4250	Lighting Design II	3
May include this course:		
THTR:2890/ DANC:2890/ DIGA:2890/ INTM:2890	Producing and Directing Digital Video	3

## Specialized

Code	Title	Hours
CERM:3010	Ceramics III: Slip Casting	4
CINE:2868	Film/Video Production: Fiction	3
CINE:3195	Undergraduate Seminar (when topic is video games and cinema)	3
CINE:4821	Film/Video Production: Selected Topics	4
CINE:4843	Film/Video Production: Image Design	4
CINE:4845	Film/Video Production: Editing	4
CINE:4890	Media Production Workshop	4
CS:4980	Topics in Computer Science II (when topic is virtual reality)	3
GEOG:1050	Foundations of GIS	4
SCLP:3840/ DIGA:3840	Robotic Art Studio	4
SCLP:4835/ DIGA:4835	Electronic Objects and Spaces	4
SCLP:4840/ DIGA:4840	Air, Actuators, and Motors	4
TDSN:2210	Introduction to 3D Design	3
TDSN:2240/ CEE:2240	Digital Drafting with AutoCAD	3
TDSN:2250	Digital Prototyping	3

## Choose Your Own Adventure Track

This track is geared toward the creative entrepreneur, the trail blazer who does not fit into the tracks listed above, and toward the student who wants to forge a new path. This track

allows a student to work with a public digital arts advisor to create a specialized plan of study.

## Capstone Project

The capstone project must result in a work that is both artistic and digital, and it must be shared in a meaningful way with the public. The project must be informally approved by the certificate director at least one semester before the work takes place. A student then selects at least one faculty member from an appropriate department as a formal advisor. The student submits a written proposal to the certificate director and the advisor. The proposal must include a description of the work; a statement of why the student is prepared to accomplish the work; and a list of equipment, materials, space, or funding required. Once the proposal is approved by the director and advisor, the student enrolls in an independent study course with the advisor as instructor. The student meets with the advisor on a regular basis and engages other faculty and students as needed. Once the project is complete and shared publicly, the advisor evaluates the project and submits a letter grade.

<b>Code</b>	<b>Title</b>	<b>Hours</b>
	Capstone project (consult certificate director)	3

# Religious Studies

## Chair

- Morten Schlütter

**Undergraduate major:** religious studies (B.A.)

**Undergraduate minors:** religion and media; religious studies

**Graduate degrees:** M.A. in religious studies; Ph.D. in religious studies

**Faculty:** <https://clas.uiowa.edu/religion/people/faculty>

**Website:** <https://clas.uiowa.edu/religion/>

The Department of Religious Studies encourages a multidisciplinary inquiry into religious ideas, experiences, philosophies, cultural expressions, and social movements. It offers courses on a rich array of cultures and traditions, including Buddhism and other religions of East Asia, ancient Judaism and early Christianity, Islamic civilizations, African American religions, Latina/o/x religions, and even new forms of religious practice that many people may not yet recognize as religious.

Taking courses in the Department of Religious Studies enhances students' education and helps distinguish them in their career path. These courses help students hone their essential analytical writing and reading skills while gaining cross-cultural communication strategies and new ways to critically analyze historical and current events. Many of the departmental courses are approved for the GE CLAS Core [p. 20]; look for courses with prefix RELS.

Religious studies faculty examine religion and its cultural impact, both past and present, to enable students to gain a critical understanding of other people and cultures, particularly the influence of religion on personal experiences, power struggles, societal events, and values.

Faculty and students in the department participate in many of the University's interdisciplinary departments and programs, including classics, American studies, African American studies, Latina/o/x studies, history, communication studies, and gender, women's, and sexuality studies.

Given the powerful roles many different religions maintain in the world, it is the mission of the department to study it and prepare students to engage the diversity and complexity of the global environment in meaningful ways.

## Community Engagement

In addition to the many courses the department offers, faculty and students participate in a variety of programming activities each semester. Most recently, the department has held a number of public lectures on race and religion.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Religious Studies (Bachelor of Arts) [p. 1021]

#### Minors

- Minor in Religion and Media [p. 1025]
- Minor in Religious Studies [p. 1026]

## Graduate Programs of Study

### Majors

- Master of Arts in Religious Studies [p. 1028]
- Doctor of Philosophy in Religious Studies [p. 1031]

## Courses

### Religious Studies Courses

#### RELS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### RELS:1001 Judaism, Christianity, and Islam 3 s.h.

Introduction to sacred literature, beliefs, and rituals of Judaism, Christianity, and Islam, as well as historical and contemporary relationship between these three Abrahamic religions. GE: Historical Perspectives.

#### RELS:1015 Global Religious Conflict and Diversity 3 s.h.

Essentials of world's religions; focus on religion's role in national and international events, fundamentalism, millenarianism, protest movements, religion and youth culture, religion and popular culture, contact between religious communities past and present. GE: Diversity and Inclusion.

#### RELS:1041 African American Religion and Popular Culture 3 s.h.

Examination of the role African American religions play in shaping 20th century and contemporary popular culture in the United States; students explore recent histories of Black Christianity, American Islam, and African diaspora religions; gender and race; cultural production in hip hop, jazz, rhythm and blues, literature, poetry, film, sports, cuisine, visual art, and style. Same as AFAM:1041.

#### RELS:1050 Big Ideas: Introduction to Information, Society, and Culture 3 s.h.

What is information? What does it teach us about societies and cultures? How is information used to shape societies and even personal preferences? What types of information are there and how can we understand and use them? Students work with faculty from multiple disciplines to investigate these questions using inquiry-based activities to build success in critical thinking and teamwork. GE: Quantitative or Formal Reasoning. Same as POLL:1050.

#### RELS:1060 Journey Through World Religions 3 s.h.

What makes a religion work, where do they come from, why and how religion(s) become structured in the lives of individuals and cultures, and how different cultures define and inhabit the religions that are practiced on their soil.

#### RELS:1070 Introduction to the Hebrew Bible/Old Testament 3 s.h.

History, religion, and thought of ancient Jews as recorded in their scripture. GE: Values and Culture.

#### RELS:1080 Introduction to the New Testament 3 s.h.

History, religion, and thought of early Christians as recorded in the New Testament. GE: Values and Culture.

- RELS:1130 Introduction to Islamic Civilization** 3 s.h.  
Survey of texts, ideas, events, institutions, geography, communities, literature, arts, sciences, and cultures in Islamic communities and societies since the 7th century. GE: International and Global Issues; Values and Culture. Same as HIST:1030.
- RELS:1225 Medieval Religion and Culture** 3 s.h.  
Religion in Europe from classical antiquity to dawn of the Reformation; the religious element in traditions such as art, architecture, literature. GE: Historical Perspectives. Same as HIST:1025.
- RELS:1250 Modern Religion and Culture** 3 s.h.  
European and American religious life from Renaissance to 21st century; focus on specific themes, such as secularism, regionalism, pluralism. GE: Historical Perspectives. Same as HIST:1050.
- RELS:1323 Life in the Biblical World** 3 s.h.  
Examination of world depicted in Old and New Testaments of the Bible; archaeological evidence, ancient art, historical accounts, geography, and Bible text used to examine background of biblical text, shedding light on different aspects of daily life in antiquity from different points of view from Late Bronze Age through Roman period. Same as CLSA:1323.
- RELS:1350 Introduction to African American Religions** 3 s.h.  
GE: Values and Culture. Same as AFAM:1250.
- RELS:1400 Biblical Archaeology** 1,3 s.h.  
Introduction to the science of archaeology and the archaeology of the lands of the Bible to understand historical, cultural, economic, linguistic, and religious backgrounds of the Bible and biblical periods. Same as CLSA:1400.
- RELS:1404 Living Religions of the East** 3 s.h.  
Religious beliefs, practices in India, China, Japan. GE: Values and Culture. Same as ASIA:1040, HIST:1610.
- RELS:1430 The Bible Matters: Biblical Studies for Our Modern World** 3 s.h.  
Curious about what the Bible is or how it was created, the biblical character that your friends keep referencing, where ideas like Satan and the apocalypse come from, or how the Bible influences our world today? Introduction to the Bible and its influences on Western culture; course format organized by question types to allow flexibility in learning.
- RELS:1470 Contemporary Science Fiction: Beyond the Usual** 3 s.h.  
A different perspective on fantasy and science fiction; focus on authors "beyond the usual"; issues of race, gender, societal injustice, and reimagining tomorrow as depicted in speculative fiction by authors writing from more diverse perspectives.
- RELS:1502 Asian Humanities: India** 3 s.h.  
Introduction to 4,000 years of South Asian civilization through popular stories. Taught in English. GE: Values and Culture. Same as ASIA:1502, SOAS:1502.
- RELS:1506 Introduction to Buddhism** 3 s.h.  
Development of Buddhism in India, its spread across Asia, and arrival in the West; exploration of diverse Buddhist philosophies, practices, and cultures; readings from India, Tibet, China, Japan, Korea, and Southeast Asia. GE: Values and Culture. Same as ASIA:1060, HIST:1612.
- RELS:1606 Civilizations of Asia: South Asia** 3-4 s.h.  
Civilization of a vast region that includes India, Pakistan, Bangladesh, Nepal, and Sri Lanka. GE: Historical Perspectives; International and Global Issues. Same as ASIA:1606, HIST:1606.
- RELS:1620 Bhagavad Gita: Essential Teachings of Indian Religion** 3 s.h.  
Students read the Bhagavad Gita and discuss its interpretations and use in classical and modern religious, literary, and political contexts; composed around 2000 years ago, it is the best known and most influential religious text in Indian history and concisely addresses war and peace, duty and righteousness, renunciation, devotion, and the nature of the universe; its been read, debated, and discussed by ancient philosophers, modern religious teachers, and political figures such as Mahatma Gandhi, the father of modern Independent India. Same as SOAS:1620.
- RELS:1670 Korea in the World** 3 s.h.  
Comprehensive and critical understanding of Korea's place in the world; emphasis on historical and sociocultural roots of various aspects of life on the contemporary Korean peninsula (both North and South Korea); comprehensive list of topics including cultural production (K-pop and film), religions, economy, gender relations, cuisine, politics, and prospects for reunification. Taught in English. Same as ASIA:1670, KORE:1670.
- RELS:1702 Religion in America Today** 3 s.h.  
How American men, women, and children practice their beliefs in today's society. GE: Values and Culture.
- RELS:1765 U.S. Latina/o/x Religions** 3 s.h.  
Beliefs and practices of U.S. Latina/o/x, ways that their beliefs and practices are unique and where they overlap with mainstream U.S. society; beliefs, symbols, and practices among U.S. Latina/o/x on national and local level; field visits to local churches and religious sites; class visitors share insights. Same as LATS:1765.
- RELS:1810 Happiness in a Difficult World** 3 s.h.  
Religious backgrounds and unique spiritualities of Maya Angelou (an African-American Christian), Black Elk (a Lakota Sioux medicine man), and the Dalai Lama (a Tibetan Buddhist monk); forms of oppression that humans can experience as obstacles to happiness, and forms of liberation that are possible (social, political, economic, mental, emotional, spiritual). GE: Values and Culture.
- RELS:1903 Quest for Human Destiny** 3 s.h.  
Quests for destiny in terms of perceived options/goals and ability to recognize, pursue, achieve them. GE: Values and Culture.
- RELS:1997 Harry Potter: The Mystery and Magic of Life** 3 s.h.  
Exploration of Harry Potter novels and films that offer millions of people an entrée into a world of wizards, witches, and muggles; this engrossing world created by J.K. Rowling invites readers and viewers to explore the power of human imagination, creates a space for asking questions of personal significance (What defines me as a person? What sort of person am I in the process of becoming? What are the most significant factors that are shaping my identity and destiny?); students read selections and view film segments while exploring these essential questions.

**RELS:2000 Engaging Religious Diversity for Leadership and Entrepreneurship** 3 s.h.

Development of practical skills in engaging religious diversity for workplace success through case studies; strengths of character that dispose a person to think open mindedly and critically about the impact of religion; practical knowledge of the impact religions have on perceptions and choices of business leaders, investors, customers, and coworkers; personal understanding of importance that respect, care, and trust have in facilitating effective communication and building good working relationships with people from a variety of backgrounds; development of keen appreciation that religions are internally diverse, dynamic, and culturally embedded. GE: Diversity and Inclusion.

**RELS:2041 Understanding "The Muslim World"** 3 s.h.

Exploration of expressions and experiences of Muslims in increasingly diverse societies around the world. Same as ASIA:2041, IS:2041.

**RELS:2068 Jews in Popular Culture** 3 s.h.

Exploration of a wide variety of ways in which Jewish people represent themselves through production of cultural media.

**RELS:2080 Public Life in the U.S.: Religion and Media** 3 s.h.

Examination of how the U.S. came into being through specific communication practices, how religion has helped and hindered that process; religious roots of the idea of the U.S., intertwined histories of print media and religion, role of religion and secularism in public discourse; U.S. pride as a nation in which diversity thrives in public discourse; communicative acts that created and sustained this country and also mark sites of discord, conflict, and confusion from the very beginnings of the U.S. to today; how religion has been a source of national identity and national division. Same as COMM:2080.

**RELS:2087 Narnia and Beyond: The Writings of C.S. Lewis** 3 s.h.

Exploration of C.S. Lewis's use of fantasy to describe the indescribable, his efforts to empathize with human suffering while hoping in possibility of miracles, and his jargon-free narration of Christian beliefs for a war-weary country; Lewis's works that continue to attract attention, ranging from children's literature to science fiction to autobiography and nonfiction; as a professor of medieval and renaissance literature, Lewis's unique perspective on Christianity that led him to make use of imagery, metaphors, and narratives previously neglected by Christian thinkers.

**RELS:2122 The Place of Animals in the Hebrew Bible** 3 s.h.

Why the biblical God permits humans to eat other animals' flesh; fundamental dietary differences between humans and the beasts.

**RELS:2182 Ancient Mediterranean Religions** 3 s.h.

Introduction to major religious traditions of ancient Mediterranean world; Mesopotamia, the Levant (Hebrew Bible), Egypt, Greece, and Rome; central aspects of mythology, ritual, and archaeology, individually and in comparative perspective; ancient Judaism and Christianity considered in their various cultural contexts; basic concepts for understanding cultural exchange; fundamental theories in the study of religion. GE: Values and Culture. Same as CLSA:2482.

**RELS:2250 Jews, Judaism, and Social Justice** 3 s.h.

Jewish frameworks for grappling with justice and ethics from ancient world to present day; emphasis on internal diversity of Jewish experience as well as interactions with dominant and other minority cultures. Same as GWSS:2050, HIST:2150, SJUS:2050.

**RELS:2260 Hard Cases in Healthcare at the Beginning of Life** 3 s.h.

Exploration of ethical impact that advances in biotechnology—including genetic, reproductive, and neonatal technology—have in the medical arena and on humanity; consideration of the powerful influence that religion and spirituality have on most people's thinking about life and death. Same as GHS:2260.

**RELS:2265 Hard Cases in Healthcare at the End of Life** 3 s.h.

Preparation for future healthcare providers to make difficult ethical decisions regarding the end of life; interactive course. Same as ASP:2265, GHS:2265.

**RELS:2272 Gods and Superheroes: Mythologies for a Modern World** 3 s.h.

Movies are uniquely positioned to express religious ideas and influences in new and innovative ways; introduction to ways in which superhero movies interpret and adapt established religious themes to reach new audiences; exploration of significant issues related to mythology and society through readings and movies; analysis of important texts and themes from various established traditions and how they are combined in new ways to create unique mythologies; how modern mythologies draw attention to what society is and could be; students learn to recognize their own participation in these ongoing dialogues/debates. Recommendations: some background in religious studies helpful.

**RELS:2289 Jerusalem: The Holy City** 3 s.h.

Religious, political, and cultural history of Jerusalem over three millennia as a symbolic focus of three faiths—Judaism, Christianity, and Islam; integration of several digital learning technologies, including digital reconstructions and Google Earth tours of Jerusalem. Same as CLSA:2489.

**RELS:2330 Wealth, Inequality, and Islam** 3 s.h.

Impacts of Islam and Islamic institutions on economic, religious, and political systems that produce wealth, use natural and human resources, design financial institutions, and structure business organizations. GE: Diversity and Inclusion.

**RELS:2353 Love: Philosophy, Psychology, Religion, and Art** 3 s.h.

Idea of love from influential texts of the past to various aspects of contemporary culture and experience (e.g., romantic love, mystical experience, digitally mediated friendships, family relationships); idea of universal human rights; cybersex.

**RELS:2361 Middle East and Mediterranean: Alexander to Suleiman** 3 s.h.

GE: Historical Perspectives. Same as CLSA:2461, HIST:2461.

**RELS:2420 Almost Human: Exploring Identity in Science Fiction** 1,3 s.h.

What does it mean to be human? What distinguishes humans from other sorts of entities, such as cyborgs and robots? What are the ethical implications of a post-human future? Students pursue these questions through exploration of science fiction in books, short stories, film, and television.



- RELS:2444 Cities of the Bible** 2 s.h.  
Survey of the history and archaeology of key biblical cities and the contributions they made to the formation of the Bible. Same as CLSA:2444.
- RELS:2475 Islam in America** 3 s.h.  
Survey of Islam in America; exploration of the roots of Islam in the Atlantic world and antebellum America to the current day; urban-based African American Muslim communities; interactions between African American Muslim women and South Asian Muslim women around issues of gender; focus on Islamic political experiences and artistic expressions to explore the connections between the civil rights movement, Black Power movement, and African American music genres such as jazz; creative ways in which Muslim Americans have engaged with hip hop culture—including rap, poetry, and protest—in the wake of 9/11.
- RELS:2486 Religious Coexistence and Conflict in the Middle East** 3 s.h.  
Examination of coexistence and conflict in the region that includes Iraq, Israel/Palestine, Lebanon, Syria and Yemen; relationship between religion and politics in the Middle East; how the region's diverse ethnic and religious communities coexisted in the past and what now seems like a remarkably tolerant environment; investigation of questions (Did Muslims, Christians, and Jews really live together in peace? If so, how and why has that changed?); history of communal relations in the Middle East; use of this background to analyze how religion and ethnicity function in contemporary politics.
- RELS:2510 Fed Up with Organized Religion** 3 s.h.  
Explores the rise of discontent with organized religion in America and the flourishing of alternative means for understanding the meaning and purpose of life and the universe.
- RELS:2552 Atheism, Agnosticism, and Religion** 3 s.h.  
History and analysis of religious skepticism in Western culture from the classical period through modern times. Same as CLSA:2552.
- RELS:2620 Politics, Sex, and the Bible** 3 s.h.  
Examination and analysis of the role of the Bible in contemporary culture; how different groups can read the exact same passages, yet reach different conclusions about how they and others should live. Recommendations: basic familiarity with the Bible or religion. GE: Diversity and Inclusion. Same as CLSA:2620.
- RELS:2674 Food, Body, and Belief: A Global Perspective** 3 s.h.  
Exploration of local, national, and global forces that shape food consumption, body image, and spiritual practices. Taught in English. Same as GHS:2674, GWSS:2674.
- RELS:2775 The Bible and the Holocaust** 3 s.h.  
Religious and philosophic implications of the Holocaust viewed through survivors' writings.
- RELS:2834 Philosophy of Religion** 3 s.h.  
Historical to contemporary treatments of central issues; nature of faith, existence and nature of God, science and religion, ethics and religion, miracles, religious experience, interpretation of religious texts. Requirements: sophomore or higher standing. Same as PHIL:2534.
- RELS:2852 Women in Islam and the Middle East** 3 s.h.  
Women in the Islamic community and in non-Muslim Middle Eastern cultures; early rise of Islam to modern times; references to women in the Qur'an and Sunnah, stories from Islamic history; women and gender issues. GE: International and Global Issues; Values and Culture. Same as GWSS:2052.
- RELS:2877 Sport and Religion in America** 3 s.h.  
Sport as a religion; religiosity in sports; examination of religion and sport as connected in important ways in American society. Same as SPST:2077.
- RELS:2912 The Bible in Film: Hollywood and Moses** 3 s.h.  
How Hollywood has interpreted the Biblical stories of Adam and Eve, Moses, and David the King.
- RELS:2930 Digital Media and Religion** 3 s.h.  
Influences of digital media on religion and spirituality today. GE: Historical Perspectives. Same as COMM:2079.
- RELS:2947 Quest II: Sex, Love, and Death** 3 s.h.  
Examination of ancient and modern responses to horrors associated with death; includes films, readings from the Hebrew Bible, J.D. Salinger, and Ernest Hemingway.
- RELS:2980 Religion and Contemporary Popular Culture** 3 s.h.  
Varied topics on the intersection of religion and popular culture; may include film, television, music, and religions in North America or Asia.
- RELS:2986 Religion and Women** 3 s.h.  
Sexism and its disavowal in biblical narrative, law, wisdom texts, Gospels, epistles; contemporary impact. GE: Values and Culture.
- RELS:3003 Classical and Hellenistic Periods I** 3 s.h.  
Readings in Greek literature of the Classical and Hellenistic periods. Prerequisites: CLSG:2002. Same as CLSG:3003.
- RELS:3055 Death, Dying, and Beyond in Asian Religions** 3 s.h.  
Survey of cultural and religious approaches to the dying process, post-death rituals, and conceptions about the afterlife in different religions in Asia. Same as ASIA:3055.
- RELS:3129 Native American Prophets and Prophecy** 3 s.h.  
Religious movements, effects of prophecies on followers of religious movements, and resulting tensions with Americans; powerful visions described as messages from a spirit being experienced by several 19th-century Native Americans after waking from coma-like states—wonderful prophecies of the restoration of Native American world to what it once was before American colonization, prophecies leading to religious movements that called for return to traditional practices, rejection of many elements of white American culture, and warnings of an impending destruction of the world.
- RELS:3190 Medieval to Modern: The Birth of Protestantism** 3 s.h.  
Same as HIST:3190.
- RELS:3243 Pagans and Christians: The Church from Jesus to Muhammad** 3 s.h.  
Introduction to history of early Christianity, from time of Jesus to rise of Islam; focus on major movements, intellectuals, institutions in this period; growth of Christianity in different geographical areas including the Middle East, Greece, Western Europe, Africa; Christian relations with Jews, pagans, Muslims; conversion; orthodoxy, heresy, making of biblical canon; martyrdom; women and gender roles; asceticism, monasticism, sexuality; church and state; theological controversy and schisms; cult of saints; the Holy Land and pilgrimage. Same as CLSA:3443.

- RELS:3245 Mythology of Otherworldly Journeys** 3 s.h.  
Examination of mythology of otherworldly journeys from earliest religions to Hellenistic period; historical context; comparison for common themes in their evolution over time; directed readings of mythological texts dealing with otherworldly journeys; ways in which past cultures confronted larger mysteries of life and death. Same as CLSA:3445.
- RELS:3247 Banned from the Bible: Pseudepigrapha and Apocrypha** 3 s.h.  
Introduction to biblical Pseudepigrapha and Apocrypha; writings dating from third century B.C.E. to third century C.E. fictionally attributed to characters in the Hebrew Bible and New Testament, or written as though they originated in the First or Second Temple periods, not included in Jewish or major Christian canons of scripture; English translations of documents from this period; key themes and interpretative techniques common throughout biblical texts that provide tremendous insight into the worlds that produced the Hebrew Bible and New Testament. Same as CLSA:3247.
- RELS:3267 Dissent and Rebellion in Islamic Societies: Was There an Arab Spring?** 3 s.h.  
The year 2021 is the 10th anniversary of the protest movement that started in Tunisia and impacted countries in Southwest Asia and North Africa (and beyond); students review, explain, and analyze these transformative events.
- RELS:3375 The Great Collision** 3 s.h.  
Major developments in architecture, sculpture, ceramics, and mosaics in Israel, Palestine, Syria, and Arabia from death of Alexander the Great to rise of Islam (4 B.C.E. to 8 C.E.); Greek and Roman influences versus local traditions; Roman Empire; growth of churches, synagogues, and mosques; identity and religion. Same as ARTH:3375.
- RELS:3385 Early Modern Catholicism** 3 s.h.  
Same as HIST:3485.
- RELS:3431 Gender and Sexuality in East Asia** 3 s.h.  
Examination of historical construction of gender and sexuality in East Asia from mid-19th century to present. Same as ASIA:3431, GWSS:3131.
- RELS:3520 Religious Violence and Nationalism** 3 s.h.  
Study of religious ideologies that lead to violence in the name of nationality throughout history and in modern times. Same as CLSA:3520.
- RELS:3550 Social Justice, Religion, and Spirituality: Faith and Belief Ignited** 3 s.h.  
Examination of some distinctively American traditions of religion, spirituality, and social justice, including women and men who have channeled their religio-spiritual beliefs into social justice in their communities; historical and anthropological focus; examination of U.S. movements (e.g., the Catholic Worker movement, the United Farm Workers movement, the civil rights movement, iterations of the feminist movement); direct involvement with the communities. Same as GWSS:3550, SJUS:3550.
- RELS:3580 Religion and Healing** 3 s.h.  
Historical evidence of religious healing in Christian, Hindu, Buddhist, Native American, and Shaman traditions. Same as ANTH:3113, ASIA:3561, GHS:3113.
- RELS:3644 Gandhi and His Legacy** 0-1,3 s.h.  
In-depth introduction to the life, ideas, and ongoing impact of Mohandas Karamchand Gandhi (1869-1948); from his conservative upbringing to his early career as a lawyer, his transformative experiences, and self-transformation into a charismatic mahatma ("great soul"), the pursuit of political and social liberation through non-violent civil disobedience, the assertion of human rights, and the quest for sustainable lifestyles that uphold the common good and protect the natural environment; evolution of Gandhi's thought and activism and his legacy. Same as HIST:3644, SOAS:3644.
- RELS:3645 Buddhist Philosophy** 3 s.h.  
Theories and arguments concerning the Buddhist path to enlightenment. Same as PHIL:3845.
- RELS:3655 Zen Buddhism** 3 s.h.  
Same as ASIA:3655, HIST:3655.
- RELS:3700 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MGMT:3500, MUSM:3500, NURS:3595, SSW:3500.
- RELS:3701 Nonprofit Organizational Effectiveness II** 3 s.h.  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as MGMT:3600, NURS:3600, SSW:3600.
- RELS:3704 Egyptian Art** 3 s.h.  
Survey of ancient Egypt over 3,500 years with emphasis on art and architecture in context; workshops, patrons, and audiences of Egyptian art; major principles, themes, and meanings of Egyptian art; relationship between writing and artistic representation; connections between art, kingship, and Egyptian view of the world; art and architecture of central elite and other social groups. Same as ARTH:3320.
- RELS:3714 Anthropology of Religion** 3 s.h.  
Approaches; religious roles; shamanism, witchcraft, curing; mythology; place of religion in social and cultural change. Same as ANTH:3114.
- RELS:3716 Greek Religion and Society** 3 s.h.  
From Bronze Age to the Hellenistic period, in context of Mediterranean culture; evidence such as choral hymn, inscribed prayers, magical curses inscribed on lead, architecture, sculpted offerings to the gods. Same as CLSA:3416.
- RELS:3745 Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter** 3 s.h.  
Twentieth- and twenty-first-century African American religious history; major political and cultural movements including civil rights, Black power, Black feminism/womanism, hip hop, and Black Lives Matter; their impact on Black Christianity and Islam in the United States. Same as AFAM:3245.

- RELS:3808 Malcolm X, King, and Human Rights** 3 s.h.  
Religion and politics of Malcolm X and Martin Luther King, Jr. in the context of U.S. civil rights and international human rights in West Africa and the Muslim world; emphasis on civil rights connections to Gandhi, the Nobel Peace prize, and other international experiences that have impacted Pan Africanists, such as Stokely Carmichael, who worked on human rights. Recommendations: international studies major or undergraduate standing. Same as AFAM:3500, HIST:3160.
- RELS:3855 Human Rights and Islam** 3 s.h.  
Exploration of social forces, legal regimes, and cultural norms that have shaped discourse on human rights in a global context with reliance on a systems thinking framework; examination of intersections of rights, culture, society, and law in the last 2,000 years; consideration of interplay between institutional (formal) and societal (informal) powers that shape human rights norms; origins and evolution of discourse on rights across cultures and throughout history. GE: International and Global Issues. Same as IS:3855.
- RELS:4001 Biblical Hebrew I** 3-4 s.h.  
Same as CLSA:4901.
- RELS:4002 Biblical Hebrew II** 4 s.h.  
Same as CLSA:4902.
- RELS:4154 Magic Machines: Technology and Social Change** 3 s.h.  
How media has altered culture, society, and human consciousness throughout history with focus on last two centuries (or modernity); how communication has been shaped by a variety of media (i.e., gesture, language, writing, printing, calendars, clocks, photography, telegraph, telephone, phonograph, film, radio, television, computers); 21st-century questions concerning technology and how few communicate today without aid of some kind of machine or technique. Prerequisites: (4 of the following are required: (COMM:1112 or COMM:1170), (COMM:1117 or COMM:1130), (COMM:1168 or COMM:1174), COMM:1305, COMM:1306) and (2 of the following are required: COMM:1809, COMM:1816, COMM:1818, COMM:1819, COMM:1830, COMM:1840, COMM:1845, COMM:1898, COMM:2010, COMM:2011, COMM:2020, COMM:2030, COMM:2040, COMM:2041, COMM:2042, COMM:2044, COMM:2045, COMM:2048, COMM:2052, COMM:2053, COMM:2054, COMM:2057, COMM:2060, COMM:2064, COMM:2065, COMM:2069, COMM:2070, COMM:2072, COMM:2075, COMM:2076, COMM:2077, COMM:2079, COMM:2080, COMM:2083, COMM:2085, COMM:2086, COMM:2088, COMM:2089, COMM:2090, COMM:2091, COMM:2248). Same as COMM:4154.
- RELS:4155 Religious Conflict: Early Modern Period** 3 s.h.  
Religious conflict among European Christians (Catholics, Lutherans, Calvinists, and Radicals), as well as between Christians and non-Christians from the Late Middle Ages through the Reformation of the 16th century and beyond. Same as HIST:4455.
- RELS:4352 The Dead Sea Scrolls** 3 s.h.  
Introduction to the Dead Sea Scrolls; reading of the scrolls in English translation; examination of Qumran site archaeology; survey of broader sociopolitical context of Second Temple Judaism (586 B.C.E. to 135 C.E.) out of which the scrolls emerged. Same as CLSA:4452.
- RELS:4730 Religion and Environmental Ethics** 3 s.h.  
How humans conceptualize the biophysical environment through religious beliefs and practices; how images of the environment influence people's activities, how they are used by grassroots environmental movements. Requirements: junior or senior standing. Same as ANTH:4130.
- RELS:4870 Islamic Cultural Presence in Spain** 3 s.h.  
Islamic history and culture in the Iberian Peninsula from Middle Ages to present. Taught in Spanish. Requirements: one literature or culture course taught in Spanish numbered SPAN:3200 or above. Same as SPAN:4870.
- RELS:4893 Classical Arabic: Vocabulary, Syntax, and Grammar** 1-3 s.h.  
Arabic grammar, syntax, and reading fluency. Prerequisites: ARAB:2001. Corequisites: RELS:3855.
- RELS:4930 Internship in Research on Rights and Remedial Justice** 1-3 s.h.  
Faculty supervised research experience in human rights remedial justice.
- RELS:4950 Senior Majors Seminar** 3 s.h.  
Issues central to academic study of religion.
- RELS:4960 Individual Study: Undergraduates** arr.
- RELS:4970 Honors Tutorial** 2-3 s.h.
- RELS:4975 Honors Essay** 2-4 s.h.
- RELS:5001 Biblical Aramaic** 4 s.h.  
This course introduces the basics of Biblical Aramaic grammar and syntax and provides an introduction to the Biblical lexicon. There will be extensive grammatical exercises, both in class and at home, as well as frequent opportunities to apply grammatical and lexical knowledge to the Biblical text. Recommendations: Biblical Hebrew recommended. Same as CLSA:5903.
- RELS:5002 Targumic Aramaic** 4 s.h.  
Language used by Targums—Aramaic translations of the Hebrew Bible—for use in the study of interpretative traditions of later Jewish groups. Same as CLSA:5904.
- RELS:5067 Readings in Islamic Studies** arr.  
Current scholarship in the field of Islamic studies; major works in areas such as modern Islamic thought, Islamic legal and philosophical traditions, religion and politics.
- RELS:5100 Teaching and Public Engagement** 1-3 s.h.  
Critical importance of educating people about religion within increasingly globalized and digitized contexts; preparation to excel as classroom teachers and facilitators of cross-religious dialogue in public sphere.
- RELS:5200 Asian Religions in the Modern World for Graduate Students** 3 s.h.  
Introduction to religious traditions of Asia; framework for further studies in Asian religions; preparation to design and teach a world religions course; for Asian studies and religious studies graduate students.
- RELS:5300 Genealogies of Religion** 3 s.h.  
Genealogies of the idea of religion, academic study of religion, and comparative study of religions; intellectual and ideological foundations of discipline; preparation to work skillfully across traditions.
- RELS:5400 Methods and Theories in the Study of Religion** 3 s.h.  
Principal methods, theories in academic study of religion.
- RELS:6040 Tiberius to Trajan** arr.  
Authors and topics from the first and second centuries C.E. Same as CLSL:6013.

**RELS:6070 Nonprofit Organizational Effectiveness**

**I** **3 s.h.**  
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, MGMT:9150, PBAF:6278, SPST:6010, SSW:6247, URP:6278.

**RELS:6075 Nonprofit Organizational Effectiveness**

**II** **3 s.h.**  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, MGMT:9160, PBAF:6279, SPST:6020, SSW:6248, URP:6279.

**RELS:6125 Classical Arabic and Grammar** **3-6 s.h.**

Arabic alphabet, vocabulary, and syntax; poetry, legal texts, and media Arabic; converse in formal Arabic; for students with strong interest in classical Arabic, grammar, and original texts, or research students in Islamic and Middle Eastern studies or in professional programs.

**RELS:6150 American Religious Histories** **3 s.h.**

Focused examination of the variety and vagaries of religious experiences in the Americas, 16th to 21st centuries. Same as HIST:6250.

**RELS:6200 Seminar: Religious Ethics** **3 s.h.****RELS:6345 New Materialisms** **3 s.h.**

Exploration of new strategies for rupturing persistent dichotomies of subject/object, representation/real, culture/nature, and active humans/passive things offered by theories of the vitality and agency of matter; introduction to origins of and developments in new materialisms; oriented to interdisciplinary inquiry and application to research in the humanities, broadly conceived; particular attention to actor-network theory, feminism, queer theory, infrastructuralism, and materialist theories of media. Same as COMM:6345, GWSS:6345.

**RELS:6350 Gender and Religion** **3 s.h.**

What contemporary religious and spiritual groups and their members believe about sex, sexuality, and gender; how they define and redefine what it means to be a "man" and a "woman"; exploration of contemporary "conservative" and "progressive" cosmologies and theologies; underlying beliefs that construct these perspectives and the impact on individual and group practices; broader implications of individual and group beliefs and practices on national and global policies. Same as GWSS:6350.

**RELS:6475 Seminar: Reformation Culture** **arr.**

Culture and thought of 16th-century Europe. Same as HIST:6475.

**RELS:6520 Seminar: South Asian Religion** **3 s.h.**

Topics in South Asian religions. Same as ASIA:6520.

**RELS:6580 Seminar: Religion and Society** **3 s.h.**

Same as AFAM:6580.

**RELS:6710 Seminar: Approaches to Human Rights** **3 s.h.**

Engagement with historical events, philosophical narratives, legal cases, institutional reports, lived experiences, and theoretical works to study origins, functions, and history of the discourse on human rights; application of a systems thinking framework to events involving treatment of women, Indigenous peoples, disabled persons, racial and ethnic groups, and other disempowered social groups across cultures and throughout history; examination of writings that attempted to explain key historical events and ideas relevant to human rights. Same as LAW:8575.

**RELS:6723 Seminar on Islamic Law and Government****3 s.h.**

Islamic legal and political legacy from formative period until modern time; critical analysis of logic and context of development; development of jurisprudential, legal, and political literature; overview of theories and practices of governance in Islam beginning with Caliphate system and ending with modern nation-state models. Same as LAW:9723.

**RELS:7100 Readings in American Religions** **arr.****RELS:7200 Readings in Religious Ethics** **arr.****RELS:7260 French Paleography** **1,3 s.h.**

Independent study of original French writings.

**RELS:7400 Readings in Theology and Religious Thought** **arr.****RELS:7450 Readings in History of Christianity** **arr.****RELS:7500 Readings in Asian Religions** **arr.****RELS:7600 Readings in Islamic and Middle Eastern Studies** **1-3 s.h.**

Advanced works and/or texts in primary languages (Arabic, Persian, etc.) in the broad field of Islamic and Middle Eastern studies. Requirements: proficiency in Modern Standard Arabic.

**RELS:7650 Readings in Ancient Near Eastern Religions** **arr.**

Ancient Near Eastern religious texts; focus on their place in ancient Near Eastern history and religious thought.

**RELS:7900 Individual Study: Graduates** **arr.****RELS:7950 Thesis** **arr.**

# Religious Studies, B.A.

The major in religious studies enables students to gain cultural competence and develop critical skills necessary for living in an increasingly diverse and interconnected world. A degree in religious studies is often added as a second major or a minor to enhance students' education and training in graduate and professional programs, including medical, business, legal, teaching, and research disciplines.

## Learning Outcomes

Courses in religious studies aim to help students:

- understand key religious ideas and major traditions;
- learn critical approaches to interpreting historical events;
- apply new knowledge and analytical skills to explain the role of religion in societies;
- develop critical skills to function in diverse societies and a globalized world; and
- employ technologies to interpret ancient texts, images, artifacts, and study output of new tools including radio, television, and digital media.

## Requirements

The Bachelor of Arts in religious studies requires 30 s.h. of coursework, including one 3 s.h. course in each of five core areas. The remaining 15 s.h. may be taken from any core area or from the list of elective courses. Of the 30 s.h., at least two courses (6 s.h.) must be numbered 3000 or above. A minimum of 15 s.h. for the major must be earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the major. Courses for the major may not be taken pass/nonpass. Students must complete the college's graduation requirements, which include at least 120 s.h. of coursework and the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. A number of the courses for the major count toward the GE CLAS Core. Students can identify courses approved for the GE CLAS Core by viewing the course descriptions.

The B.A. with a major in religious studies requires the following coursework.

Code	Title	Hours
	Core Area Courses	15
	Additional Coursework	15
	<b>Total Hours</b>	<b>30</b>

## Core Area Courses

Students select one 3 s.h. course from each of the five core areas.

## Social Justice, Equity, Inclusion, and Religion

Code	Title	Hours
RELS:1015	Global Religious Conflict and Diversity	3
RELS:1041	African American Religion and Popular Culture	3
RELS:1350	Introduction to African American Religions	3
RELS:1765	U.S. Latina/o/x Religions	3

RELS:1810	Happiness in a Difficult World	3
RELS:2000	Engaging Religious Diversity for Leadership and Entrepreneurship	3
RELS:2330	Wealth, Inequality, and Islam	3
RELS:2620	Politics, Sex, and the Bible	3
RELS:3745	Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter	3

## Religion in History

Code	Title	Hours
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1225	Medieval Religion and Culture	3
RELS:1250	Modern Religion and Culture	3
RELS:1430	The Bible Matters: Biblical Studies for Our Modern World	3
RELS:2775	The Bible and the Holocaust	3
RELS:2930	Digital Media and Religion	3
RELS:3190	Medieval to Modern: The Birth of Protestantism	3
RELS:3385	Early Modern Catholicism	3
RELS:3520	Religious Violence and Nationalism	3
RELS:4155	Religious Conflict: Early Modern Period	3

## Religion in Global Context

Code	Title	Hours
RELS:1130	Introduction to Islamic Civilization	3
RELS:1404	Living Religions of the East	3
RELS:1506	Introduction to Buddhism	3
RELS:1670	Korea in the World	3
RELS:2852	Women in Islam and the Middle East	3
RELS:3655	Zen Buddhism	3
RELS:3855	Human Rights and Islam	3

## Religion, Values, and Culture

Code	Title	Hours
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3
RELS:1080	Introduction to the New Testament	3
RELS:1702	Religion in America Today	3
RELS:1903	Quest for Human Destiny	3
RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:2265	Hard Cases in Healthcare at the End of Life	3
RELS:2272	Gods and Superheroes: Mythologies for a Modern World	3

RELS:2353	Love: Philosophy, Psychology, Religion, and Art	3
RELS:2877	Sport and Religion in America	3
RELS:2947	Quest II: Sex, Love, and Death	3
RELS:3431	Gender and Sexuality in East Asia	3

## Special Topics and Current Events

Code	Title	Hours
RELS:1050	Big Ideas: Introduction to Information, Society, and Culture	3
RELS:1997	Harry Potter: The Mystery and Magic of Life	3
RELS:2122	The Place of Animals in the Hebrew Bible	3
RELS:2674	Food, Body, and Belief: A Global Perspective	3
RELS:2980	Religion and Contemporary Popular Culture	3
RELS:3055	Death, Dying, and Beyond in Asian Religions	3
RELS:3267	Dissent and Rebellion in Islamic Societies: Was There an Arab Spring?	3
RELS:4893	Classical Arabic: Vocabulary, Syntax, and Grammar	1-3
RELS:4930	Internship in Research on Rights and Remedial Justice	1-3
RELS:4960	Individual Study: Undergraduates	arr.

## Additional Coursework

Students select 15 s.h. from any core area listed above or from the elective courses listed below. Courses used to fulfill the core area courses requirement may not be used to fulfill the additional coursework requirement.

## Elective Courses

Code	Title	Hours
RELS:1400	Biblical Archaeology	1,3
RELS:1502	Asian Humanities: India	3
RELS:1606	Civilizations of Asia: South Asia	3-4
RELS:1620	Bhagavad Gita: Essential Teachings of Indian Religion	3
RELS:2080	Public Life in the U.S.: Religion and Media	3
RELS:2182	Ancient Mediterranean Religions	3
RELS:2289	Jerusalem: The Holy City	3
RELS:2361	Middle East and Mediterranean: Alexander to Suleiman	3
RELS:2444	Cities of the Bible	2
RELS:2834	Philosophy of Religion	3
RELS:3003	Classical and Hellenistic Periods I	3

RELS:3243	Pagans and Christians: The Church from Jesus to Muhammad	3
RELS:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3
RELS:3375	The Great Collision	3
RELS:3550	Social Justice, Religion, and Spirituality: Faith and Belief Ignited	3
RELS:3645	Buddhist Philosophy	3
RELS:3700	Nonprofit Organizational Effectiveness I	3
RELS:3701	Nonprofit Organizational Effectiveness II	3
RELS:3704	Egyptian Art	3
RELS:3714	Anthropology of Religion	3
RELS:3716	Greek Religion and Society	3
RELS:3808	Malcolm X, King, and Human Rights	3
RELS:4001	Biblical Hebrew I	3-4
RELS:4002	Biblical Hebrew II	4
RELS:4154	Magic Machines: Technology and Social Change	3
RELS:4352	The Dead Sea Scrolls	3
RELS:4730	Religion and Environmental Ethics	3
RELS:4870	Islamic Cultural Presence in Spain	3

## Honors

### Honors in the Major

To graduate with honors in the religious studies major, students must have a UI cumulative g.p.a. of at least 3.33, a minimum requirement set by the College of Liberal Arts and Sciences. Students also must maintain a UI religious studies g.p.a. of at least 3.50. In addition to the major requirements, students also take an additional 3 s.h. of advanced coursework. Students often choose to take RELS:4960 Individual Study: Undergraduates or RELS:4970 Honors Tutorial for their extra course. Students also must take RELS:4975 Honors Essay under the supervision of a faculty advisor to complete their honors thesis. Copies of the approved and completed thesis are submitted to the Department of Religious Studies and to Iowa Research Online.

### University of Iowa Honors Program

Students also have the opportunity to pursue advanced studies and activities through the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Students do not have to be members of the University of Iowa Honors Program to graduate with honors in the religious studies major.

## Career Advancement

Because religion and religious traditions impact every aspect of culture and society, a major in religious studies prepares

students for many different career choices. Employers look for people who have experience with different cultures and religious backgrounds, which makes a religious studies major relevant to a wide number of careers and professions. Religious studies majors also develop critical thinking, speaking, and writing skills that prepare them for employment and for pursuing an advanced academic degree.

Majors have gone on to careers in media and communication, social work, nursing, public health, government, and nonprofit organizations. They also have pursued advanced degrees in the humanities, social sciences, law, and medical professions.

Students should contact the Department of Religious Studies to learn how the B.A. with a major in religious studies can benefit them.

The Pomerantz Career Center offers many resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** one or two courses in the major.

**Before the seventh semester begins:** three to six courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** five to seven courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Religious Studies, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Major: social justice, equity, inclusion, and religion course <sup>b, c</sup>		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
Major: religion in history course <sup>b, c</sup>		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4

GE CLAS Core: Natural Sciences with Lab <sup>d</sup>	4
GE CLAS Core: Social Sciences <sup>d</sup>	3
Elective course <sup>e</sup>	2
<b>Hours</b>	
<b>15-16</b>	

#### Second Year

##### Fall

Major: religion in global context course <sup>b, c</sup>	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>	3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
<b>Hours</b>	
<b>16-17</b>	

##### Spring

Major: religion, values, and culture course <sup>b, c</sup>	3
GE CLAS Core: International and Global Issues <sup>d</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
<b>Hours</b>	
<b>16-17</b>	

#### Third Year

##### Fall

Major: special topics and current events course <sup>b, c</sup>	3
Major: religious studies course <sup>b</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>	3
GE CLAS Core: World Languages Third Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>e</sup>	3
<b>Hours</b>	
<b>16-17</b>	

##### Spring

Major: religious studies course <sup>b</sup>	3
Major: religious studies course <sup>b</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f</sup>	4 - 5
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
<b>Hours</b>	
<b>16-17</b>	

#### Fourth Year

##### Fall

Major: religious studies course <sup>b</sup>	3
GE CLAS Core: Historical Perspectives <sup>d</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
<b>Hours</b>	
<b>15</b>	

##### Spring

Major: religious studies course <sup>b</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>123-129</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b See General Catalog for list of approved courses.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Religion and Media, Minor

The minor is designed to focus on the intersection of religion and media and to build critical skills in cultural and media literacy. Students are educated on the vital role that religion and media play, historically and in contemporary society, by introducing interdisciplinary perspectives.

## Requirements

The undergraduate minor in religion and media requires a minimum of 18 s.h., including 12 s.h. in courses taken at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework for the minor may not be taken pass/nonpass.

The Departments of Religious Studies and Communication Studies [p. 299] collaborate to offer the minor in religion and media. The minor is administered by the Department of Religious Studies.

Students completing a communication studies major or a religious studies major also may complete this minor. Students may count up to 6 s.h. of coursework for the religion and media minor with other programs of study. Courses with GE CLAS Core [p. 20] status are excluded from this policy.

The minor in religion and media requires the following coursework. Students must complete at least 6 s.h. in communication studies coursework (prefix COMM) and at least 6 s.h. in religious studies coursework (prefix RELS).

Code	Title	Hours
	Methods and Approaches in Media Studies Course	3
	Methods and Approaches in Religious Studies Course	3
	Themes of Religion and Media Courses	6
	Religion and Media in Context Courses	6
<b>Total Hours</b>		<b>18</b>

## Methods and Approaches in Media Studies

These courses convey major methodological approaches to the study of media.

Code	Title	Hours
One of these:		
RELS:1050/ POLI:1050	Big Ideas: Introduction to Information, Society, and Culture	3
COMM:1168	Music and Social Change	3
COMM:1174	Media and Society	3

## Methods and Approaches in Religious Studies

These courses convey major methodological approaches to the study of religion.

Code	Title	Hours
One of these:		
RELS:1001	Judaism, Christianity, and Islam	3

RELS:1015	Global Religious Conflict and Diversity	3
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## Themes of Religion and Media

These courses raise broad thematic questions about the relationship of religion and media in diverse historical, geographical, and social contexts.

Code	Title	Hours
At least 6 s.h. from these:		
RELS:2182/ CLSA:2482	Ancient Mediterranean Religions	3
RELS:2272	Gods and Superheroes: Mythologies for a Modern World	3
RELS:2930/ COMM:2079	Digital Media and Religion	3

## Religion and Media in Context

These courses engage specific historical, geographical, and cultural contexts in which a relationship between religion and media is important. They teach students to think about the way religion and media matter in everyday life.

Code	Title	Hours
At least 6 s.h. from these:		
RELS:2260/ GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:2265/ ASP:2265/ GHS:2265	Hard Cases in Healthcare at the End of Life	3
RELS:2877/ SPST:2077	Sport and Religion in America	3
RELS:3243/ CLSA:3443	Pagans and Christians: The Church from Jesus to Muhammad	3
RELS:3247/ CLSA:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3
RELS:3745/ AFAM:3245	Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter	3
COMM:2080/ RELS:2080	Public Life in the U.S.: Religion and Media	3
COMM:2088	Media and Democracy	3

# Religious Studies, Minor

## Requirements

The undergraduate minor in religious studies requires a minimum of 15 s.h. in religious studies courses, including 12 s.h. in courses taken at the University of Iowa. Students may count up to 3 s.h. of transfer credit toward the minor with approval of the department's undergraduate committee. All students must maintain a cumulative g.p.a. of at least 2.00 in all departmental and UI courses for the minor. Coursework for the minor cannot be taken pass/nonpass.

A number of courses for the minor count toward the GE CLAS Core [p. 20]. Students can identify courses approved for the GE CLAS Core by viewing the course descriptions.

The minor in religious studies requires the following coursework.

Code	Title	Hours
Core Area Courses		9
Additional Coursework		6
<b>Total Hours</b>		<b>15</b>

## Core Area Courses

Students select one course from at least three different core areas for a total of 9 s.h.

## Social Justice, Equity, Inclusion, and Religion

Code	Title	Hours
RELS:1015	Global Religious Conflict and Diversity	3
RELS:1041	African American Religion and Popular Culture	3
RELS:1350	Introduction to African American Religions	3
RELS:1765	U.S. Latina/o/x Religions	3
RELS:1810	Happiness in a Difficult World	3
RELS:2000	Engaging Religious Diversity for Leadership and Entrepreneurship	3
RELS:2330	Wealth, Inequality, and Islam	3
RELS:2620	Politics, Sex, and the Bible	3
RELS:3745	Twentieth- and Twenty-first-Century African American Religion: Civil Rights to Black Lives Matter	3

## Religion in History

Code	Title	Hours
RELS:1001	Judaism, Christianity, and Islam	3
RELS:1225	Medieval Religion and Culture	3
RELS:1250	Modern Religion and Culture	3
RELS:1430	The Bible Matters: Biblical Studies for Our Modern World	3

RELS:2775	The Bible and the Holocaust	3
RELS:2930	Digital Media and Religion	3
RELS:3190	Medieval to Modern: The Birth of Protestantism	3
RELS:3385	Early Modern Catholicism	3
RELS:3520	Religious Violence and Nationalism	3
RELS:4155	Religious Conflict: Early Modern Period	3

## Religion in Global Context

Code	Title	Hours
RELS:1130	Introduction to Islamic Civilization	3
RELS:1404	Living Religions of the East	3
RELS:1506	Introduction to Buddhism	3
RELS:1670	Korea in the World	3
RELS:2852	Women in Islam and the Middle East	3
RELS:3655	Zen Buddhism	3
RELS:3855	Human Rights and Islam	3

## Religion, Values, and Culture

Code	Title	Hours
RELS:1070	Introduction to the Hebrew Bible/Old Testament	3
RELS:1080	Introduction to the New Testament	3
RELS:1702	Religion in America Today	3
RELS:1903	Quest for Human Destiny	3
RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:2265	Hard Cases in Healthcare at the End of Life	3
RELS:2272	Gods and Superheroes: Mythologies for a Modern World	3
RELS:2353	Love: Philosophy, Psychology, Religion, and Art	3
RELS:2877	Sport and Religion in America	3
RELS:2947	Quest II: Sex, Love, and Death	3
RELS:3431	Gender and Sexuality in East Asia	3

## Special Topics and Current Events

Code	Title	Hours
RELS:1050	Big Ideas: Introduction to Information, Society, and Culture	3
RELS:1997	Harry Potter: The Mystery and Magic of Life	3
RELS:2122	The Place of Animals in the Hebrew Bible	3
RELS:2674	Food, Body, and Belief: A Global Perspective	3
RELS:2980	Religion and Contemporary Popular Culture	3

RELS:3055	Death, Dying, and Beyond in Asian Religions	3	RELS:3700/ ENTR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ SSW:3500	Nonprofit Organizational Effectiveness I	3
RELS:3267	Dissent and Rebellion in Islamic Societies: Was There an Arab Spring?	3	RELS:3701/ MGMT:3600/ NURS:3600/ SSW:3600	Nonprofit Organizational Effectiveness II	3
RELS:4893	Classical Arabic: Vocabulary, Syntax, and Grammar	1-3	RELS:3704/ ARTH:3320	Egyptian Art	3
RELS:4930	Internship in Research on Rights and Remedial Justice	1-3	RELS:3714/ ANTH:3114	Anthropology of Religion	3
RELS:4960	Individual Study: Undergraduates	arr.	RELS:3716/ CLSA:3416	Greek Religion and Society	3

## Additional Coursework

Students select 6 s.h. from any core areas listed above or from the elective courses listed below. At least one course (3 s.h.) must be at 3000 level or above. Courses used to fulfill the core area courses requirement may not be used to fulfill the additional coursework requirement.

## Elective Courses

Code	Title	Hours	Code	Title	Hours
RELS:1400/ CLSA:1400	Biblical Archaeology	1,3	RELS:4001/ CLSA:4901	Biblical Hebrew I	3-4
RELS:1502/ ASIA:1502/ SOAS:1502	Asian Humanities: India	3	RELS:4002/ CLSA:4902	Biblical Hebrew II	4
RELS:1606/ ASIA:1606/ HIST:1606	Civilizations of Asia: South Asia	3-4	RELS:4154/ COMM:4154	Magic Machines: Technology and Social Change	3
RELS:1620/ SOAS:1620	Bhagavad Gita: Essential Teachings of Indian Religion	3	RELS:4352/ CLSA:4452	The Dead Sea Scrolls	3
RELS:2080/ COMM:2080	Public Life in the U.S.: Religion and Media	3	RELS:4730/ ANTH:4130	Religion and Environmental Ethics	3
RELS:2182/ CLSA:2482	Ancient Mediterranean Religions	3	RELS:4870/ SPAN:4870	Islamic Cultural Presence in Spain	3
RELS:2289/ CLSA:2489	Jerusalem: The Holy City	3			
RELS:2361/ CLSA:2461/ HIST:2461	Middle East and Mediterranean: Alexander to Suleiman	3			
RELS:2444/ CLSA:2444	Cities of the Bible	2			
RELS:2834/ PHIL:2534	Philosophy of Religion	3			
RELS:3003/ CLSG:3003	Classical and Hellenistic Periods I	3			
RELS:3243/ CLSA:3443	Pagans and Christians: The Church from Jesus to Muhammad	3			
RELS:3247/ CLSA:3247	Banned from the Bible: Pseudepigrapha and Apocrypha	3			
RELS:3375/ ARTH:3375	The Great Collision	3			
RELS:3550/ GWSS:3550/ SJUS:3550	Social Justice, Religion, and Spirituality: Faith and Belief Ignited	3			
RELS:3645/ PHIL:3845	Buddhist Philosophy	3			

## Religious Studies, M.A.

The Master of Arts program in the Department of Religious Studies is designed for students who wish to advance their understanding of a particular area of religious studies or explore multiple traditions and topics beyond the undergraduate level. Many M.A. students choose to later pursue a Ph.D. Many others bring their advanced education to such careers as health care, law, diplomacy, ministry, social advocacy, journalism, counseling, and informatics.

M.A. students analyze the ways in which diverse religious traditions originate, develop, and interact over time. Students learn to identify and use multiple methods for the study of religion, including historical, philosophical, ethical, literary, linguistic, psychological, ethnographic, and digital approaches. Students draw on the expertise of the religious studies faculty and also are encouraged to work with faculty members in other UI departments who specialize in their areas of interest. M.A. students have worked, for example, with scholars in the Departments of Anthropology, English, History, and Asian and Slavic Languages and Literatures, as well as Classics and Gender, Women's, and Sexuality Studies.

Graduate study in religious studies is flexible. It can accommodate individual students' interests within the limits of existing faculty expertise.

### Concentration Areas

These are some of the potential general areas of concentration.

#### Religions of Southwest Asia, North Africa, and the Mediterranean

Religion, law, and politics in the Islamic world; the history of interpretation of the texts and traditions of Judaism, Christianity, and Islam; Greco-Roman and Egyptian religion and culture; digital humanities.

#### Religions of East Asia

Religious traditions of China and the political, social, and economic factors that have shaped them; modern religion and culture in Korea, most notably Christianity.

#### Religions of the United States and the Atlantic World

History and ethnography of religion in the United States; African American religious traditions (Christianity, Islam, and African diaspora religions); West African religions; religion, media, and the negotiation of technological change; Latina/o/x Christianity.

#### Religion, Ethics, and Society

Religion and morality; religion, emotion, and affect; human rights; religion's relationships to gender, race, and ethnicity; ethics of medicine and biotechnology; religion and health.

### Themes

Graduate study also is developed by theme. Popular themes include religions' relationships to public life, gender, race, media and technology, and human health and well-being.

## Additional Information

It is the expectation that M.A. students will complete their studies in two years.

Students who want to apply to the graduate programs are advised to review the faculty profiles on the Department of Religious Studies website to ascertain whether their area of interest is well-supported by faculty expertise.

For more detailed information on graduate programs in religious studies, contact the Department of Religious Studies or visit Graduate Program on the department's website.

## Learning Outcomes

- Teaching success: students understand how to teach religious studies at public universities, and if they serve as teaching assistants during their graduate program, they show effectiveness in reaching a diverse audience of students.
- Critical knowledge of the field: graduate students are familiar with foundational texts in their field, as well as influential scholarship that critically engages these texts and seeks to move the field in new directions; students identify ways in which they can contribute to the corpus of texts that compose their field.
- Academic skills: graduate students read carefully and think critically, and they write in clear and compelling ways about topics related to the study of religion.
- Religion and social equity: graduate students have a critical understanding of the historical entanglement of global religions with racism and misogyny; they can articulate religions' relationships to unjust power structures, as well as religions' contributions to greater social justice.
- Professional engagement: graduate students demonstrate successful participation in the life of the department, their subfield, and the broader field of religious studies; they communicate about their learning with students from other fields.

## Requirements

The Master of Arts program in the Department of Religious Studies requires a minimum of 30 s.h. of graduate credit. Students must complete 24 s.h. of the credit required for the degree at the University of Iowa and must maintain a cumulative g.p.a. of at least 3.20. The M.A. is offered with or without thesis.

Requirements for languages and other research tools vary according to the student's focus of study. Students are supervised by a three-person committee consisting of an advisor and two additional faculty members.

All M.A. students must complete the following five courses.

Code	Title	Hours
RELS:5100	Teaching and Public Engagement (on topics of religion)	1
RELS:5200	Asian Religions in the Modern World for Graduate Students	3
RELS:5300	Genealogies of Religion	3

RELS:5400	Methods and Theories in the Study of Religion	3
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One graduate seminar		3
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Students select remaining coursework depending on their area of interest and in consultation with their advisory committee.

In their M.A. thesis work, students demonstrate and refine their research and writing skills. They may count a maximum of 6 s.h. of thesis credit toward the degree. Students must defend their thesis to their committee. Those who choose not to write a thesis must pass an examination that tests their competence in completed coursework.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Application materials must include an application form; a transcript of all undergraduate and graduate work (one copy must be sent to the University's Office of Admissions, and a second copy to the Department of Religious Studies); an application or waiver of consideration form for graduate assistantships; three confidential letters of recommendation; and a writing sample that demonstrates the applicant's ability to engage in critical analysis. Applicants also must submit a statement of purpose that explains their objectives for graduate study and states which area of graduate study in religion best suits their objectives. Students may indicate one of the department's traditional areas of concentration or an area that is defined more by theme [p. 1028]. Students are advised to view the Department of Religious Studies website, most notably the faculty pages, to ascertain whether their area of interest is well-supported by faculty expertise.

Moreover, students are encouraged to contact relevant faculty members prior to applying for graduate study in order to explore areas of mutual interest. It is helpful to include information about such contacts in their statement of purpose. The strongest applications show how students would benefit from working with multiple members of the faculty. For details, see Graduate Admission, Financial Aid, and Additional Funding on the department's website.

All application materials must be received by January 15 to receive full consideration for fall admission.

## Career Advancement

Graduate students in religious studies acquire a wide range of competencies that are useful for almost any career they pursue. Students gain research skills; they master the craft of writing; they learn to plan, manage, and complete large projects; they gain teaching skills that are useful both inside and outside the academy; they learn to argue a point persuasively; they gain the ability to communicate with others about controversial issues; they learn how to understand and mediate differences in religious perspectives and values; they acquire highly valued language skills; and they gain expertise in the use of digital technologies for research and teaching.

Students who earn a M.A. often gain admission to excellent Ph.D. programs in religious studies and other areas of study, such as journalism and mass communication. Others have gone on to divinity school, law school, and into careers within media and communication, health care, libraries, museums, church leadership, government, and public service.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Religious Studies, M.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework including 24 s.h. completed at the University of Iowa; up to 6 s.h. of graduate transfer credit allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students often develop plans of study either in relation to traditional areas of concentration or by theme. <sup>c</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
RELS:5400	Methods and Theories in the Study of Religion	3
Graduate Seminar course		3
Elective course <sup>d</sup>		3
		<b>Hours</b>
		<b>9</b>
<b>Spring</b>		
RELS:5200	Asian Religions in the Modern World for Graduate Students	3
GRAD:6217	Seminar in College Teaching	3
Elective course <sup>d</sup>		3
		<b>Hours</b>
		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
RELS:5300	Genealogies of Religion	3
Elective course <sup>d</sup>		2
		<b>Hours</b>
		<b>5</b>
<b>Spring</b>		
RELS:5100	Teaching and Public Engagement	1
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Final Exam <sup>e</sup>		0
		<b>Hours</b>
		<b>7</b>
		<b>Hours</b>
		<b>30</b>

a Students must complete RELS:5100, RELS:5200, RELS:5300, RELS:5400, GRAD:6217, and one graduate seminar. Courses may be offered at different times, so students should work with faculty advisor and the department to determine appropriate courses and sequence.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Traditional areas of concentration may include religions in the Middle East, Ancient Near East, or Mediterranean, religions in Asia, religions of Europe and the Americas, or topics related to religion, ethics, and society. Popular

themes include religions' relationships to public life, gender, race, media and technology, and human health and well-being. Students work with a faculty advisor to determine an area of concentration that best suits their interests.

- d Work with faculty advisor to determine appropriate graduate level elective coursework and sequence.
- e Final comprehensive exam.

## Religious Studies, Ph.D.

The doctoral program in the Department of Religious Studies trains students to become advanced practitioners of the study of religion—researchers, scholars, teachers, and facilitators of informed public discourse. It can prepare a person to become a college professor or to bring a nuanced, critical understanding of religion and its influences to such careers as health care, law, diplomacy, ministry, social advocacy, journalism, counseling, and informatics.

Doctoral students analyze the ways in which diverse religious traditions originate, develop, and interact over time. Students learn to identify and use multiple methods for the study of religion, including historical, philosophical, ethical, literary, linguistic, psychological, ethnographic, and digital approaches. Students can draw on the expertise of the religious studies faculty and also are encouraged to work with faculty members in other UI departments who specialize in their areas of interest. Many Ph.D. students work, for example, with scholars in the Departments of Anthropology, English, History, and Asian and Slavic Languages and Literatures, as well as Classics and Gender, Women's, and Sexuality Studies.

Graduate study in religious studies is flexible; it can accommodate individual students' interests within the limits of existing faculty expertise.

### Concentration Areas

These are some of the potential general areas of concentration.

#### Religions of Southwest Asia, North Africa, and the Mediterranean

Religion, law, and politics in the Islamic world; the history of interpretation of the texts and traditions of Judaism, Christianity, and Islam; Greco-Roman and Egyptian religion and culture; digital humanities.

#### Religions of East Asia

Religious traditions of China and the political, social, and economic factors that have shaped them; modern religion and culture in Korea, most notably Christianity; religion and gender in transnational perspective; religion and empire.

#### Religions of the United States and the Atlantic World

History and ethnography of religion in the United States; African American religious traditions (Christianity, Islam, and African diaspora religions); West African religions; religion, media, and the negotiation of technological change; Latina/o/x Christianity.

#### Religion, Ethics, and Society

Religion and morality; religion, emotion, and affect; human rights; religion's relationship to gender, race, and ethnicity; ethics of medicine and biotechnology; religion and health.

### Themes

Graduate study also is developed by theme. Popular themes include religions' relationships to public life, gender, race, media, technology, and human health and well-being.

## Additional Information

Students who want to apply to the graduate programs are advised to review the faculty profiles on the Department of Religious Studies website to ascertain whether their area of interest is well-supported by faculty expertise.

It is the expectation that Ph.D. students will complete their studies in six years; five for those who are accepted into the program with an M.A. and transfer credit.

For more detailed information on graduate programs in religious studies, contact the Department of Religious Studies or visit Graduate Program on the department's website.

## Learning Outcomes

- Teaching success: students understand how to teach religious studies at public universities, and if they serve as teaching assistants (TA's) during their graduate program, they show effectiveness in reaching a diverse audience of students.
- Critical knowledge of the field: graduate students are familiar with foundational texts in their field, as well as influential scholarship that critically engages these texts and seeks to move the field in new directions; students identify ways in which they can contribute to the corpus of texts that compose their field.
- Academic skills: graduate students read carefully and think critically, and they write in clear and compelling ways about topics related to the study of religion.
- Religion and social equity: graduate students have a critical understanding of the historical entanglement of global religions with racism and misogyny; they can articulate religions' relationships to unjust power structures, as well as religions' contributions to greater social justice.
- Professional engagement: graduate students demonstrate successful participation in the life of the department, their subfield, and the broader field of religious studies; they communicate about their learning with students from other fields.

## Requirements

The doctoral program in the Department of Religious Studies requires a minimum of 72 s.h. of graduate credit. A maximum of 24 s.h. of relevant graduate work may be transferred from another accredited graduate school or professional program, as approved by the director of graduate studies. A maximum of 12 s.h. of thesis writing credit may count toward the 72 s.h. requirement. Students must maintain a cumulative g.p.a. of at least 3.40.

All Ph.D. students are required to demonstrate competency in English and at least one other language that is relevant to their advanced research; more specific language requirements are set in consultation with an advisory committee.

Students are supervised initially by a three-person committee consisting of an advisor and two additional faculty members; often these members serve also on the student's five-person comprehensive exam and dissertation committees.

All Ph.D. students must complete the following eight courses.

Code	Title	Hours
RELS:5100	Teaching and Public Engagement	1

RELS:5200	Asian Religions in the Modern World for Graduate Students	3
RELS:5300	Genealogies of Religion	3
RELS:5400	Methods and Theories in the Study of Religion	3
GRAD:6217	Seminar in College Teaching	3
	Three graduate seminars	9
<b>Total Hours</b>		<b>22</b>

Students select remaining coursework depending on their interests and in consultation with their advisory committee. Ph.D. students must submit and have their departmental program of study approved in the fourth semester of their study to be permitted to proceed in the Ph.D. program. Those who are approved are expected to write and orally defend comprehensive exams (by the eighth semester), a dissertation prospectus (by the ninth semester), and a doctoral dissertation (by the twelfth semester).

Students working toward a Ph.D. may receive an M.A. upon completing at least 30 s.h. of coursework and passing their comprehensive examination.

It is the expectation that Ph.D. students complete their studies in six years; five for those who are accepted into the program with an M.A. and transfer credit.

For more detailed information on graduate programs in religious studies, contact the Department of Religious Studies or visit Graduate Program on the department's website.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Application materials must include an application form; a transcript of all undergraduate and graduate work (one copy must be sent to the University's Office of Admissions, and a second copy must be sent to the Department of Religious Studies); an application or waiver of consideration form for graduate assistantships; three confidential letters of recommendation; and a writing sample that demonstrates the applicant's ability to engage in critical analysis. Applicants also must submit a statement of purpose that explains their objectives for graduate study and states which area of graduate study in religion best suits their objectives. Students may indicate one of the department's traditional areas of concentration or an area that is defined more by theme [p. 1031].

Students are advised to view the Department of Religious Studies website, most notably the faculty pages, to ascertain whether their area of interest is well-supported by faculty expertise. Moreover, students are encouraged to contact relevant faculty members prior to applying for graduate study in order to explore areas of mutual interest. It is helpful to include information about such contacts in their statement of purpose. The strongest applications show how students would benefit from working with multiple members of the faculty. For details, see Graduate Admission, Financial Aid, and Additional Funding on the department's website.

All application materials must be received by January 15 to receive full consideration for fall admission.

## Financial Support

All Ph.D. students in religious studies receive funding for at least four years. The department offers financial support for graduate students primarily in the form of teaching assistantships.

Every few years the department awards the Gilmore Scholarship for doctoral students who study the intersection of religion, the visual arts, and humanistic values.

The department also has a number of annual scholarships that it awards to graduate students for excellence in teaching and scholarship. In addition, Ph.D. students can apply for funds from the department for research and conference travel expenses.

The department also assists Ph.D. students in applying for funding that provides them time off from teaching to focus on exams and dissertation writing.

## Career Advancement

Graduate students in religious studies acquire a wide range of competencies that are useful for almost any career they pursue. Students gain research skills; they master the craft of writing; they learn to plan, manage, and complete large projects; they gain teaching skills that are useful both inside and outside the academy; they learn to argue persuasively; they gain the ability to communicate with others about controversial issues; they learn how to understand and mediate differences in religious perspectives and values; they acquire rare language skills; and they gain expertise in the use of digital technologies for research and teaching.

Students who earn a Ph.D. in religious studies often go on to become scholars and teachers in university or college settings. Other degree recipients have become professional ethicists, leaders of nongovernmental organizations, school or church administrators, nonacademic educators, digital media specialists, and government employees in the area of international affairs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Religious Studies, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 24 s.h. of graduate transfer credit allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students often develop PhD plans of study either in relation to traditional areas of concentration or by theme. <sup>c</sup>		
<b>Hours</b>		<b>0</b>



**First Year****Fall**

RELS:5400	Methods and Theories in the Study of Religion	3
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RELS Graduate Seminar course <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>9</b>
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**Spring**

RELS:5200	Asian Religions in the Modern World for Graduate Students	3
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GRAD:6217	Seminar in College Teaching	3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>9</b>
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**Second Year****Fall**

RELS:5300	Genealogies of Religion	3
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RELS Graduate Seminar course <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>9</b>
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**Spring**

Submit PhD Plan of Study <sup>f</sup>		
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RELS:5100	Teaching and Public Engagement	1
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>10</b>
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**Third Year****Fall**

Graduate Seminar course <sup>d</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>6</b>
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**Spring**

Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>6</b>
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**Fourth Year****Fall**

Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>6</b>
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**Spring**

Comprehensive Exam <sup>g</sup>		
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Elective course <sup>e</sup>		3
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Elective course <sup>e</sup>		3
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<b>Hours</b>		<b>6</b>
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**Fifth Year****Fall**

Dissertation Prospectus and Defense <sup>h</sup>		
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RELS:7950	Thesis <sup>i</sup>	3
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<b>Hours</b>		<b>3</b>
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**Spring**

RELS:7950	Thesis <sup>i</sup>	3
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<b>Hours</b>		<b>3</b>
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**Sixth Year****Fall**

RELS:7950	Thesis <sup>i</sup>	3
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<b>Hours</b>		<b>3</b>
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**Spring**

RELS:7950	Thesis <sup>i</sup>	2
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Final Exam <sup>j</sup>		
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<b>Hours</b>		<b>2</b>
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<b>Total Hours</b>		<b>72</b>
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a Students must complete RELS:5100; RELS:5200; RELS:5300, RELS:5400, GRAD:6217, three graduate seminars, and a dissertation. Courses may be offered at different times, so students should work with faculty advisor and the department to determine appropriate courses and sequence.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Traditional areas of concentration may include religions in the Middle East, Ancient Near East, or Mediterranean, religions in Asia, religions of Europe and the Americas, or topics related to religion, ethics, and society. Popular themes include religions' relationships to public life, gender, race, media and technology, and human health and well-being. Students work with a faculty advisor to determine an area of concentration that best suits their interests.

d Three graduate seminars must be taken prior to completion of the degree, including at least two in Religious Studies (prefix RELS); consult with faculty advisor regarding the appropriate courses and sequence.

e Work with faculty advisor to determine appropriate graduate level elective coursework and sequence.

f During the fourth semester, in consultation with faculty advisor and core committee, submit a comprehensive plan that includes work already completed and work yet to be completed, along with a paper written in the first three semesters at the University of Iowa.

g Typically completed during fourth year spring semester.

h During the semester after the comprehensive exam, students must submit a draft of their dissertation prospectus to their dissertation committee, followed by a two-hour oral defense. A prospectus must be approved by a majority vote before students are permitted to proceed with writing the dissertation.

i Maximum of 12 s.h. of dissertation credit may be counted towards the degree.

j Dissertation defense.

# Resilience and Trauma-Informed Perspectives

## Director, School of Social Work

- Mercedes E. Bern-Klug

**Undergraduate certificate:** resilience and trauma-informed perspectives

**Website:** <https://socialwork.uiowa.edu/>

Many students are majoring in areas where they will encounter individuals who have experienced trauma. Untreated adverse childhood experiences (ACEs) are connected to mental illness, substance abuse, and suicide. ACEs include physical and emotional neglect; physical, sexual, and emotional abuse; parental separation or divorce; mental illness; domestic violence; substance abuse; and incarceration of a parent.

Expanded ACE surveys include poverty, discrimination, homelessness, and community violence. The presence of four or more ACEs is associated with increased risk of poor behavioral, social, mental, and medical health. According to the Center for Disease Control (2020) about 61 percent of adults in 25 states reported they had experienced at least one type of ACE, and nearly 1 in 6 adults reported they had experienced four or more types of ACEs. Women and several racial/ethnic minority groups are at greater risk for experiencing more ACEs. The economic and social costs to families, communities, and society totals hundreds of billions of dollars each year. Preventing ACEs could reduce a large number of health conditions. Acknowledging the importance of identifying and treating ACEs, certificate students could positively impact these numbers, and will be better prepared to provide interventions to others.

The primary audience for the certificate program includes undergraduate students that are in helping professions such as social work, education, psychology, nursing, and public health. Students from health sciences programs, including the Carver College of Medicine, the physician assistant studies and services program, and the College of Law, could benefit as well. All undergraduate students are eligible to participate.

The Colleges of Liberal Arts and Sciences, Education, Nursing, and Law, and the Carver College of Medicine graduate the teachers, social workers, nurses, physicians, police officers, attorneys, judges, prosecutors, nonprofit organization workers and administrators, and public health workers that are employed across the nation. These professionals encounter the most traumatized individuals in society. Preparing undergraduate students in their professional fields with a good understanding of trauma, trauma-sensitive responses, and trauma-informed prevention and care provides skills that supplement their chosen professions.

The interdisciplinary Certificate in Resilience and Trauma-Informed Perspectives is sponsored by the School of Social Work and the College of Education, with support from the Colleges of Nursing and Public Health. The certificate is administered by the School of Social Work [p. 1049].

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Resilience and Trauma-Informed Perspectives [p. 1035]

# Resilience and Trauma-Informed Perspectives, Certificate

## Learning Outcomes

Students who complete the certificate program will be able to:

- describe adverse childhood experiences (ACEs) and the influence they have on physical, mental, emotional, and spiritual outcomes in childhood and adulthood;
- identify their own trauma, if any, and learn how to process it to become healthier and more resilient in their own lives;
- describe resiliency, its dynamics, and ways to strengthen resiliency;
- analyze strategies to decrease or eliminate trauma in society including learning how to create trauma-informed organizations; and
- describe the impact of ACEs on communities and formulate strategies to prevent ACEs in communities and their field of practice.

## Requirements

The undergraduate Certificate in Resilience and Trauma-Informed Perspectives requires 18 s.h. of coursework. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

The Certificate in Resilience and Trauma-Informed Perspectives requires two core courses; both offered online. MyUI indicates if elective courses are offered in the classroom or online.

## Required Courses

Code	Title	Hours
Both of these:		
CSED:4173	Trauma Across the Lifespan	3
SSW:3700/ PSQF:3700	Introduction to Understanding Trauma and Resilience	3

## Electives

Code	Title	Hours
At least 12 s.h. from these:		
SSW:3786/ ASP:3786	Death/Dying: Issues Across the Life Span	3-4
SSW:3796	Family Violence	3
SSW:3797	Child Welfare Policy and Practice	3
SSW:3900	Campus Sexual Assault: Policy, Prevention, and Intervention	3

SSW:5200	Grief Work with Individuals and Families (when topic is trauma-informed family practice)	2-3
ANTH:2164/ GHS:2164	Culture and Healing: An Introduction to Medical Anthropology	3
CCCC:2220	Foundations of Critical Cultural Competence	3
CSED:4113	Sleep, Sleep Deprivation, and Sleep Disorders	3
CSED:4131	Loss, Death, and Bereavement	3
CSED:4132	Introduction to Addictions and Impulse Control Disorders	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSI:1490	Flip the Script	1
ENGL:1200	The Interpretation of Literature (when topic is identity, trauma, and resiliency)	3
ENGL:3444	Literatures of the American Peoples (when topic is writing trauma, imaging hope)	3
OEH:4510/ CPH:4230/ EPID:4510	Injury and Violence Prevention	3
PSQF:1027	Mindfulness Foundations in the Helping Professions	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:3330	Childhood Psychopathology	3
RHET:2350	Forensic Rhetoric (when topic is memory, storytelling, and archives)	3
THTR:2120	Movement: Special Topics (when topic is vinyasa yoga)	3
Independent study in the Rape Victim Advocacy Training Program (consult certificate coordinator)		
Additional related courses (consult certificate coordinator for approval)		
May include one of these:		
CSED:4185	Introduction to Substance Abuse	3
SSW:3729	Substance Use and Abuse	3

# Rhetoric

## Interim Chair

- Sarah Lucinda Coggins Mosher

**Undergraduate minor:** rhetoric and persuasion

**Faculty:** <https://clas.uiowa.edu/rhetoric/people>

**Website:** <https://clas.uiowa.edu/rhetoric/>

The Department of Rhetoric offers undergraduate courses that fulfill the Rhetoric requirement of the different colleges at the University and courses that apply toward the areas of Diversity and Inclusion as well as Values and Culture; see GE CLAS Core [p. 20] in the Catalog. It also provides individual instruction in its Writing Center, Speaking Center, Conversation Center, and the Iowa Digital Engagement and Learning Initiative (IDEAL) multimodal composition studio and offers other undergraduate courses, graduate seminars, and an undergraduate minor.

## Rhetoric for the GE CLAS Core

Rhetoric courses help students to develop skills in speaking, writing, listening, and critical reading. They also build competence in research and inquiry as well as in analysis and persuasion, starting with public controversies in their social contexts and generalizing to all forms of idea presentation, whether academic readings, everyday debates, media messages, or student papers. Writing and speaking skills are emphasized and developed.

All rhetoric classes follow specific department goals, but each instructor uses a unique set of texts and contexts to teach rhetorical concepts. Rhetoric courses are sometimes organized around a special topic, such as the STEM fields (science, technology, engineering, and mathematics), nursing, or law, but the primary emphasis is always on responsible inquiry and analysis. Some course sections involve special activities, such as service-learning components, but the workload across all sections is comparable, with a fixed number of major assignments and a department-approved library of readings.

During their first year at the University, students enroll in the rhetoric course indicated on their degree audit unless they are required to complete one or more prerequisite courses in English as a Second Language (ESL) as a result of their English proficiency evaluation.

Students planning to transfer to the University of Iowa should discuss rhetoric course equivalencies as soon as possible with the University of Iowa Office of Admissions. To learn more about the GE CLAS Core requirement, see GE CLAS Core [p. 20] in the Catalog.

Students who undergo formal evaluation by Student Disability Services and are found to have a learning disability in reading, writing, or speaking should request reasonable accommodations in order to complete rhetoric. Accommodations may be arranged by Student Disability Services in consultation with the Department of Rhetoric and individual instructors.

## Programs

### Undergraduate Program of Study Minor

- Minor in Rhetoric and Persuasion [p. 1040]

## Courses

### Rhetoric Courses

#### **RHET:1000 First-Year Seminar** **1-2 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **RHET:1010 Writing for Academic Success** **1 s.h.**

Individualized instruction in the Writing Center; in conjunction with GE CLAS Core Rhetoric courses.

#### **RHET:1020 Reading and Comprehension** **3 s.h.**

Transitional course to help prepare students for RHET:1030, focusing specifically on reading and comprehension strategies, and foundational writing strategies.

#### **RHET:1030 Rhetoric** **4-5 s.h.**

Analysis and critique to discover, question, explain, and justify positions and claims made in writing and speaking; reading and listening to comprehend and assess arguments; employment of rhetorical concepts (e.g., purpose, audience); understanding research as responsible inquiry for speaking and writing; special topics, activities. Requirements: completion of any required ESL courses. GE: Rhetoric.

#### **RHET:1040 Writing and Reading** **3 s.h.**

Introductory course in writing required of students who have completed a college-level public speaking course, but have not otherwise satisfied the rhetoric requirement. Requirements: completion of GE CLAS Core speaking requirement and any required ESL courses. GE: Rhetoric - Writing.

#### **RHET:1060 Speaking and Reading** **3 s.h.**

Introductory course in speaking required of students who have completed 6 s.h. of college writing instruction, but have not completed a 3 s.h. college-level speaking course; intended to improve speaking, listening, critical, analytical, and advocacy skills. Requirements: completion of GE CLAS Core writing requirement and any required ESL courses. GE: Rhetoric - Speech.

#### **RHET:1115 Academic Success Resources** **1 s.h.**

Development of students' academic skills through sustained engagement with campus success resources (e.g., Rhetoric's Conversation Center); students commit to weekly engagements, supplemented by online readings and reflections designed to foster critical thinking skills around their learning, and a summative, multimodal video speech to facilitate carrying concrete skills forward into future academic success.

**RHET:2000 Big Ideas: Creativity for a Lifetime 3 s.h.**

Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; identification of ways for students to be more creative in their own lives and work. GE: Values and Culture. Same as ARTS:2000, ASP:2000, EDTL:2000.

**RHET:2055 Persuasion and Advocacy 3 s.h.**

Maya Angelou said, "The wisest thing I can do is be on my own side, be an advocate for myself and others like me"; how to craft a powerful voice that aligns intellect with passions, shape audience impressions, and gain acceptance and recognition from others when advocating for yourself and for things you believe in; assignments tailored to student's interests and goals. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:2065 Persuading Different Audiences: Launching a Successful Career 3 s.h.**

Preparation for student's future persuasive demands as they start their careers; creation of several short projects addressing a variety of audiences, context, and situations with the goal of developing a professional and personable style; assignments reflect challenging circumstances in the workplace. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:2070 Persuasive Stories 3 s.h.**

Examination of the persuasive dimension of stories; students master the skill of storytelling by examining stories circulating within their culture and exploring the effects these stories have on thinking about their identities and discovering their own voices; integration of speaking and writing skills with persuasive storytelling skills through short oral and written assignments that lead to a final multimodal project of two interrelated storytelling assignments—production of a website and a podcast. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Values and Culture.

**RHET:2085 Speaking Skills 3 s.h.**

How to become confident and effective speakers; assignments include formal presentations and shorter, informal speaking activities; peer and instructor feedback help improve the impression students create as speakers; strengths developed include earning credibility, capturing and maintaining audience interest, and coming across as personable, professional, and confident. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:2090 Conversation Practicum 0-3 s.h.**

Intercultural conversation with international students in small groups or pairs; readings, classroom discussions, and in-class training to develop cultural competence and related skills.

**RHET:2095 Fundamental Strategies of Persuasion 3 s.h.**

Strategies of approaching persuasion in a variety of personal, professional, and communal contexts; fundamentals of persuasion including audience adaptation, creating reasoned and passionate appeals, conveying character, and enabling identification. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: completion of GE CLAS Core Rhetoric.

**RHET:2135 Rhetorics of Diversity and Inclusion 3 s.h.**

How language is at the root of oppression while also being a powerful tool to enact social justice; students explore the roles of rhetoric in constructing diversity and examine how different bodies and minds are ascribed value based on their alignment with cultural attitudes toward normalcy, ability, race, gender, sexuality, and more; students use written, spoken, and/or signed language and digital forms of expression to create a more inclusive environment in and beyond the classroom. GE: Diversity and Inclusion. Same as SJUS:2135.

**RHET:2350 Forensic Rhetoric 3 s.h.**

Students strengthen argumentation, communication, and research skills while discussing the cultural phenomenon of forensic rhetoric (i.e., using the past to make arguments); rhetorical analysis of autobiographical stories, development of podcasts related to readings, and a multimodal project involving archival research. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:2400 Idea to Innovation 3 s.h.**

Opportunity for creative, self-motivated students to begin making a difference in their communities today; examination of how cities and communities are organized spatially and socially; case studies detailing social innovators in a variety of disciplines. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:2610 Acting for Success 3 s.h.**

How skills learned by actors in the theatre world can be applied to presentations and interactions in business, education, and beyond; how to connect with others on a personal level; ability to stand out as a team player and a leader; acting techniques traditionally used in theatre to open up communication dynamics; how to display an authentic self in everyday situations. Corequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Engineering Be Creative. Same as THTR:2610.

**RHET:2620 Body Language: Study of Movement and Gesture in Speaking 3 s.h.**

How to effectively perform movement and gesture in public and interpersonal speaking situations; development of skills; use of movement and gesture in many types of public speeches including academic and professional presentations, political debates, ceremonial addresses, and protest demonstrations; short readings on nonverbal communication. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:3005 Narratives of the Midwest 3 s.h.**

Exploration of the Midwest beyond stereotypical ideas of "flyover country" and "America's heartland"; focus on narratives in movies and other media to critique superficial observations and discover new voices and perspectives; students analyze portrayals of the Midwest and create unique Midwestern stories, use research and personal observations to construct a personal blog, podcast, and video essay. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:3009 Negotiation and Conflict Resolution 3 s.h.**

Strategies of successful negotiation across a wide range of conflict situations; keys to success in peacefully resolving conflicts; personal, professional, legal, and political negotiations; apologizing; mediation as alternative to litigation; analysis of conflict characteristics to determine optimal negotiation strategies; development of negotiation interpersonal skills; practice negotiating under real world scenarios. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as PBAF:3217, URP:3217.

**RHET:3085 Advanced Speaking Skills 3 s.h.**

Preparation for speaking as a leader; how to speak effectively, authoritatively, and eloquently in a variety of settings; assignments including podcasts, video-recorded speeches, and TED talks; informal assignments provide occasions to practice, and give and receive quality feedback, as well as experiment with unique and memorable ways of speaking that give life to things that are abstract, technical, philosophical, and poetic. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:3130 Rhetorics of Animal Advocacy 3 s.h.**

Explore the range of social, ethical, and environmental problems that motivate animal advocacy past and present, and analyze several advocacy campaign responses to those problems (e.g., People for the Ethical Treatment of Animals, Farm Sanctuary, The American Society for the Prevention of Cruelty to Animals, The National Humane Alliance); students will examine self-selected animal-related problems and design animal advocacy campaigns of their own choosing. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:3140 Nature and Society: Controversies and Images 3 s.h.**

Theoretical perspectives that explain and/or interpret environmental change and human environmental interactions; conceptual tools to understand complex relationship between nature and society at multiple scales; ways in which individuals and communities have overcome economic and environmental limitations in economically developed countries and economically developing countries; critical thinking through exposure to contentious viewpoints and assessment of their strengths and weaknesses. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: completion of GE CLAS Core Rhetoric.

**RHET:3250 Persuasive Writing for Science and Health Care Professionals 3 s.h.**

Writing persuasively and authoritatively in professional settings; exploration of a variety of writing formats including letter, personal essay, blog, project proposal, and grant proposal; final project tailored to student interests; for engineering, science, and health care majors. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Engineering Be Creative.

**RHET:3260 Persuasive Speaking for Science and Health Care Professionals 3 s.h.**

Preparation for speaking persuasively and authoritatively in professional settings; students speak frequently and receive ample feedback from their peers and instructor with the goal of developing a presentational style of speaking that blends personable and professional as well as translating technical and abstract into concrete language accessible to the public; tailor-made for students majoring in science and health care areas. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Engineering Be Creative.

**RHET:3290 Advanced Business Speaking 3 s.h.**

Speaking as a purpose-specific, audience-oriented, and situation-bound activity whose demands change from one setting to another; students learn to speak with authority, come across as professionals, and manage the impression they create in their audience by speaking in various business settings including business presentations, boardroom meetings, employee briefings, customer complaints, and peer meetings. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:3350 Gaming (the) Systems 3 s.h.**

Knowing that Rhetoric is the art and study of persuasion and meaning making, students examine how games—one of the newest and most important forms of modern media—participate in these rhetorical practices; students play, discuss, and read about games and how games interact with the cultural discourses surrounding us on their way toward crafting their own rhetorical contributions to the world of games and gaming media; students play small, indie titles and a few major games as they produce an argumentative article, a game review, a video blog, and finally a game itself; beginner friendly, no prior knowledge of games or design programs required. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:3360 Classical Techniques in Modern Speaking 3 s.h.**

Examination of public speaking in context of ancient Greece, when the shift from aristocracy to democracy made public speaking the only way to rise to a position of power; excerpts from ancient texts that demonstrate link between public speaking and democracy; strategies ancients used in public, celebratory, political, and judicial settings to make the best case for themselves; application of these strategies in modern settings for public speaking. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:3560 Public Policy and Persuasion 3 s.h.**

Students build their skill set in policy analysis, formation, and communication through a social justice lens; engagement in service learning projects in one Iowa community, where work done directly impacts that community's ability to make changes; development of effective writing and oral presentation styles that can be adapted to different audiences; focus on homelessness policy using social policy and social justice concepts to explore work of policy makers who have "right-sized" existing systems to serve communities in crisis and propose solutions to systemic problems that disadvantage marginalized populations. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as PBAF:3560, POLI:3560, SJUS:3560.

**RHET:3585 Speak, to Change the World: The Art of Speechwriting and Speechmaking 3 s.h.**

Students focus on "speaking that makes a difference" by studying famous, classic, and contemporary speeches designed to change the world; addressing communal/societal issues of students' choice; writing eloquent and persuasive speeches; delivering scripted speeches in ways that earn character, credibility, and authority. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:3630 Apology and the Art of Verbal Self-Defense 3 s.h.**

Examination of apology as a defense of actions, opinions, or personal character; role of apology in medical malpractice; corporate apology; role of apology in criminal courts; study of celebrity non-apology apologies; apology as gendered; efficacy of apology in politics; approaches to apology across nations; how to advocate for accommodations without apologizing, especially regarding disability rights; how to evaluate and create effective apologies in interpersonal and public sphere. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: satisfactory completion of GE CLAS Core Rhetoric.

**RHET:3700 Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience** 3 s.h.

How sustainable approaches to meeting critical social needs (food, water, shelter, air, work) have influenced food systems, policies on development, environmental problems, social justice, and policy both local and global in scope; readings and field research activities leading to creation of work of multimodal advocacy. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Requirements: fulfillment of GE CLAS Core Rhetoric.

**RHET:4980 Special Projects for Undergraduates** arr.

Prerequisites: RHET:1030 or RHET:1040 or RHET:1060.

**RHET:5100 Practicum: College Teaching and Professional Development for Teaching Assistants** arr.

Guidance for teaching assistants seeking introduction to teaching at college level; focus on practical pedagogical concerns, including how to structure a course, devise learning outcomes, develop a syllabus and a calendar of assignments, evaluate student work, and create a student-centered classroom with collaborate learning experiences; pre-semester intensive training session, weekly meetings during first month of semester, periodic meetings to address midterm and late-semester issues; concurrent with TA teaching assistantships. Recommendations: interest in teacher training and preparation. Same as CLAS:5100.

**RHET:5330 Directing a Writing Center** arr.

Supervised tutoring in Writing Center involving graduate and undergraduate tutors and fellows across disciplines; providing instruction on recruitment and development of writing support teams; helping a variety of persons on campus (undergraduate, graduate, faculty) to improve their writing skills in many different areas, ranging from class or conference papers to publicity materials. Requirements: professional development program and rhetoric teaching.

**RHET:5335 Directing a Speaking Center** arr.

Supervised tutoring in Speaking Center involving graduate and undergraduate tutors and fellows across disciplines; providing instruction on recruitment and development of writing support teams; helping a variety of persons on campus (undergraduate, graduate, faculty) to improve their speaking skills in many different areas, ranging from class or conference papers to publicity materials. Requirements: professional development program and rhetoric teaching.

**RHET:5350 Colloquium: Teaching Rhetoric** 3 s.h.

Professional development program for new rhetoric teachers; includes three-day workshop.

**RHET:5352 Seminar: Topics in Teaching and Professional Development** 3 s.h.

Professional development and advanced study of pedagogical theories and practices; focus on teaching as a rhetorical act; readings on pedagogy, composition theories, and learning process; academic and alt-ac career options; teaching philosophy statement, teaching portfolio, peer classroom observations, and research project; for experienced rhetoric instructors and others teaching writing-intensive, process-oriented courses. Recommendations: previous or current teaching experience in composition-intensive courses.

**RHET:5375 Teaching in a Writing Center** 3 s.h.

Seminar/practicum to prepare graduate students to teach in the University of Iowa Writing Center or similar settings; seminar component on writing and reading processes, tutoring strategies, English-as-a-second-language issues; practicum experience tutoring in the Writing Center. Same as CNW:5375.

**RHET:5385 Teaching in a Speaking Center** 3 s.h.

Preparation to teach in University of Iowa Speaking Center or similar settings; seminar component on speaking and reading processes, tutoring strategies, English-as-a-second-language issues; practicum experience tutoring in speaking center.

**RHET:6330 Writing for Learned Journals** 1-4 s.h.

Seminar that supports graduate students in bringing written work to publishable form; analysis of target journals' audiences, interests, and citation politics; submission and the publication process; response to reader reports and criticism; best writing and research practices; discussion of knowledge cultures and discourses in disciplines and the contemporary academy. Same as AMST:6300, GRAD:6300, GWSS:6300.

**RHET:6965 Topics in Second Language Acquisition: Writing** 3 s.h.

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as SPAN:6965, WLLC:6965.

**RHET:7500 Science Communication in the Digital Age** 2-3 s.h.

Preparation for communicating scientific discoveries and importance of scientific endeavors in digital media; focus on adaptable and transferable skills; relevant preparation for digital communication in academic and nonacademic career paths; develop aptitude with speaking and performance skills relevant to video presentation; develop familiarity with video composition and editing processes.

**RHET:7930 Writing in the Disciplines** arr.

Writing instruction.

**RHET:7940 Public Speaking for Academics** 3 s.h.

Prepares graduate students for the public speaking occasions germane in their home disciplines and in their future professions; students gain experience moving between different rhetorical registers in public speaking through engaging in cross-disciplinary conversations about performance and speaking practices while refining discipline-specific speaking strategies; honing the ability to communicate the same information in different forms and styles (along with understanding the corresponding advantages and limitations of such) will contribute to students' teaching and scholarly skill sets.

# Rhetoric and Persuasion, Minor

The minor in rhetoric and persuasion educates students in responsible, credible, and effective methods to take active leadership roles in engaging social issues in personal, professional, and communal settings. The program empowers students to look at the world as a place open to change and receptive to influence and to view themselves as agents capable of improving the world and their place in it. The minor aims to professionalize students—whether in their capacity as individual citizens, members of the community, or leaders in the workplace—by guiding them to understand audiences and situations, to use language responsibly and strategically, and to develop the integrity and authority of their own voice.

## Requirements

The undergraduate minor in rhetoric and persuasion requires a minimum of 15 s.h., including 12 s.h. earned in courses taken at the University of Iowa and at least 12 s.h. earned in Department of Rhetoric courses. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The minor in rhetoric and persuasion requires the following coursework.

Code	Title	Hours
15 s.h. from these:		
RHET:2055	Persuasion and Advocacy	3
RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2070	Persuasive Stories	3
RHET:2085	Speaking Skills	3
RHET:2090	Conversation Practicum	3
RHET:2095	Fundamental Strategies of Persuasion	3
RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3
RHET:2350	Forensic Rhetoric	3
RHET:2620	Body Language: Study of Movement and Gesture in Speaking	3
RHET:3005	Narratives of the Midwest	3
RHET:3009/ PBAF:3217/ URP:3217	Negotiation and Conflict Resolution	3
RHET:3085	Advanced Speaking Skills	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3
RHET:3260	Persuasive Speaking for Science and Health Care Professionals	3
RHET:3290	Advanced Business Speaking	3
RHET:3350	Gaming (the) Systems	3
RHET:3585	Speak, to Change the World: The Art of Speechwriting and Speechmaking	3

RHET:3630	Apology and the Art of Verbal Self-Defense	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3
RHET:4980	Special Projects for Undergraduates (can only be taken once)	arr.
May include one of these:		
RHET:2000/ ARTS:2000/ ASP:2000/ EDTL:2000	Big Ideas: Creativity for a Lifetime	3
RHET:2610/ THTR:2610	Acting for Success	3
RHET:3560/ PBAF:3560/ POLI:3560/ SJUS:3560	Public Policy and Persuasion	3
BUS:3000	Business Communication and Protocol	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
COMM:1816	Business and Professional Communication	3
GWSS:3138/ SJUS:3138	Writing to Change the World	3
LATH:3000	Latham Fellows: Science Communication Skill Building	1-2
LATH:3001	Latham Fellows: Science Outreach Project	2
THTR:1140	Basic Acting	3

## Focus Areas

Students who would like to choose courses in certain focus areas can select from the following, taking into account the maximum course requirements above.

## The Skills of Speaking, Presenting, and Communicating Effectively

Code	Title	Hours
RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2085	Speaking Skills	3
RHET:2090	Conversation Practicum	3
RHET:2095	Fundamental Strategies of Persuasion	3
RHET:2610/ THTR:2610	Acting for Success	3
RHET:3085	Advanced Speaking Skills	3
RHET:3260	Persuasive Speaking for Science and Health Care Professionals	3
RHET:3290	Advanced Business Speaking	3
RHET:3585	Speak, to Change the World: The Art of Speechwriting and Speechmaking	3



## The Skill of Writing Professionally and Persuasively

Code	Title	Hours
RHET:2070	Persuasive Stories	3
RHET:2350	Forensic Rhetoric	3
RHET:3005	Narratives of the Midwest	3
RHET:3009/ PBAF:3217/ URP:3217	Negotiation and Conflict Resolution	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3
RHET:3350	Gaming (the) Systems	3
RHET:3630	Apology and the Art of Verbal Self-Defense	3

## Advocacy: Making the World a Better Place

Code	Title	Hours
RHET:2055	Persuasion and Advocacy	3
RHET:2070	Persuasive Stories	3
RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3
RHET:3005	Narratives of the Midwest	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3
RHET:3560/ PBAF:3560/ POLI:3560/ SJUS:3560	Public Policy and Persuasion	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3

## Performance Rhetoric

Code	Title	Hours
RHET:2065	Persuading Different Audiences: Launching a Successful Career	3
RHET:2070	Persuasive Stories	3
RHET:2610/ THTR:2610	Acting for Success	3
RHET:2620	Body Language: Study of Movement and Gesture in Speaking	3
RHET:3005	Narratives of the Midwest	3
RHET:3350	Gaming (the) Systems	3
RHET:4980	Special Projects for Undergraduates	arr.
THTR:1140	Basic Acting	3

# Second Language Acquisition

## Director, Division of World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Director, Second Language Acquisition

- Chuanren Ke (Asian and Slavic Languages and Literatures/ International Programs)

**Graduate degree:** Ph.D. in second language acquisition

**Faculty:** <https://flare.uiowa.edu/people>

**Website:** <https://flare.uiowa.edu/graduate/phd-second-language-acquisition>

Second language acquisition (SLA) is a multidisciplinary field whose goal is to understand the processes that underlie non-native language learning. The doctoral program in second language acquisition draws from varied academic disciplines, among them linguistics, psychology, psycholinguistics, sociology, sociolinguistics, discourse analysis, conversation analysis, and education.

The interdisciplinary Ph.D. in second language acquisition is sponsored by Foreign Language Acquisition Research and Education (FLARE). More than 20 faculty members affiliated with SLA are drawn from various departments in the College of Liberal Arts and Sciences and the College of Education.

Second Language Acquisition is one of the units in the Division of World Languages, Literatures and Cultures [p. 395].

## Programs

### Graduate Program of Study

#### Major

- Doctor of Philosophy in Second Language Acquisition [p. 1044]

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC) and five All-In-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignAll lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

## Courses

### Second Language Acquisition Courses

#### SLA:3302 Introduction to Chinese Linguistics 3 s.h.

Aspects of modern Chinese linguistics, such as Chinese phonology, syntax, pedagogical grammar, history of the language. Taught in English. Same as CHIN:3302, LING:3302.

#### SLA:3400 Articulatory and Acoustic Phonetics 3 s.h.

Production and transcription of sounds in human languages; physics of sound, computer analysis of speech sounds. Offered fall semesters. Same as LING:3005.

#### SLA:4300 Introduction to Spanish Syntax 3 s.h.

Basic principles of generative syntax as applied to analysis of Spanish syntactic structure; extensive syntactic analysis. Taught in Spanish. Prerequisites: SPAN:3100. Same as SPAN:4150.

#### SLA:4301 Introduction to Spanish Phonology 3 s.h.

Sound patterns of Spanish; how various theoretical approaches solve basic problems in Spanish phonology; identification of linguistic universals, how they are manifested in the sound structure of Spanish. Taught in Spanish. Same as SPAN:4100.

#### SLA:4401 Methods of Teaching English as a Second Language 3 s.h.

Observations of ESL and intensive English classes at the University; design and presentation of short lessons, text evaluation, demonstrations of innovative approaches of the last decade; materials. Offered spring semesters. Prerequisites: LING:3005 and LING:4040. Same as LING:4050.

#### SLA:5000 Teaching and Learning Languages 3 s.h.

Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Taught in English. Same as FREN:5000, GRMN:5001, SPAN:5000, WLLC:5000.

#### SLA:5010 Introduction to Syntax 3 s.h.

Methods and argumentation for formal analysis of sentence structure through induction from language data of central concepts and relations; hypothesis testing, empirical bases of theoretical concepts. Corequisites: LING:5000. Same as LING:5010.

#### SLA:5020 Introduction to Phonology 3 s.h.

Analysis of sound systems, focus on early generative phonological theory; extensive practice in analysis using data from a variety of languages; linguistic argumentation. Prerequisites: LING:3005. Same as LING:5020.

#### SLA:5401 First Language Acquisition 3 s.h.

Child language from a crosslinguistic perspective. Prerequisites: LING:3005 and (LING:4040 or LING:5010). Same as LING:5030.

#### SLA:6010 Syntactic Theory 3 s.h.

Current syntactic theory examined through analysis of data sets, readings in recent research; emphasis on argument construction, statement of formal principles. Offered spring semesters. Prerequisites: LING:5010. Same as LING:6010.

#### SLA:6011 Phonological Theory 3 s.h.

Post-SPE phonological theory, including autosegmental phonology, feature geometry, the syllable, optimality theory. Prerequisites: LING:5020. Same as LING:6020.

**SLA:6301 Topics in Spanish Language Acquisition 3 s.h.**

Theoretical linguistic approaches to monolingual, bilingual, and second language acquisition of Spanish and Portuguese; varied topics. Taught in Spanish. Requirements: at least one course in linguistics (e.g., general introduction to linguistics). Same as SPAN:6150.

**SLA:6302 Topics in Comparative Romance Linguistics 3 s.h.**

Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Taught in English. Recommendations: additional graduate coursework in linguistics. Same as LING:6190, SPAN:6190.

**SLA:6303 Spanish Phonology 3 s.h.**

Modern approaches to synchronic phonology as applied to Spanish; focus on traditional descriptive problems, recent generative analyses. Taught in Spanish. Requirements: phonology or linguistics course. Same as SPAN:6110.

**SLA:6304 Spanish Syntax 3 s.h.**

Spanish syntactic constructions examined in framework of selected syntactic theory; emphasis on development of syntactic argumentation. Taught in Spanish. Requirements: one course in syntax. Same as SPAN:6120.

**SLA:6452 Topics in Second Language Acquisition 3 s.h.**

Overview of current second-language acquisition research in the generative linguistic framework; focus on characterizing second language learners' linguistic competence and how it is constrained by principles of universal grammar. Offered fall semesters. Prerequisites: (LING:3010 or LING:5010) and (LING:3020 or LING:5020). Same as LING:6080.

**SLA:6500 Graduate Seminar in Multilingual Education 3 s.h.**

Theoretical perspectives of pivotal research issues at the forefront of foreign language education; systems available to foreign language professionals for disseminating research. Same as ECTL:6480.

**SLA:6501 Reading in a Second Language 3 s.h.**

Current theory, research, practice in second language reading field; role of textual features and the reader in reading comprehension. Same as ECTL:6484.

**SLA:6502 Principles of Course Design for Second Language Instruction 3 s.h.**

Contemporary views of second language curriculum design; guidelines necessary for the creation of prototypical curriculum units to be transposed into classroom-ready forms; for individuals interested in foreign language materials development. Same as ECTL:6497.

**SLA:6503 Fundamentals of Second Language Assessment 3 s.h.**

How to write language tests; discussion of fundamental issues in development of new tests or selection of existing tests. Same as ECTL:6400.

**SLA:6504 Second Language Program Management 3 s.h.**

Preparation for supervising, administering foreign language programs at all levels; for precollegiate language teachers and graduate students. Same as ECTL:6402.

**SLA:6506 Multilingual Education and Applied Linguistics 3 s.h.**

Introduction to research in language teaching and learning, drawing on theories and research in applied linguistics, sociolinguistics, anthropology, and psychology; students gain understanding of fundamentals in second language acquisition, educational linguistics, applied linguistics, and methods used in teaching and learning second/foreign languages; applications and implications of research considered when reviewing multilingual education policy and practice. Same as ASIA:6483, ECTL:6483.

**SLA:6920 Multimedia and Second Language Acquisition 3 s.h.**

Combination of theory and practice regarding use of multimedia and technology to enhance foreign language teaching and second language acquisition research. Taught in English. Same as FREN:6920, GRMN:6920, SPAN:6920.

**SLA:6970 Cultural Curriculum 3 s.h.**

Culture's role in foreign/second language teaching; definition, pedagogy, assessment, and materials that allow culture to be taught and learned. Same as ECTL:6409.

**SLA:7020 Readings in Second Language Acquisition arr.****SLA:7025 Special Projects in Second Language Acquisition arr.****SLA:7030 Ph.D. Thesis arr.****SLA:7401 Advanced Syntactic Theory 2-3 s.h.**

Recent developments in syntax; comparison of theories, argumentation, and uses of data. Prerequisites: LING:6010. Same as LING:7010.

**SLA:7404 Seminar: Problems in Linguistics 2-3 s.h.**

Intensive study of theoretical and practical problems. Same as LING:7090.

**SLA:7405 Teaching Chinese as a Second Language V: Seminar in Research and Design 3 s.h.**

Qualitative and quantitative research design theories and techniques. Taught in English. Prerequisites: CHIN:7401 and PSQF:4143. Same as CHIN:7405.

**SLA:7406 Teaching Chinese as a Second Language I: Theories and Research 3 s.h.**

Research, theory on acquisition of Chinese as a non-native language. Taught in English. Same as CHIN:7401.

**SLA:7804 Teaching Chinese as a Second Language IV: Testing and Assessment 3 s.h.**

Overview of goals, concepts, principles, research, and issues in assessment and testing of Chinese as a second language; knowledge of Chinese required. Taught in English. Same as CHIN:7404.

## Second Language Acquisition, Ph.D.

FLARE stands for Foreign Language Acquisition Research and Education, and it is the name of the interdisciplinary unit that sponsors the second language Ph.D. program. Students are able to take a variety of courses taught by affiliated faculty members from a number of departments and programs across campus.

The second language acquisition (SLA) doctoral program emphasizes theory, research, and classroom-based teaching and learning. All students take courses in SLA theory, multimedia, research methods, language learning, and linguistics. In addition, each student defines an area of specialization, in consultation with a SLA advisor. The two broad areas of specialization are language learning and postsecondary education, and linguistics and psycholinguistics.

Students in the language learning and postsecondary education specialization area demonstrate interest in issues where SLA and pedagogy converge. This includes classroom discourse, assessment, and the acquisition of grammatical knowledge in the classroom context. Students also may focus on aspects of technology and how it facilitates second language acquisition.

Students in the linguistics and psycholinguistics specialization area exhibit interest in areas of formal linguistics (e.g., syntax, phonology, morphology) and/or applied linguistics issues that relate to their particular second language focus. Student projects include the acquisition of the syntactic structures and/or phonological features of a second language, and generative and cognitive approaches to explaining acquisition. Students who work in psycholinguistics also may focus on the relationship between language processing and language acquisition.

### Requirements

The Doctor of Philosophy in second language acquisition is a research-oriented degree. This interdisciplinary program, which focuses on languages other than English, requires 72 s.h., including a maximum of 33 s.h. earned in work toward a master's degree. Students must earn a minimum of 61 s.h. at the University of Iowa. Those interested in pursuing the Ph.D. must hold a master's degree in an appropriate field (e.g., linguistics, foreign language education) or have equivalent academic experience.

A course may be used to fulfill only one requirement. All courses taken to fulfill program requirements must be taken on a graded basis; no graduate credit is awarded for a grade lower than C-minus. To remain in good standing, Ph.D. students must maintain a cumulative g.p.a. of at least 3.00.

The required curriculum includes 14 courses, including two foundation courses, three courses in the area of research methods, two courses in the area of language learning, two courses in the area of linguistics, and five courses in a student's area of specialization. Students may specialize in language learning and postsecondary education, which includes a focus on technology in language acquisition and learning; or in linguistics and psycholinguistics, with focus on phonetics/phonology or on syntax in a particular second language. In addition, the Ph.D. requires successful

completion and defense of a dissertation representing original research in second language acquisition.

Students may extend their interdisciplinary interests by taking relevant elective coursework offered by the Departments of Communication Sciences and Disorders, French and Italian, German, Linguistics, Psychological and Brain Sciences, Rhetoric, Spanish and Portuguese, and Asian and Slavic Languages and Literatures in the College of Liberal Arts and Sciences [p. 17] and the Departments of Psychological and Quantitative Foundations, and Teaching and Learning in the College of Education [p. 1369].

The Ph.D. in second language acquisition requires the following coursework.

Code	Title	Hours
	Foundation Course	3
	Research Methods Courses	9
	Language Learning Courses	6
	Linguistics Courses	6
	Specialization Courses	15
	Elective Courses	
	Thesis	2-15

### Foundation Course

Code	Title	Hours
This course:		
SLA:6920	Multimedia and Second Language Acquisition	3

### Research Methods

Code	Title	Hours
This course:		
PSQF:6243	Intermediate Statistical Methods	3
One of these:		
CHIN:7405	Teaching Chinese as a Second Language V: Seminar in Research and Design	3
EDTL:7405	Research Methods in Literacy, Culture, and Language Education	3

And:

A course to complement dissertation research (consult advisor)	3
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### Language Learning

Code	Title	Hours
Two of these:		
EDTL:6400	Fundamentals of Second Language Assessment	3
EDTL:6409	Cultural Curriculum	3
EDTL:6483	Multilingual Education and Applied Linguistics	3
EDTL:6484	Reading in a Second Language	3
EDTL:6497	Principles of Course Design for Second Language Instruction	3

## Linguistics Courses

Code	Title	Hours
These:		
Two courses (chosen in consultation with advisor)		6

## Specialization Courses

Each student selects one of two specialization areas—linguistics and psycholinguistics or language learning and postsecondary education—and takes five courses (total of 15 s.h.) in one area, not including courses taken above to satisfy requirements. Each student's specific specialization area and set of courses are determined in consultation with the advisor.

Courses that may be used in the specialization areas are listed below.

### Linguistics and Psycholinguistics

Code	Title	Hours
LING:6020	Phonological Theory	3
LING:6080	Topics in Second Language Acquisition	3
LING:7010	Advanced Syntactic Theory	3
PSY:3670	Language Processes	3
SPAN:3190	Psycholinguistic Aspects of Bilingualism	3-4
SPAN:4170	Second Language Acquisition	3
SPAN:6150	Topics in Spanish Language Acquisition	3

Other courses (chosen in consultation with advisor)

### Language Learning and Postsecondary Education

Code	Title	Hours
CHIN:5024	Teaching Chinese as a Second Language VII: Pedagogical Grammar	3
CHIN:7401	Teaching Chinese as a Second Language I: Theories and Research	3
CHIN:7403	Teaching Chinese as a Second Language III: Instruction and Practicum	3
CHIN:7404	Teaching Chinese as a Second Language IV: Testing and Assessment	3
EDTL:6402	Second Language Program Management	3
EDTL:6403	Language Policy and Planning	3
EDTL:6480	Graduate Seminar in Multilingual Education	3
EDTL:7015	Ph.D. Seminar in Language, Literacy, and Culture	arr.
PSQF:6205	Design of Instruction	3
PSQF:6208	Digital Media and Learning	3
PSQF:6215	Online Instruction: Design and Facilitation	3
PSQF:6265	Program Evaluation	3

Other courses (chosen in consultation with advisor)

## Elective Courses

Students also may take elective coursework relevant to their research interests, including the following independent project courses.

Code	Title	Hours
SLA:7020	Readings in Second Language Acquisition	arr.
SLA:7025	Special Projects in Second Language Acquisition	arr.

## Thesis

Students must complete a thesis (maximum of 15 s.h., with a minimum of 2 s.h.)

Code	Title	Hours
SLA:7030	Ph.D. Thesis	arr.

## Admission

Admission is for fall semester; students are admitted only for full-time study. Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Strong applicants hold a master's degree in a related area, have a cumulative g.p.a. of at least 3.50 in master's degree work, and speak and write English and another language at a professional level. Applicants must submit a writing sample that demonstrates their ability to synthesize and analyze information using standard academic English.

## Financial Support

Teaching assistantships are available to qualified students. Assistantships usually involve teaching elementary or intermediate language courses. Visit the FLARE website for details.

# Social Science Analytics

## Chair, Department of Political Science

- Brian H. Lai

## Coordinator, Social Science Analytics

- Frederick J. Boehmke (Political Science)

**Undergraduate certificate:** social science analytics

**Website:** <https://clas.uiowa.edu/polisci/undergraduate/social-science-analytics-certificate>

The growth of big data and informatics calls for a new set of skills for social science students and an increased understanding of the logic of data collection and analysis. The certificate focuses on the application side of data analysis and allows focus to be on the specific research methods and quantitative skills using data-driven methods effective for more understanding in an increasingly complicated social-political world. The certificate offers an opportunity for interdisciplinary training on how data can be used to address important questions in the social sciences.

The Certificate in Social Science Analytics is interdisciplinary and a number of departments collaborate to leverage distinct strengths and offer courses applicable to the certificate, including the Departments of Geographical and Sustainability Sciences, Political Science, Sociology and Criminology, and Statistics and Actuarial Science. The certificate is administered by the Department of Political Science [p. 966].

## Programs

## Undergraduate Program of Study Certificate

- Certificate in Social Science Analytics [p. 1047]

# Social Science Analytics, Certificate

## Requirements

The undergraduate Certificate in Social Science Analytics requires a minimum of 18 s.h. Students complete requirements in five different component areas for a total of at least six courses. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Some of the certificate courses have prerequisites not included in the certificate requirements. Students should select courses for which they have met the prerequisites.

The Certificate in Social Science Analytics requires the following coursework.

Code	Title	Hours
	Introduction to Data and the Social Sciences Course	3
	Social Science Research Design and Data Analysis Course	3
	Core Statistics Courses	6-7
	Building Skills and Data Science Course	3-4
	Applied Research Experience	3
<b>Total Hours</b>		<b>18-20</b>

## Introduction to Data and the Social Sciences

Code	Title	Hours
This course:		
POLI:1050/ RELS:1050	Big Ideas: Introduction to Information, Society, and Culture	3

## Social Science Research Design and Data Analysis

Code	Title	Hours
One of these:		
POLI:2000	Designing Political Research	3
SOC:2170	Research Methods	3

## Core Statistics

Code	Title	Hours
Two of these:		
POLI:3000	Analyzing Political Data	3
SOC:2160	Applied Statistics for Social Scientists	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:2010	Statistical Methods and Computing	3

STAT:3120/ DATA:3120/ IGPI:3120	Probability and Statistics	4
STAT:3200/ IGPI:3200/ISE:3760	Applied Linear Regression	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
STAT:6513/ PSQF:6243	Intermediate Statistical Methods	3

## Building Skills and Data Science

Code	Title	Hours
One of these:		
CS:1210	Computer Science I: Fundamentals	4
CS:2110	Programming for Informatics	4
CS:2420	Analyzing Data for Informatics	3
CS:2520	Human-Computer Interaction for Informatics	3
CS:3980	Topics in Computer Science I	3
ECON:4800	Econometric Analysis	3
GEOG:1050	Foundations of GIS	4
GEOG:1065	Introduction to Spatial Analysis: Patterns and Processes	3
GEOG:3540/ IGPI:3540	Geographic Visualization	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
POLI:3050	Problems in Methods	3-4
SOC:3880	The Sociology of Networks	3
SOC:4000	Data Science for Social Good	3
STAT:1015	Introduction to Data Science	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:6560	Applied Time Series Analysis	3

## Applied Research Experience

Code	Title	Hours
At least 3 s.h. from these:		
GEOG:4030	Senior Project Seminar	3
GHS:3010/ IGPI:3011	Identifying and Developing a Global Health Project	3
JMC:3025	Iowa Policy and Opinion Lab	0-3
POLI:3001	Hawkeye Poll	3
POLI:3127	Legislative Policy Seminar	3
POLI:3525	Iowa Policy and Opinion Lab	0-3
POLI:3994	Political Science Undergraduate Research Projects	1-4

POLI:4600	Honors Research Project	3
POLI:4701	Undergraduate Research Tutorial	3
POLI:4702	Senior Research Project/ Paper	3
SOC:3170	Applied Research	3
SOC:4998	Honors Research	arr.
STAT:6220	Statistical Consulting	3

## Career Advancement

The certificate will ensure students are more competitive for careers and opportunities with political campaigns, policy analysis, public opinion firms, consulting and government agencies, and local communities.



# Social Work

## Director

- Mercedes E. Bern-Klug

## Director, Bachelor of Arts Program

- Alison L. Oliver

## Director, Master of Social Work Program

- Stephen P. Cummings

## Director, Doctor of Philosophy Program

- Man "May" Guo

**Undergraduate major:** social work (B.A.)

**Undergraduate minor:** social work

**Graduate degrees:** M.S.W.; Ph.D. in social work

**Faculty:** <https://socialwork.uiowa.edu/people>

**Website:** <https://socialwork.uiowa.edu/>

The School of Social Work's mission is to develop culturally responsive practitioners, scholars, researchers, and leaders to create a more just society. The school operates from strengths-based perspectives and systems perspectives. It educates its graduates to be culturally competent scholars and practitioners who are committed to social justice and social work values and ethics, and who are prepared to serve in and have a positive impact on a broad range of family-centered and community-based practice settings throughout the State of Iowa and beyond.

The school provides a program of professional training accredited by the Council on Social Work Education at the baccalaureate and master's degree levels, aimed at developing effective intervention in multiple systems and using professional social work values and ethics. It also offers a Ph.D. program, which prepares students to conduct research that contributes to the knowledge base of social work, to be leaders in setting policy and practice, and to teach in colleges and universities. In addition, the School of Social Work administers the programs listed below.

## Minor and Certificates

### Aging and Longevity Studies

The School of Social Work administers the graduate certificate and the undergraduate minor and certificate in the Aging and Longevity Studies Program; see Aging and Longevity Studies [p. 44] in the Catalog.

### Critical Cultural Competence

The School of Social Work administers the undergraduate certificate program in critical cultural competence; see the Certificate in Critical Cultural Competence [p. 356] in the Catalog.

### Resilience and Trauma-Informed Perspectives

The undergraduate certificate program in resilience and trauma-informed perspectives is administered by the School of Social Work; see the Certificate in Resilience and Trauma-Informed Perspectives [p. 1035] in the Catalog.

## Projects, Seminars

Students may become involved in special projects such as the National Resource Center for Family-Centered Practice and

the School of Social Work's programs in gerontology and in end-of-life care.

The school also offers students the opportunity to participate in travel/study seminars.

## Continuing Education

Nondegree students may enroll in selected courses. Students who complete continuing education work and later enroll in a degree program may be able to apply a limited amount of their continuing education work toward their degree requirements; applicable credit is determined by the School of Social Work.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Social Work (Bachelor of Arts) [p. 1056]

#### Minor

- Minor in Social Work [p. 1060]

### Graduate Programs of Study

#### Majors

- Master of Social Work [p. 1061]
- Doctor of Philosophy in Social Work [p. 1067]

## Courses

### Social Work Courses

#### **SSW:1000 First-Year Seminar** **1-2 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **SSW:1022 Social Justice and Social Welfare in the United States** **3 s.h.**

Historical development of social welfare and social justice in the United States; individual values and ethics; role and responsibilities of enhancing society; contemporary practice to address social injustices including poverty, discrimination, various forms of violence; small group discussions and debates of various issues to allow for an exchange of diverse views and perspectives; volunteer work. GE: Values and Culture. Same as SOC:1022.

#### **SSW:1800 Aging Matters: Introduction to Gerontology** **3 s.h.**

Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, CSD:1800, NURS:1800, TR:1800.

- SSW:2042 Intercultural Communication** 3 s.h.  
Culture defined as a system of taken-for-granted assumptions about the world that influence how people think and act; cultural differences that produce challenges and opportunities for understanding and communication; those differences from several theoretical perspectives; opportunities to examine culture and cultural differences in practical, experience-driven ways. Same as COMM:2042, IS:2042.
- SSW:2222 Introduction to Social Work** 4 s.h.  
Social welfare as a social institution; settings, methodologies of social work, practice; profession of social work; historical development of American social welfare, social work; a minimum of 45 hours volunteer work. Requirements: sophomore or higher standing.
- SSW:3135 Global Aging** 3 s.h.  
Demographic factors that contribute to the worldwide phenomena of population aging in context of WHO Active Aging and the United Nation's Principles for Older Persons frameworks. Same as ASP:3135, GHS:3050.
- SSW:3191 Individual Study** arr.  
Project related to student interest carried out under direction of faculty member.
- SSW:3500 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MGMT:3500, MUSM:3500, NURS:3595, RELS:3700.
- SSW:3600 Nonprofit Organizational Effectiveness II** 3 s.h.  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as MGMT:3600, NURS:3600, RELS:3701.
- SSW:3700 Introduction to Understanding Trauma and Resilience** 3 s.h.  
Introduction to understanding key concepts of trauma-informed systems of care in multiple settings; identification of various types of trauma along with behaviors and responses seen in survivors of trauma; students trace effects of historical trauma of marginalized communities and multiple trauma survivor groups to understand the consequences of trauma and its impact in the culture; resilience and strategies to offset consequences of trauma. Same as PSQF:3700.
- SSW:3712 Human Sexuality, Diversity, and Society** 1-3 s.h.  
Introduction to human sexuality from a biopsychosocial, sex-positive perspective; sexuality as a normal and essential component of human existence and expression throughout the life span; influence of gender, class, religion, race, ethnicity, sexual orientation, ability status, age, and culture on sexuality interwoven and highlighted; diversity of perspectives and experiences shared through active participation and respectful dialogue. Same as NURS:3712.
- SSW:3729 Substance Use and Abuse** 2-3 s.h.  
Chemical dependency for helping professions; etiological, physiological, psychological, legal, sociological aspects; treatment methods.
- SSW:3786 Death/Dying: Issues Across the Life Span** 3-4 s.h.  
Introduction to the field of end-of-life care; examination of student concerns about death, dying, and grieving process; historical, cultural, societal, and personal perspectives of death and dying in modern society. Same as ASP:3786.
- SSW:3796 Family Violence** 2-3 s.h.  
Thinking critically about one of the most damaging family problems prevalent in the United States today—family violence; students examine the phenomena of child abuse and neglect, domestic violence, and elder abuse, including definitions, causes, risk factors, consequences, reporting, assessment, intervention, prevention, and policy.
- SSW:3797 Child Welfare Policy and Practice** 3 s.h.  
Public and private child welfare practice and organizations in the United States; historical and legal aspects, co-occurring issues, foster care, adoption, family preservation.
- SSW:3799 Selected Aspects of Social Work and Social Welfare** arr.  
Human behavior, practice, social welfare policy.
- SSW:3840 Human Behavior in the Social Environment** 3-4 s.h.  
Behavior and development in context of social, ecological systems and human diversity; overview of biopsychosocial dimensions, individual behavior, and development throughout lifespan; contexts of diverse family, group, community, organization, and cultural systems.
- SSW:3841 Fundamentals of Social Work Practice** 3 s.h.  
Professional practice: functions, roles, skills, conceptual frameworks, values, ethics; focus on integrated approach to practice, including assessment, intervention, evaluation of interventions, termination with individuals, families, groups; emphasis on empirically based practice. Corequisites: SSW:3840, if not taken as a prerequisite. Requirements: admission to social work B.A. program.
- SSW:3842 Interpersonal Skills Laboratory** 2 s.h.  
Practice of interpersonal skills required in the helping relationship. Corequisites: SSW:3841, if not taken as a prerequisite. Requirements: admission to social work B.A. program.
- SSW:3844 Introduction to Social Work Research** 4 s.h.  
Scientific approach to knowledge building, with emphasis on critical use of research; quantitative and qualitative methods, evaluation of practice, computerized data analysis, ethics and diversity in social work research. Requirements: admission to social work B.A. program.
- SSW:3845 Social Work Processes** 4 s.h.  
Context of practice examined to understand structural factors that affect clients and communities; culturally competent practice using empowerment perspective. Corequisites: SSW:3840, if not taken as a prerequisite. Requirements: admission to social work B.A. program.
- SSW:3847 Discrimination, Oppression, and Diversity** 3 s.h.  
Theoretical and historical perspectives on racism, sexism, other forms of discrimination; applications to social work, culturally competent practice, change strategies. Requirements: admission to social work B.A. or M.S.W. program.

**SSW:3900 Campus Sexual Assault: Policy, Prevention, and Intervention** 3 s.h.

Among undergraduate students, 26.4 percent of females and 6.8 percent of males experience rape or sexual assault in college; students examine institutional responses to campus sexual assault with a goal of becoming informed advocates to work with institutions to strengthen programs and support; laws and policies that guide campus responses to sexual assault; effectiveness of a range of models for preventing and intervening with campus sexual assault; and prevention and interventions for groups at higher risk of sexual assault, including first-year students, racial and sexual minorities.

**SSW:3904 Human Services Administration** 2 s.h.

Effects of organizational structures/processes on individual performance; models of management, communication patterns, leadership styles; skill in technical writing, decision making, personnel and financial management, applied professional ethics. Requirements: completion of foundation courses.

**SSW:4100 Social Work in the Criminal Justice System** 3 s.h.

How social work practice intersects with different aspects of the criminal justice system; focus on integrating social work values into criminal justice field; social work's responsibility to address social justice problems (e.g., mental illness, racial disparity, gender, human rights) within criminal justice system; critical examination of past and present practices in criminal justice and implications for social work practice and policy when working with individuals in criminal justice system.

**SSW:4130 Family Development Specialist Model** 3 s.h.

Use of family development specialist model of family-centered practice to facilitate improved family functioning, economic independence; relationship building, systems theory, family-centered case management, conflict management, empowerment strategies. Requirements: completion of family development specialist certification course.

**SSW:4155 Treatment of Substance Use and Co-Occurring Disorders** 3 s.h.

Treatment of individuals presenting substance related issues (abuse, dependency, co-occurring disorders); etiological, physiological, psychological, legal, and sociological aspects; evaluation of current research and direct application of contemporary treatment modalities to client situations encountered as helping professionals. Recommendations: introductory course in substance abuse.

**SSW:4188 Continuing Education: Honors** arr.

Supervised individual research. Requirements: honors standing.

**SSW:4189 Field Experience Seminar** 1 s.h.

Opportunity for students to recount their experiences from generalist practice in agencies; application of knowledge, skills, and values of culturally competent social work. Corequisites: SSW:4193. Requirements: completion of coursework in the major.

**SSW:4190 Aging Studies Internship and Seminar** 3 s.h.

Opportunities for students in various disciplines to relate their areas of study to older adults and aging; interdisciplinary relationships, approaches to meeting needs of older adults; an online seminar that meets regularly is included in this experience. Same as ASP:4190.

**SSW:4192 Honors in Social Work** arr.

Supervised individual research. Requirements: honors standing.

**SSW:4193 Field Experience** arr.

Supervised experience in selected social welfare organizations; application of knowledge and skill common to generalist practice in an agency setting. Corequisites: SSW:4189. Requirements: completion of coursework in the major and social work senior standing.

**SSW:4700 Motivational Interviewing in Diverse Application** 3 s.h.

Application of motivational interviewing (MI) skills, as a collaborative process and communication style, while working with individuals presenting with ambivalence to change; MI skills are used to guide across the change process ("Stages of Change") by evoking the intrinsic motivation for change; includes application to diverse populations (e.g., cultural groups, veterans, adolescents) and psychological issues individuals may exhibit.

**SSW:4843 Social Welfare Policy and Practice** 3 s.h.

Basic social welfare policies and programs; economic, social, ideological, and political conditions that have influenced formation and implementation of social policy, current structure of major social welfare policies.

**SSW:5194 Social Work Practice in Health Care Settings** 2 s.h.

Introduction to organization, provision of social work services in health care settings; practice issues such as models of intervention, ethical questions, impact of cultural diversity on health care.

**SSW:5200 Grief Work with Individuals and Families** 2-3 s.h.

Complexity of grief and its multifaceted impact on family systems; utilizing grief theories, including Worden's Tasks of Mourning, ambiguous loss theory, several family systems models; examination of multi-generational dynamics that affect how we learn to grieve, how we experience grief, and how we live after a loss; acknowledged and unacknowledged grief and loss; generational family dynamics; difficulties and strengths passed from one generation to the next; assessing grief at individual, family, group, and community levels; how loss can affect personal well-being and professional practice, particularly when working with an interdisciplinary team. Requirements: social work graduate standing.

**SSW:5240 Trauma Informed Family Practice** 3 s.h.

Theory, knowledge, and skills informing evidence-based assessment and intervention for traumatized children and adolescents in child welfare system, including those exposed to abuse, neglect, witnessing interpersonal crime (e.g., domestic violence, community violence); family events within their ecological context, various family forms, cultural patterns; controversial issues in child welfare, conclusions based on scholarly research, presentation of conclusions in professional oral and written form.

**SSW:5250 Resilience and Trauma-Informed Interventions with Individuals** 3 s.h.

Focusing primarily on trauma caused by violence, students explore definitions, symptoms, and physiology of trauma and post-traumatic stress disorder (PTSD), and the impact of violence on individuals, family system, and communities; individual-level assessment and interventions.

**SSW:6100 Thinking Like a Social Worker 3 s.h.**

Introduction to social work values and ethics in context of systemic perspective and social, economic, and environmental justice; critical analysis of the profession's historical and social context to understand how privilege and power are perpetuated in society and in social work practice; ethical dilemmas and application of ethical decision-making models to make practice decisions; exploration of systemic thinking as distinguishing social work from other helping professions; examination of privilege from the perspective of those who have and do not have privilege or power. Requirements: admission to M.S.W. program.

**SSW:6200 Development of Professional Use of Self 3 s.h.**

Development and practice of interpersonal skills for effective use of self in social work practice; students identify and resolve barriers to effective skill development and demonstrate professional demeanor, empathy, self-reflection, and self-regulation; examination of how cultural and family beliefs and values facilitate or constrain ability to develop an other-oriented stance open to new cultural information; development of effective use-of-self through recognizing and interpreting emotional and physiological reactions in interactions with client systems; engagement in active learning through role play and video recording skill practice. Requirements: admission to M.S.W. program.

**SSW:6220 Family Law 3 s.h.**

Legal systems, rights, and processes related to families including marriage, divorce, custody, protective services, reproductive rights, adoption, commitment, delinquency, education, poverty, and discrimination; roles of lawyers and social workers in legal system. Prerequisites: SSW:4843.

**SSW:6224 Spirituality and Ethics in Social Work 2-3 s.h.**

Knowledge, values, and skills that provide a framework for spiritually sensitive social work practice; preparation for responding competently and ethically to diverse spiritual perspectives, for recognizing and reflecting on one's own spiritual beliefs, and for identifying appropriate ways to apply personal beliefs to practice with varied populations while safeguarding client autonomy and self-determination.

**SSW:6228 Theories of Personality and Psychopathology 2 s.h.**

Theories and their relevance to social work practice with diverse populations. Prerequisites: SSW:3840. Requirements: social work graduate standing.

**SSW:6232 Therapy with Couples 2 s.h.**

Introduction to working with couples in interaction and as a social system; theories of functional and dysfunctional systems; theoretical bases for couple's therapy and techniques of intervention; special attention to couple assessment. Requirements: completion of foundation courses.

**SSW:6233 School Social Work Practice 2 s.h.**

Evidence-based school social work services from a multilevel approach with student, family, school, and community grounded in social work standards, values, ethics and cultural competence; social and political influences on education and practice; prevention, assessment and intervention; specific practices include response to intervention and positive behavior supports; evaluating and serving students with disabilities including use of functional behavior assessment and development of behavior intervention plans; consultation and collaboration with teachers and school staff, engaging in culturally sensitive practices.

**SSW:6234 Social Work Practice and Use of the Diagnostic and Statistical Manual of Mental Disorders 3 s.h.**

Major categories of psychopathology and the DSM-5 system of classification; the use of the DSM-5 approach to diagnosis allows one to consider all aspects of an individual's behavior and presentation of symptoms; included in the DSM is information about effects of culture, developmental stage, and gender on the presentation of mental disorders.

**SSW:6236 Interventions with Individuals 2 s.h.**

Specialized practice; emphasis on thinking about how one works with individuals and importance of emotional (affective) regulation in the professional relationship; focus on emerging findings from the neurosciences combined with attachment theory and object relations; class deliberations involve theory and practice; understanding the overall interpersonal and psychotherapeutic process. Requirements: completion of foundation courses.

**SSW:6237 Social Work Practice with Children, Youth, and Families 2 s.h.**

Preparation for practice in child welfare, family service agencies; family life cycle, child development, child maltreatment, problems of adolescence, social services for families and children, legal issues. Requirements: completion of foundation courses.

**SSW:6238 Introduction to Play Therapy 2 s.h.**

Major theories and techniques of play therapy, relevance to social work practice.

**SSW:6247 Nonprofit Organizational Effectiveness I 3 s.h.**

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, MGMT:9150, PBAF:6278, RELS:6070, SPST:6010, URP:6278.

**SSW:6248 Nonprofit Organizational Effectiveness II 3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, MGMT:9160, PBAF:6279, RELS:6075, SPST:6020, URP:6279.

**SSW:6281 Social Work Practice: Selected Aspects arr.**

Topics not covered in another course; diversity, social justice and ethics issues related to a social work practice area.

**SSW:6282 Grant Writing 1-2 s.h.**

Same as PBAF:6282, URP:6282.

**SSW:6300 Theory and Skills for Working with Individuals and Families 3 s.h.**

Individual and family engagement, assessment, and intervention through the lens of multidisciplinary theoretical frameworks; students assess quality and credibility of different kinds of knowledge and critically appraise interventions for working with individuals and families; application of assessment and intervention frameworks that emphasize clients' strengths in diversity; development of self-reflective interpersonal skills necessary for establishing effective, anti-oppressive professional relationships with individuals and families. Requirements: admission to M.S.W. program.

**SSW:6400 Theory and Skills for Working with Organizations and Communities****3 s.h.**

Social work practice requires interdisciplinary, interprofessional, and interorganization collaboration at all systems levels; focus on organizational and community engagement, assessment, intervention, and evaluation; assessment of quality and credibility of different kinds of knowledge when working with organizations and communities; students apply a social justice lens to see how structural systems of oppression contribute to social problems and injustices in organizations and communities, and critically examine interpersonal skills for establishing effective professional relationships when working with organizations and communities. Requirements: admission to M.S.W. program.

**SSW:6500 Social, Economic, and Environmental Justice I****3 s.h.**

Students are challenged to think critically in context of deeply held personal beliefs; development of competencies for engaging diversity and difference in practice; examination of personal beliefs, biases, and affective reactions; how systems of oppression, alienation, marginalization, power, and privilege intersect for clients and communities; how social work practice can advance human rights and social, economic, and environmental justice; use of critical thinking to analyze, formulate, and advocate for policies that advance justice. Requirements: admission to M.S.W. program.

**SSW:6600 Engaging with Evidence****3 s.h.**

Students expand critical thinking skills necessary for effective social work practice; development of competencies in research and evaluation at all levels of practice; critical appraisal of evidence-informed approaches to social work practice; quality of research evidence and its implications for improving practice effectiveness; application of research evidence to inform and improve practice. Requirements: admission to M.S.W. program.

**SSW:6700 Generalist Practicum in Social Work****3 s.h.**

Generalist practice experience with individuals, families, small groups, organizations, and communities; communication skills, change process, professional values, and ethics applied at multiple system levels; students evaluate their own practice using a learning contract in an agency setting. Corequisites: SSW:6701. Requirements: admission to M.S.W. program, and concurrent enrollment in or completion of generalist courses.

**SSW:6701 Generalist Practice Seminar****1 s.h.**

Integration of classroom learning and development as a social worker with experience in generalist practicum placement; ethical decision-making practice, critical reflection of situations when social work values may not align with client, agency, or interdisciplinary team values; peer feedback to promote professional accountability; documentation and reflection of professional development and acquisition of social work competencies from first half of M.S.W. program; establishment of professional development plans for seeking and using feedback and supervision for self-reflection, self-care, and strategically establishing professional relationships. Corequisites: SSW:6700. Requirements: admission to M.S.W. program, and concurrent enrollment in or completion of generalist courses.

**SSW:7000 Seminar for Accelerated Advanced Standing Program****3 s.h.**

Preparation for advanced micro and macro SSW coursework; builds on foundation knowledge students obtained about working with individuals, group, families, communities, and organizations at the undergraduate level by introducing them to advanced theory and practice models seen in graduate level courses and practice situations. Requirements: admission to accelerated advanced standing M.S.W. program.

**SSW:7100 Critical Thinking for Clinical Practice****2 s.h.**

Preparation for specialized coursework; builds on generalist practice at individual and family levels; critical thinking to appraise theory, practice, use, and creation of evidence for clinical practice; demonstration of critical thinking skills in assessment and treatment planning; how personal beliefs, biases, assumptions, and reactions influence and limit understandings of clients and communities; decentering personal experiences and understandings. Requirements: admission to advanced standing M.S.W. program.

**SSW:7250 Family-Centered Theory and Practice I****3 s.h.**

Examination and comparison of models and underlying theories of empirically based direct social work for family-centered practice; focus on skill development in problem analysis, case assessment, intervention and implementation of multiple change strategies at the family level. Requirements: completion of M.S.W. foundation courses.

**SSW:7251 Family-Centered Theory and Practice II****3 s.h.**

Examination and practice of specific in-depth techniques for assessment and intervention in family-centered practice and evaluation of student's own practice; intervention examined for specific family and couple presenting problems (domestic violence, substance abuse, etc.); students are encouraged to select one practice approach to learn in greater depth. Prerequisites: SSW:7250.

**SSW:7252 Advanced Social Policy for Family Practice****3 s.h.**

Systematic basis for examining social, economic, and political factors that influence formation of social policies; social policy implementation, impact of social policies on vulnerable individuals and families. Requirements: completion of M.S.W. foundation courses.

**SSW:7260 Integrated Social Work Theory and Practice I****3 s.h.**

Practice models, theories, skills, evaluation, and ethical issues relevant to creating change at organizational, community, state, and national levels; strategic plans to benefit marginalized, oppressed, and vulnerable people; utilization of technology, including social media, to generate understanding about social work issues and practice areas; developing and carrying out culturally competent, client-focused individual, organizational, and community interventions; leadership in social work; effective use of professional social work behavior, technology, community resources, and evidence-based practice to advance social, economic, and environmental justice at multiple levels. Requirements: completion of foundation courses.

- SSW:7261 Integrated Social Work Theory and Practice II** 3 s.h.  
Builds on theories, skill development, evaluation, and ethical issues introduced in SSW:7260; focus on how to create and lead organizational change regardless of position in the organization; project management, advanced leadership skills, and capacity development; emphasis on organizational level as it relates to other system levels (individual, family, coalitions, community, policy); major skills include culturally competent organizational, interorganizational, and community intervention, supervision, and program evaluation.
- SSW:7262 Advanced Social Policy for Integrated Practice** 3 s.h.  
Systematic basis for critical examination of social, economic, and political factors that influence formation of social policies; social policy implementation, impact of social policies on vulnerable populations, service providers, communities. Requirements: completion of M.S.W. foundation courses.
- SSW:7268 Continuing Education: Individual Study** arr.  
Project related to student interest; directed by faculty member. Requirements: completion of course contract.
- SSW:7269 Continuing Education: Thesis** arr.  
Thesis research project.
- SSW:7270 Research Practice II** 2-3 s.h.  
Research project relevant to social work practice that builds on knowledge and skills developed in SSW:6148; data analysis, report of results; ethical principles applied to research. Prerequisites: SSW:6148. Requirements: admission to M.S.W. program.
- SSW:7271 Individual Study** arr.  
Project related to student interest; directed by faculty member.
- SSW:7272 Thesis** arr.
- SSW:7292 Advanced Practicum in Family-Centered Practice I and II** arr.  
Family-centered practice theory and skills implemented in interventions with individuals, families; two semester field course. Corequisites: SSW:7250, SSW:7251, SSW:7252, and SSW:7270; if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses, and concurrent enrollment in SSW:7293 or SSW:7294.
- SSW:7293 Advanced Practicum Seminar in Family-Centered Practice I** 1 s.h.  
Two-semester field course; family-centered practice theory and skills implemented in interventions with individuals, families. Corequisites: SSW:7292. Requirements: completion of M.S.W. foundation courses.
- SSW:7294 Advanced Practicum Seminar in Family-Centered Practice II** 1 s.h.  
Continuation of SSW:7293. Prerequisites: SSW:7293. Corequisites: SSW:7292.
- SSW:7295 Advanced Practicum in Integrated Practice** arr.  
Integrated social work theories and interventions implemented in work with individuals, families, organizations, formal and informal networks; two semester field course. Corequisites: SSW:7260, SSW:7261, SSW:7262, and SSW:7270; if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses; for fall semester—concurrent enrollment in SSW:7297 or SSW:7298.
- SSW:7296 Advanced Practicum in School Social Work** arr.  
Field course; social work theories and interventions implemented in schools. Corequisites: SSW:7250 or SSW:7260, SSW:7251 or SSW:7261, and SSW:7252 or SSW:7262; if not taken as prerequisites. Requirements: completion of M.S.W. foundation courses.
- SSW:7297 Advanced Practicum Seminar in Integrated Practice I** 1 s.h.  
Two-semester course; social work knowledge, skills, values, and professional identity integrated in context of advanced practice and direct multisystemic interventions. Corequisites: SSW:7295 or SSW:7296.
- SSW:7298 Advanced Practicum Seminar in Integrated Practice II** 1 s.h.  
Continuation of SSW:7297. Prerequisites: SSW:7297. Corequisites: SSW:7295 or SSW:7296.
- SSW:7800 Social Work Proseminar** 1 s.h.  
Orientation for new Ph.D. students to program and degree requirements; how to formulate research questions; introduction to faculty research and interests. Requirements: admission to social work doctoral program.
- SSW:7803 Social Work Research Practicum** 1-4 s.h.  
Student work with faculty on various phases of research process including research design, measurement, sampling, data collection, data analysis, human subjects review, and writing for publication. Requirements: admission to social work doctoral program.
- SSW:7804 Thesis Writing Seminar** 1-3 s.h.  
Writing a thesis and an argument; synthesizing literature and justifying methods; development of scientific communication skills; defending ideas at proposal hearing and thesis defense.
- SSW:7806 Teaching Practicum** 1-2 s.h.  
Development of knowledge, skills, and values needed to become effective, culturally competent social work educators through an applied teaching experience; faculty mentors provide ongoing instruction on how to teach and assess student learning.
- SSW:7807 Introduction to College Teaching for Social Workers** 1 s.h.  
Development of knowledge and skills needed to become effective, culturally competent educators; topics may include theories of adult learning, course design, creating a learning culture that is inclusive, instructional strategies, accreditation processes, and writing a teaching philosophy.
- SSW:7808 Seminar in Social Work Theory and Knowledge** 3 s.h.  
Examination of fundamental relationship between theory and research and epistemology of micro-level theories used in social work research; emphasis on critical evaluation of theories and understanding the difference between frameworks, theories, conceptual models, and their functions; students present and defend their own analysis of theories applicable to their program of scholarship and engage other students in discussion. Requirements: admission to University of Iowa doctoral program.
- SSW:7810 Conducting a Systematic Literature Review** 3 s.h.  
How to design, conduct, and write scoping and systemic reviews of existing research literature; methods of reviews, quality standards for reviews, and application of these standards to critique reviews or review proposals.

**SSW:7830 Ph.D. Dissertation****arr.**

Ongoing and substantial feedback to doctoral candidates on development and defense of dissertation. Prerequisites: SSW:7800 and SSW:7803 and SSW:7806 and SSW:7807. Requirements: submission of comprehensive exam.

## Social Work, B.A.

The undergraduate program in social work has been accredited continuously by the Council on Social Work Education (CSWE) since 1974 and is designed to be consistent with the council's 2015 Educational Policy Statement competencies.

Consistent with CSWE standards, the program views dimensions of diversity as intersections of multiple factors, including age, class, color, culture, disability, ethnicity, gender, gender-identity and expression, immigration status, political ideology, race, religion, sex, and sexual orientation. Students learn that, as a consequence of difference, a person's life experiences may include oppression, poverty, marginalization, and alienation as well as privilege, power, and acclaim.

### Learning Outcomes

The specific mission of the B.A. program in social work is to prepare culturally aware generalist social workers whose practice is consistent with social work values and ethics, including a commitment to social justice and social change. The program's goals are to:

- prepare students for culturally competent generalist social work practice with individuals, families, small groups, organizations, and communities;
- provide students with a base for continuing graduate education in social work and for lifelong learning; and
- prepare students for active engagement with issues of social justice, oppression, and social welfare in local, state, regional, national, and global goals.

The program draws on a liberal arts perspective; social and behavioral science theory; social research; social policy development, analysis, and implementation; culturally competent intervention and prevention approaches in working with individuals, families, small groups, organizations, and communities; social integration; multiple systems assessment and evaluation; and knowledge pertaining to diversity.

Knowledge and practice in social work values and ethics is also an integral part of students' education. Knowledge and skill related to the evaluation of practice are integrated throughout the curriculum, beginning in SSW:1022 Social Justice and Social Welfare in the United States, continuing through practice and research courses, and culminating in the field experience and field seminar.

### Requirements

The Bachelor of Arts with a major in social work requires a minimum of 120 s.h., including at least 60-64 s.h. of work for the major (a minimum of 35-38 s.h. in social work courses, 13-14 s.h. in cognate areas, 6 s.h. in one other department or in social work courses, and 6 s.h. in social work electives). Students must maintain a g.p.a. of at least 2.00 in all UI courses and a g.p.a. of at least 3.00 in social work courses for the major. Only the first 6 s.h. of School of Social Work elective courses (prefix SSW) completed will be calculated in the major grade-point average. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Courses used to fulfill GE CLAS Core requirements may not be used to satisfy the social work electives requirement.

Students must complete SSW:1022 Social Justice and Social Welfare in the United States (3 s.h.) to be admitted to the

major and before enrolling in the remaining social work courses required for the major; this course also fulfills the Values and Culture requirement of the GE CLAS Core. A transfer student may be given approval by the department to substitute this requirement if they have completed an introduction to social work or introduction to human services course at another institution, or if they complete SSW:2222 Introduction to Social Work (section EXW), in place of SSW:1022 to be admitted to the major; SSW:2222 would not fulfill the GE CLAS Core requirement. If transferring the course from another institution, a student may be able to reduce the social work credit required for the major by 3 s.h.

Many students use the major's required course BIOL:1140 Human Biology: Nonmajors to partially fulfill the GE CLAS Core [p. 20] Natural Sciences requirement.

The B.A. with a major in social work requires the following coursework.

Code	Title	Hours
Social Work Courses		35-38
Required Electives		12
Cognate Areas		13-14
<b>Total Hours</b>		<b>60-64</b>

### Social Work Courses

Code	Title	Hours
All of these:		
SSW:1022	Social Justice and Social Welfare in the United States	3
SSW:3840	Human Behavior in the Social Environment	4
SSW:3841	Fundamentals of Social Work Practice	3
SSW:3842	Interpersonal Skills Laboratory	2
SSW:3844	Introduction to Social Work Research	4
SSW:3845	Social Work Processes	4
SSW:3847	Discrimination, Oppression, and Diversity	3
SSW:4189	Field Experience Seminar	1
SSW:4193	Field Experience	8-11
SSW:4843	Social Welfare Policy and Practice	3

### Required Electives

Students complete a minimum of 6 s.h. of social work electives and 6 s.h. of courses in one other discipline or they can select additional coursework in social work. If they opt to complete 6 s.h. from another discipline, students typically select courses in areas closely related to social work, such as African American studies (prefix AFAM); aging and longevity studies (prefix ASP); American studies (prefix AMST); communication studies (prefix COMM); criminology, law and justice (prefix CRIM); entrepreneurial management (prefix ENTR); global health studies (prefix GHS); journalism and mass communication (prefix JMC); management and entrepreneurship (prefix MGMT); political science (prefix POLI); psychological and brain sciences (prefix PSY); public health (prefix CPH); sociology (prefix SOC); social justice (prefix SJUS); Spanish (prefix SPAN); and gender, women's, and sexuality studies (prefix GWSS).



Courses used to fulfill GE CLAS Core requirements may not be applied to the elective requirements.

Students who are working on a minor or a certificate may apply up to 6 s.h. toward this requirement.

Students complete the following.

Code	Title	Hours
These:		
	Social work electives	6
	Electives in another discipline related to social work	6
Or this:		
	Social work electives	12

## Cognate Areas

Students complete the following.

Code	Title	Hours
<b>Natural and Social Sciences</b>		
All of these:		
BIOL:1140	Human Biology: Nonmajors	4
POLI:1100	Introduction to American Politics	3
PSY:1001	Elementary Psychology	3
SOC:1010	Introduction to Sociology	3-4

## Honors

### Honors in the Major

Students majoring in social work have the opportunity to graduate with honors in the major. Honors students complete in-depth study in areas that interest them. They must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a minimum major g.p.a. of at least 3.33. Consult the School of Social Work for more information about graduating with honors in the major.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the social work major.

## Admission

The School of Social Work endeavors to enroll students who represent diverse backgrounds and cultural perspectives.

The School of Social Work criteria for selective admission for a B.A. in social work is detailed on the school's Undergraduate Admissions Process website. The application deadline is February 15. Candidates may apply to the program annually for admission consideration.

Admission to the undergraduate program in social work requires:

- completion of SSW:1022 Social Justice and Social Welfare in the United States with a grade of C or higher;

- a cumulative g.p.a. of at least 2.50 (exceptions may be made for persons who do not meet the grade-point average requirement if they are strong candidates on the basis of other criteria); and
- completion of application forms and statement.

Students should complete SSW:1022 in their first year or in fall of their sophomore year and apply to the major during their sophomore year. Students who apply during their junior year and are admitted must expect to complete an additional summer session, or more, in order to fulfill the requirements of the major.

All of the items above are required for transfer students, except that substitution of SSW:1022 is permitted with a grade of C or higher in a course approved by the department, such as introduction to social work or introduction to human services.

Meeting the admission requirements above does not guarantee admission. Admission may be limited by available instructional resources and opportunities for field placement. While volunteer, work, and life experience are valued in the admission process, the Council on Social Work Education (CSWE) does not permit the School of Social Work to grant academic credit for life experience or previous work experience.

For more information about admission policies, contact the program administrator at the School of Social Work.

## Social Work Interest

Students who are interested in applying to the social work major may declare social work interest at any time after they enroll at the University and before they earn 60 s.h. of credit, and preferably while they still will have time to enter and complete the major in a total of four years of study. Students with over 60 s.h. earned must contact the School of Social Work to gain permission to declare social work interest. Students may not declare a social work interest after they have earned 72 s.h., even if they already have declared another major.

Declaration of a social work interest qualifies students with at least sophomore standing to be advised by a senior academic advisor assigned to social work interest students. Declaration allows students to participate in the Social Work Student Association and other social work activities, but does not allow them to register for required courses in the major. They may take electives in the social work department prior to formal admission to the major.

Students may continue their social work interest standing until they are admitted to the major or until they have earned more than 72 s.h. of credit.

## Career Advancement

The social work major prepares students for employment in social service areas such as public welfare, child welfare, human service organizations, mental health, health providers (such as hospitals, hospice, skilled care, substance abuse treatment), senior services, group services, residential treatment for youth and persons with disabilities, and corrections. Many graduates continue with advanced study in social work or related physical and mental health professions. Overall employment of social workers is projected to grow 16 percent from 2016-2026 (Bureau of Labor Statistics).

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Admission to the major in social work is selective. The four-year graduation plan applies only to students who are admitted by the beginning of their fifth semester.

**Before the fifth semester begins:** four courses in the major and admission to the major.

**Before the seventh semester begins:** five more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** five more courses in the major and finalized field placement.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Social Work, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Social Work BA program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
Students must maintain a GPA of at least 2.00 in all UI courses and a GPA of at least 3.00 in social work courses for the major.		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SSW:1022	Social Justice and Social Welfare in the United States <sup>c, d</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
BIOL:1140	Human Biology: Nonmajors <sup>d</sup>	4
SOC:1010	Introduction to Sociology <sup>d</sup>	3 - 4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4

GE CLAS Core: World Languages Second Level Proficiency or elective course<sup>f</sup>

**Hours** **14-17**

#### Second Year

##### Fall

PSY:1001 Elementary Psychology<sup>d</sup> 3

GE CLAS Core: International and Global Issues<sup>e</sup> 3

GE CLAS Core: World Languages Second Level Proficiency or elective course<sup>f</sup> 4 - 5

Elective course<sup>g</sup> 3

Elective course<sup>g</sup> 3

**Hours** **16-17**

##### Spring

POLI:1100 Introduction to American Politics<sup>d</sup> 3

GE CLAS Core: Natural Sciences without Lab<sup>e</sup> 3

GE CLAS Core: Quantitative or Formal Reasoning<sup>e</sup> 3

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>f</sup> 4 - 5

Elective course<sup>g</sup> 3

Admission Application: Students apply to the BA program through a selective process. Applications are only accepted once a year in the spring semester. See Social Work Interest advisor or department website for more information.<sup>h</sup>

**Hours** **16-17**

#### Third Year

##### Any Semester

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the School of Social Work.

**Hours** **0**

##### Fall

SSW:3840 Human Behavior in the Social Environment 4

SSW:3847 Discrimination, Oppression, and Diversity 3

Major: social work elective course (prefix SSW)<sup>i</sup> 3

Major: social work elective course<sup>j</sup> 3

GE CLAS Core: Historical Perspectives<sup>e</sup> 3

**Hours** **16**

##### Spring

SSW:3844 Introduction to Social Work Research 4

SSW:3845 Social Work Processes 4

Major: social work elective course (prefix SSW)<sup>i</sup> 3

GE CLAS Core: Literary, Visual, and Performing Arts<sup>e</sup> 3

Elective course<sup>g</sup> 1

**Hours** **15**

#### Fourth Year

##### Fall

SSW:3841 Fundamentals of Social Work Practice 3

SSW:3842 Interpersonal Skills Laboratory 2

SSW:4843 Social Welfare Policy and Practice 3

Major: social work elective course<sup>j</sup> 3

Elective course<sup>g</sup> 3

Elective course<sup>g</sup> 2

Field experience planning (attend meeting, interview, match with agency)

**Hours** **16**

**Spring**

SSW:4189 Field Experience Seminar 1

SSW:4193 Field Experience 8 - 11

Elective course<sup>g</sup> 3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours** **12-15**

**Total Hours** **120-130**

timing, contact your academic advisor or Graduation Services.

- a The Academic Advising Center and the College of Liberal Arts and Sciences advise Social Work Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than two years to complete.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Students must complete SSW:1022 to be admitted to the major and before enrolling in the remaining social work required major courses. Students may take this course in any semester, but must have completed the course before admission is finalized. It is recommended that it be taken in the first three semesters. Students may alternatively enroll in SSW:2222 Introduction to Social Work, but it does not fulfill a General Education requirement.
- d Fulfills a major requirement and may fulfill a GE requirement.
- e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- h Students are expected to apply to the major in their sophomore year. Juniors are permitted to apply and if they do so, it is with the expectation that at least one additional summer session of coursework will be necessary to complete all of the requirements of the major due, in part, to the sequencing of social work courses.
- i Students must take two elective courses in social work (6 s.h.).
- j Students must take an additional two courses (6 s.h.) of electives. They may take the two courses as additional social work electives, or they may take two courses in a related discipline.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

# Social Work, Minor

## Requirements

The undergraduate minor in social work requires a minimum of 15 s.h. in social work courses, including 12 s.h. in courses numbered 3000 or above taken at the University of Iowa. Students complete one required course and 12 s.h. of elective coursework. They must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework for the minor may not be taken pass/nonpass.

Social work courses required for the major are not available to students who are not admitted to the social work program.

The minor in social work requires the following coursework.

## Required Course

Code	Title	Hours
One of these:		
SSW:1022	Social Justice and Social Welfare in the United States	3
SSW:2222	Introduction to Social Work	4
Equivalent course from another institution (must be approved by the School of Social Work)		

## Electives

Students select 12 s.h. from the following; many courses have an online section.

Code	Title	Hours
SSW:3135	Global Aging	3
SSW:3500	Nonprofit Organizational Effectiveness I	3
SSW:3600	Nonprofit Organizational Effectiveness II	3
SSW:3700	Introduction to Understanding Trauma and Resilience	3
SSW:3712	Human Sexuality, Diversity, and Society	1-3
SSW:3729	Substance Use and Abuse	2-3
SSW:3786	Death/Dying: Issues Across the Life Span	3-4
SSW:3796	Family Violence	2-3
SSW:3797	Child Welfare Policy and Practice	3
SSW:3799	Selected Aspects of Social Work and Social Welfare	arr.
SSW:3900	Campus Sexual Assault: Policy, Prevention, and Intervention	3
SSW:3904	Human Services Administration	2
SSW:4100	Social Work in the Criminal Justice System	3
SSW:4155	Treatment of Substance Use and Co-Occurring Disorders	3
SSW:4700	Motivational Interviewing in Diverse Application	3

# Master of Social Work, M.S.W.

The Master of Social Work (M.S.W.) program prepares social workers for leadership in the profession and for advanced social work practice in a wide range of settings. Student choose from two advanced concentrations, both of which allow students to develop advanced skills to work with families and communities and advocate for social change. The two concentrations of the program, currently family-centered practice and integrated practice, teach students knowledge and skills to work with children, adults, older adults, families, small groups, organizations and communities. The program provides students the opportunity to develop the competencies necessary for leadership in addressing the unique challenges of the state of Iowa, including a large proportion of older adults, recent immigrants to rural communities, and rural poverty.

The program has been continually accredited by the Council on Social Work Education (CSWE) since 1951. See the CSWE Assessment of Learning Outcomes for the M.S.W. program on the School of Social Work website.

## Master in Social Work Program Options

Options are available to complete the M.S.W. full time or part time in Iowa City and Des Moines, with applications reviewed annually. The Quad Cities program (located in the Davenport/Bettendorf area on Iowa's eastern border) and the Sioux City program are three-year, part-time programs to which students are admitted every three years. The hybrid (online) option is also a three-year cohort model, with applications reviewed every two years. Applicants to any of the options, at any of the centers, complete the same application, with one additional essay required of the online applicants.

### Regular Standing (54 s.h. Option)

Designed for individuals who have completed a degree in a discipline other than a CSWE-accredited social work degree program. Applicants apply for fall admission; the deadline is February 1.

### Advanced Standing (36 s.h. Option)

Designed for individuals who have completed the B.A. in social work or the B.S.W. from a CSWE-accredited social work degree program. Applicants apply for summer admission; the deadline is December 1.

## M.S.W. Professional Association

Students and graduates of the social work program are eligible for membership in the National Association of Social Workers (NASW), the largest membership organization of professional social workers in the world with 132,000 members. NASW works to enhance the professional growth and development of its members, to create and maintain professional standards, and to advance sound social policies. The NASW Code of Ethics is intended to serve as a guide to the everyday professional conduct of social workers.

Graduates of accredited M.S.W. programs may be eligible for membership in many specialized areas of practice, for example, associate membership in the American Association for Marriage and Family Therapy (AAMFT), upon fulfilling

certain curriculum requirements at the graduate level. Courses are not automatically accepted; graduates need to demonstrate that specific courses meet the AAMFT's requirements, usually by sending course outlines.

## Learning Outcomes

### Enduring Understandings

The School of Social Work learning goals are expressed as enduring understandings—concepts that have lasting value beyond the classroom and are applicable to every aspect of social work practice.

- Commitment to advance social justice and fight discrimination and inequity.
- Adherence to a high standard of ethics.
- Using a systemic perspective, understanding the interconnectedness of people and their environments, and the systems in which we operate.
- Critical thinking, where problem solving, creativity, and innovation are as important as learning of facts.
- Self-awareness and effective use of self are crucial to effective relationships at all levels of practice.

### M.S.W. Goals

The goals of the M.S.W. program are to:

- prepare students to shape the profession's future by providing education in family-based, community-based, and culturally competent practice approaches using the person-in-environment framework; and
- prepare competent professionals for autonomous practice and leadership within the professional community, including advanced interventions at multiple system levels, supervision, program development, program administration, training, evaluation of practice, dissemination of new models of practice, and policy development.

The curriculum is designed to address the following nine competencies for both generalist and advanced practitioners:

- demonstrate ethical and professional behavior;
- engage diversity and difference in practice;
- advance human rights and social, economic, and environmental justice;
- engage in practice-informed research and research-informed practice;
- engage in policy practice;
- engage with individuals, families, groups, organizations, and communities;
- assess individuals, families, groups, organizations, and communities;
- intervene with individuals, families, groups, organizations, and communities; and
- evaluate practice with individuals, families, groups, organizations, and communities.

Explore how social workers help individuals, groups, and families across their lifespans on the NASW website.

## Requirements

The Master of Social Work requires 54 s.h. of graduate credit or 36 s.h. for students who hold an undergraduate degree in social work from a program accredited by the Council on Social Work Education (CSWE). Students must maintain

a cumulative g.p.a. of at least 3.00 and they must be in compliance with the school's student advancement policy. The degree is offered with or without thesis.

The M.S.W. curriculum is under revision with the generalist courses launched in 2022 and the specialized advanced courses to be launched in 2023.

All M.S.W. students follow a structured sequence of courses and must obtain permission to revise their plan.

Requirements for the 54 s.h. M.S.W. program include 22 s.h. in foundation-level courses, 23 s.h. in advanced courses, and a minimum of 9 s.h. in electives. Students complete one semester of generalist practicum and two semesters of advanced practicum. Credit from previous graduate coursework toward the M.S.W. may be applied if specific criteria are met, but students must earn a minimum of 36 s.h. after admission to the M.S.W. program. Full-time programs begin in the fall semester and include a summer session in which electives are offered.

Effective in the summer, advanced standing students begin their coursework in the summer and may complete the program over one year (three semesters) or two years, following the sequenced plan.

The specific mission of the M.S.W. program is to prepare social workers for leadership in the profession and for advanced social work practice in one of two concentrations. Both concentrations allow students to develop advanced skills to work with families and communities and advocate for social change. The two concentrations of the program, family-centered practice and integrated practice, teach students knowledge and skills to work with children, adults, older adults, families, small groups, organizations, and communities.

The M.S.W. program helps students develop high levels of skill in applying the values and ethics of the social work profession to complex ethical issues. The program has a strong liberal arts focus, and the research mission of the University ensures students learn about faculty research; critical thinking; analytic and scientific ways of thinking; social, economic, and environmental justice; and practice and program evaluation. While students are not required to declare a field of practice, opportunities to specialize are available in fields such as aging, end-of-life care, school social work, child welfare, trauma-informed practice, social work in health and mental health settings, and many others.

The school offers the M.S.W. program on the University's Iowa City campus and at four learning centers: Des Moines, Sioux City, the Quad Cities area of Iowa and Illinois (see "M.S.W. Off-Campus Learning Centers" below), and as a hybrid (online) program. Each learning center provides the required structured sequence of courses and includes opportunities for students to individualize their plans of study. All sites give students access to the resources of a very high research activity university (R1/VH research university).

Full-time study and a four-year, part-time program are available in Iowa City and Des Moines. A three-year sequence of courses is available at all sites, although the Sioux City and Quad Cities sites only admit entering classes on a three-year cycle. The hybrid program admits students every other year and is a three-year program.

Following are course sequences for full- and part-time 54 s.h. programs, and full- and part-time 36 s.h. programs. For more information on the family-centered practice or integrated

practice concentration areas a student can choose as part of each degree program, see "Concentrations" below.

- Two-Year (54 Semester Hour) Full-Time Program [p. 1062]
- Three-Year (54 Semester Hour) Full-Time Program in Iowa City and Des Moines Centers [p. 1062]
- Four-Year (54 Semester Hour) Part-Time Program [p. 1063]
- One-Year (36 Semester Hour) Full-Time Program [p. 1063]
- Two-Year (36 Semester Hour) Part-Time Program [p. 1063]

## Two-Year (54 Semester Hour) Full-Time Program

This program is for students who earned a bachelor's degree in a major other than a CSWE-accredited social work program.

### First Year: Generalist Practice

Code	Title	Hours
SSW:6100	Thinking Like a Social Worker	3
SSW:6200	Development of Professional Use of Self	3
SSW:6300	Theory and Skills for Working with Individuals and Families	3
SSW:6400	Theory and Skills for Working with Organizations and Communities	3
SSW:6500	Social, Economic, and Environmental Justice I	3
SSW:6600	Engaging with Evidence	3
SSW:6700	Generalist Practicum in Social Work	3
SSW:6701	Generalist Practice Seminar	1

### Second Year: Concentration

Code	Title	Hours
	Clinical social work practice or leadership practice courses (consult advisor)	9
	Practicum course (600 hours; consult advisor)	6
	Practicum seminar (consult advisor)	2
	Program/practice evaluation course (consult advisor)	3
	Social, economic, and environmental justice II course (consult advisor)	3

### Electives

Students complete 9 s.h. in elective coursework. Students receive a tentative plan to complete the program and meet regularly with their faculty advisor about their plan.

## Three-Year (54 Semester Hour) Full-Time Program in Iowa City and Des Moines Centers

This program is for students who earned a bachelor's degree in a major other than a CSWE-accredited social work program. Contact the School of Social Work for information about the three-year, part-time program offered online in Sioux City and the Quad Cities.

## First Year

Code	Title	Hours
SSW:6100	Thinking Like a Social Worker	3
SSW:6200	Development of Professional Use of Self	3
SSW:6300	Theory and Skills for Working with Individuals and Families	3
SSW:6500	Social, Economic, and Environmental Justice I	3
SSW:6600	Engaging with Evidence	3

## Second Year

Code	Title	Hours
SSW:6400	Theory and Skills for Working with Organizations and Communities	3
SSW:6700	Generalist Practicum in Social Work	3
SSW:6701	Generalist Practice Seminar	1
	Program/practice evaluation course (consult advisor)	3
	Social, economic, and environmental justice II course (consult advisor)	3

## Third Year

Code	Title	Hours
	Clinical social work practice or leadership practice courses (consult advisor)	9
	Practicum course (600 hours; consult advisor)	6
	Practicum seminar (consult advisor)	2
	Program/practice evaluation course (if not taken in the second year; consult advisor)	3

## Electives

Students complete 9 s.h. in elective coursework. Students receive a tentative plan to complete the program and meet regularly with their faculty advisor about their plan.

## Four-Year (54 Semester Hour) Part-Time Program

This program is for part-time students who earned a bachelor's degree in a major other than a CSWE-accredited social work degree program.

### First Year

Code	Title	Hours
SSW:6100	Thinking Like a Social Worker	3
SSW:6200	Development of Professional Use of Self	3
SSW:6500	Social, Economic, and Environmental Justice I	3
SSW:6600	Engaging with Evidence	3

## Second Year

Code	Title	Hours
SSW:6300	Theory and Skills for Working with Individuals and Families	3
SSW:6400	Theory and Skills for Working with Organizations and Communities	3
SSW:6700	Generalist Practicum in Social Work	3
SSW:6701	Generalist Practice Seminar	1

## Third Year

Code	Title	Hours
	Clinical social work practice or leadership practice courses (consult advisor)	9
	Social, economic, and environmental justice II course (consult advisor)	3

## Fourth Year

Code	Title	Hours
	Practicum course (600 hours; consult advisor)	6
	Practicum seminar (consult advisor)	2
	Program/practice evaluation course (consult advisor)	3

## Electives

Students complete 9 s.h. in elective coursework. Students receive a tentative plan to complete the program and meet regularly with their faculty advisor about their plan.

## One-Year (36 Semester Hour) Full-Time Program

This program is for students who earned a B.A. degree with a major in social work.

### First Year

Students take a minimum of 4 s.h. in required coursework. In the fall they complete 9 s.h. of required courses and 4 s.h. of practicum and seminar. In the spring, they complete an additional 6 s.h. of required coursework and 4 s.h. of practicum and seminar.

## Electives

Students complete 9 s.h. in elective coursework. Students receive a tentative plan to complete the program and meet regularly with their faculty advisor about their plan.

## Two-Year (36 Semester Hour) Part-Time Program

This program is for students who earned a B.A. degree with a major in social work.

### First Year

Beginning in the summer, students take a minimum of 4 s.h. in required coursework. They take 6 s.h. in the fall and 6 s.h. in the spring of required coursework.

## Second Year

Students take an advanced practicum (3 s.h.) and a seminar (1 s.h.) each semester. They also take a required program/practice evaluation course in the fall.

## Electives

Students complete 9 s.h. in elective coursework. Students receive a tentative plan to complete the program and meet regularly with their faculty advisor about their plan.

## Concentrations

In the advanced year of the master's program, students choose one of two concentrations: family-centered practice or integrated practice. These advanced specialized curricula build on the school's liberal arts perspective and on the professional foundation. Both are based on a comprehensive eco-systemic theoretical perspective, and both apply the principles that are part of the school's mission statement, with a focus on culturally competent family-centered and community-based approaches.

### Family-Centered Practice

The family-centered practice concentration teaches knowledge and skills necessary for advanced social work practice with individuals and families. These include clinical practice methods that mobilize and develop clients' coping skills, empowering them to manage difficult situations, and culturally sensitive methods for collaborating with clients, their families, and other professionals in planning interventions. Students also learn about advocating for clients, facilitating client self-advocacy, coordinating services to meet multiple needs, and influencing social policy on behalf of clients.

The concentration prepares students to work with individuals and families at appropriate levels of intensity, mobilize existing strengths, and enhance coping skills. Using principles of family-centered practice, students learn to take community and larger systems into account while working in partnership with individuals and families in all aspects of assessment and intervention planning. The concentration emphasizes sensitivity to a variety of family forms and to cultural diversity within family forms. Family is broadly defined to include step families, single-parent families, same-sex-couple families, grandparent-as-parent families, adult parent-adult child families, and traditional forms of families.

### Integrated Practice

The integrated practice concentration teaches methods of advanced practice that empower organizational and community change at multiple system levels. Students learn skills for assessment, planning, and direct intervention in larger systems such as neighborhoods, social support networks, and service delivery systems, and for policy making. They develop skills for a broad range of interventions, including direct practice, case management, community education, community development and practice, management and administration, organizational and interorganizational planning and program development, team building, organization and program evaluation, and social policy advocacy. They also learn culturally sensitive methods to collaborate with families and communities; identify strengths, assets, and challenges; and develop services and programs that will meet clients' needs.

Building on strengths and assets of organizations and communities, students learn how to mobilize community

members in advocacy and change efforts—skills useful for case managers, service coordinators, supervisors, program planners and developers, and administrators. Students also learn how to apply advanced skills to advocacy, community assessment, planning and mobilizing resources, and influencing social policy.

The concentration prepares students for practice in varied settings, including hospitals and community health programs, schools, mental health centers, neighborhood and family resource centers, community- and family-based community service agencies, correctional facilities, and programs that serve older adults, both in the community and in care facilities. In many of these settings, social workers work as interdisciplinary team members and team leaders within organizations. They also collaborate with community organizations, community residents, and service providers. Many social workers are involved in staff supervision, program development, and agency administration. Content areas include grant writing; intervention in multiple systems, including team and network building; policy practice; and design of evaluation methods for client assessment and program evaluation.

## M.S.W. Off-Campus Learning Centers

The School of Social Work delivers the M.S.W. curriculum to four learning centers: in Des Moines and Sioux City, Iowa; the Quad Cities area of Iowa and Illinois; and as a hybrid (online) program. Each learning center is administered by the School of Social Work in cooperation with Distance and Online Education. Social work faculty members teach required courses at each center and are available for student advising. The off-campus programs have been evaluated by the Council on Social Work Education and the University of Iowa Graduate College as providing a program comparable to that available on the Iowa City campus.

Courses at each off-campus site are taught in classrooms by tenure-track, clinical, lecturers, visiting, and adjunct faculty members. Instructional connections between sites are maintained through varied technologies, including computer-based instruction.

For program entry and application dates, contact the School of Social Work.

### Des Moines

The M.S.W. program in Des Moines, in central Iowa, offers courses sequenced to accommodate both part-time and full-time study. Students may complete the entire degree program at the Des Moines center, although they may choose to travel to Iowa City for selected elective courses offered during the summer. Classes are held at the John and Mary Pappajohn Education Center.

### Quad Cities

Students in the Quad Cities part-time program can complete their degree entirely off campus and online with the exception of some electives, which they can take during summer sessions in Iowa City. The School of Social Work offers this part-time program to a cohort admitted once every three years. In addition to the part-time cohort students, there are some full- or part-time students from Iowa City in practicum in the Quad Cities. The Quad Cities program is located in the Davenport/Bettendorf area on Iowa's eastern border, and courses are offered at Scott Community College.



## Sioux City

The Sioux City part-time program is nearly identical to the Quad Cities part-time program. Most courses are offered in classroom space at Briar Cliff University in Sioux City, Iowa.

## Hybrid (Online)

The M.S.W. hybrid program is designed for students who live in Iowa or bordering states and who, because of geography or life circumstances, cannot access the Sioux City, Des Moines, Quad Cities, or Iowa City learning centers. Students in this program attend evening classes in real time using video conferencing, and asynchronous classes in which coursework is done independently, adhering to deadlines. A mandatory two- or three-day summer institute is held in Iowa City each August. Courses are scheduled over a three-year period and new applications are accepted every other year.

## Combined Programs

### Social Work Degree Programs

#### M.S.W./Ph.D. in Social Work

The school offers a Master of Social Work/Doctor of Philosophy program in social work for students who have completed coursework in research and statistics and have postbaccalaureate experience related to social work practice. The program permits students to apply a limited amount of credit toward both graduate degrees, reducing the time required to graduate. Individuals must apply to the M.S.W. program and the Ph.D. program; applications are reviewed by the admission panels of both programs. For more information, contact the School of Social Work.

#### Degree Programs with Other Colleges

The School of Social Work collaborates with other colleges to offer combined degree programs. Each program permits students to apply up to 12 s.h. of graduate credit toward both degrees, reducing the time required to graduate.

Applicants must apply to each program separately and be admitted to each one before they may be admitted to the combined degree program. Information about the combined programs is available from the School of Social Work's program administrator.

#### M.S.W./J.D.

The School of Social Work collaborates with the College of Law to offer the combined Master of Social Work/Juris Doctor programs. For information about the J.D., see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

#### M.S.W./M.B.A. (Professional Program)

The School of Social Work and the Tippie College of Business offer the combined Master of Social Work/Master of Business Administration programs. For more information, see the M.B.A. Professional Program [p. 1315] (Tippie College of Business) in the Catalog.

#### M.S.W./M.S. in Urban and Regional Planning

The School of Social Work along with the School of Planning and Public Affairs offer the combined Master of Social Work/Master of Science in urban and regional planning. For more

information, see the M.S. in urban and regional planning [p. 1787] (Graduate College) in the Catalog.

## Admission

The School of Social Work seeks to maintain a heterogeneous student body by enrolling students who represent diverse backgrounds and cultural perspectives. Previous experience in human services and cross-cultural experiences is desirable. The school does not grant academic credit for life experience or previous work experience.

Admission to the M.S.W. 54 s.h. program requires a bachelor's degree from an accredited college or university, with a reasonable distribution of courses in the liberal arts and sciences (the humanities and the social, behavioral, and biological sciences).

Admission to the M.S.W. 36 s.h. program requires a bachelor's degree in social work from a CSWE-accredited college or university.

Applicants must have an undergraduate g.p.a. of 3.00 or higher, or a g.p.a. of 3.00 or higher on 12 s.h. of letter-graded graduate coursework; consult the University's Office of Admissions for assistance in calculating grade-point average. Competence on personal computers and spreadsheet applications is required.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Applicants must submit three letters of recommendation, including one regarding academic abilities and one from the applicant's most recent employer (if the employment was social work-related); and a personal statement addressing criteria specified by the School of Social Work.

Applications for the 54 s.h. programs are accepted beginning September 1 and must be completed by February 1 to be considered for the next academic year. Applications for the 36 s.h. program are due December 1.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

For a complete list of graduate admission policies, contact the School of Social Work.

## Financial Support

Students seeking financial assistance should apply for aid through the University of Iowa Office of Student Financial Aid. Students may apply for a limited number of research and teaching assistantships available from the School of Social Work. Application materials for research or teaching assistantships are available from the school each spring, or as positions become available. Aid received through the Office of Student Financial Aid does not preclude students from consideration for aid through the School of Social Work.

## Career Advancement

Professional social workers are found in every facet of community life—in schools, health settings (such as hospitals, hospice, skilled care facilities, substance abuse treatment,

mental health clinics), senior centers, elected office, private practices, prisons, military, corporations, and in numerous public and private agencies that serve individuals and families in need. Many also serve as social and community service directors.

According to the Substance Abuse and Mental Health Services Administration (SAMHSA), professional social workers are the nation's largest group of mental health services providers. There are more clinically trained social workers—over 200,000—than psychiatrists, psychologists, and psychiatric nurses combined. Federal law and the National Institutes of Health recognize social work as one of five core mental health professions.

The U.S. Department of Veterans Affairs employs more than 10,000 professional social workers. It is one of the largest employers of M.S.W. individuals in the United States. More than 40 percent of all disaster mental health volunteers trained by the American Red Cross are professional social workers. There are hundreds of social workers in national, state and local elected office.

Projected growth in social work jobs is estimated to be greater than average for all occupations (Bureau of Labor Statistics).

Today, almost 50 special interest organizations contribute to the vitality and influence of the social work profession. There are social work groups for educators and researchers, as well as organizations for practitioners in health care leadership, nephrology, oncology, child welfare, schools, prisons, courts, and many other settings.

# Social Work, Ph.D.

## Learning Outcomes

Graduates will:

- locate their work in the intellectual landscape of social work;
- critically analyze theories, practices, policies, and research in at least one specialized area of social work knowledge;
- disseminate knowledge that contributes to the advancement of social work research, practice, and policy, including writing publishable, peer-reviewed manuscripts; presenting at local, national, or international conferences; and/or producing policy briefs or white papers; and
- in the social work classroom, create a learning culture and classroom climate that is inclusive of a diverse population of students and diverse learning styles.

## Requirements

The Doctor of Philosophy program in social work requires 82 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00. Students complete required coursework, research, and teaching practicums; pass a comprehensive exam; write a dissertation; and defend it in an oral exam. Their work includes courses in one of four outside disciplines—sociology, psychology, public health, or education—to assist them in preparation for the comprehensive examination and dissertation defense.

The degree program prepares students to conduct research that contributes to the knowledge base of social work, to become leaders in the profession, and to teach social work in postsecondary educational institutions.

Those who enter the program with a M.S.W. are granted 30 s.h. credit; they must complete an additional 52 s.h. for the degree. Individuals with master's degrees in related disciplines (for example, psychology or sociology) may choose to earn a Ph.D. in social work without first earning the M.S.W. Credit from a related master's degree may be applied to the Ph.D. degree program, as determined by the School of Social Work.

## Individualized and Interdisciplinary Curriculum

The program allows students to develop a coherent program of study with opportunities to pursue their own scholarly interests. These interests are pursued through a core social work curriculum, a concentration (sociology, psychology, education, or public health) and a social work focal area (e.g., family violence). Students may take focal area courses in any college or department at the University of Iowa. The median time to complete the degree is four years.

The School of Social Work provides a supportive environment with substantial opportunities for mentoring and interaction with faculty members. Throughout Ph.D. studies at the University of Iowa, the school assists students in developing a program of study based on their unique educational and career goals. There are many opportunities to work closely with faculty members in a mentoring environment. In the first year, students complete a mentored research practicum with a faculty member and a mentored in-class teaching experience. During the second year, students choose a

faculty member to guide them through the comprehensive examination and dissertation process.

## Admission

To ensure that all doctoral students receive mentoring, the School of Social Work typically admits three or four students annually; approximately 35 percent of applicants are admitted.

## Admission Requirements

Students are required to have a bachelor's degree from an accredited college or university, and a minimum undergraduate g.p.a. of 3.00 (on a 4.00 scale).

Students should have completed an introductory statistics course (including graphing techniques for presenting data, descriptive statistics, correlation, introduction to regression, prediction, logic of statistical inference, elementary probability models, estimation and tests of significance) with a grade of B or higher. Research methods courses taken in a M.S.W. program typically do not meet the criteria for an introductory statistics course. Applicants who have not taken an introductory statistics course must complete one before beginning the M.S.W./Ph.D. or the Ph.D. program. Under unusual circumstances, a highly qualified applicant may be conditionally admitted into the program without a statistics course, if they have a high score on the quantitative section of the GRE or if they have taken other mathematics courses. Regardless, applicants still must successfully complete an introductory statistics course the spring or summer semester prior to beginning the M.S.W./Ph.D. or the Ph.D. program.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Applicants applying only to the Ph.D. program are required to have a M.S.W. or a master's degree in a related field, such as public policy, public health, sociology, psychology, political science, economics, education, nursing, or anthropology.

## Admission and Selection Process

Applications are accepted beginning September 1 for the following academic year; applications are due February 1. Admission decisions are made in February. Typically, all applications are evaluated on the same day. Applicants are notified, in writing, of the decision by April 1. In some years, there may be a waiting list. If applicants are placed on the waiting list, they are notified of this decision by April 1.

The school evaluates applicants based on their potential to independently conduct and disseminate scholarship that contributes to policy or practice and on their potential to prepare students to educate future social workers. Occasionally, an applicant who has been declined is encouraged to reapply in a subsequent year.

## Financial Support

The School of Social Work provides full-time students with a competitive, multiyear financial package (full tuition, an assistantship, a health and dental insurance allowance). It also provides fellowships, travel awards and dissertation awards.

In addition to funding provided by the School of Social Work, applicants may be eligible for financial assistance through the Graduate College, other departments at the University of Iowa, and organizations outside the University. The director of the Ph.D. program works with students to identify sources of funding, and the Division of Sponsored Programs as well as a student's mentor helps the student apply for external funding.

The Graduate College awards fellowships to incoming students, dissertation-year fellowships, summer fellowships, and travel awards. The School of Social Work applies to the Graduate College to secure these awards at the time applicants are selected into the program. The Graduate College website contains a complete list of awards.

## Career Advancement

According to the National Association of Social Workers, there is no better time to consider furthering one's education and obtaining a doctorate. Increasingly, there are more openings for social work faculty than there are graduates of Ph.D. programs. To learn more about the academic job market, see the Council on Social Work Education (CSWE) career center. The CSWE posts jobs year round, although most new ads for teaching and research positions are posted between August and November.

Graduates become leaders in education, research, and government. All of the Ph.D. graduates from the University of Iowa's School of Social Work program have obtained employment within one year of graduation. Of these, about 75 percent of graduates obtain teaching or research positions, and about 25 percent obtain policy, administrative, or practice positions.

To learn more about some of the recent graduates' careers, visit the School of Social Work website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Social Work, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
82 s.h. must be graduate level coursework; maximum of 30 s.h. of graduate transfer credits from master's allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Arrange Teaching Practicum		
Select Doctoral Committee Chair		
SSW:7800	Social Work Proseminar	1
SSW:7808	Seminar in Social Work Theory and Knowledge	3
Statistics Level 2 course		3

Elective <sup>c</sup>		3
		<b>10</b>
<b>Spring</b>		
Arrange Research Practicum		
Concentration Theory course <sup>c</sup>		3
Statistics Level 3 course		3
SSW:7806	Teaching Practicum	2
SSW:7807	Introduction to College Teaching for Social Workers	1
		<b>9</b>
<b>Summer</b>		
SSW:7803 Social Work Research Practicum		3
		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
Finalize Comps Committee Members and Chair		
SSW:7808	Seminar in Social Work Theory and Knowledge	3
Concentration Research Methods course <sup>c</sup>		3
Elective <sup>c</sup>		3
		<b>9</b>
<b>Spring</b>		
Comprehensive Exam Preparation and Proposal Defense <sup>d, e</sup>		3
Statistics Level 4 or Research Methods course		3
Concentration Elective course <sup>c</sup>		3
		<b>6</b>
<b>Summer</b>		
Write and Submit Comps Exam Paper		0
		<b>0</b>
<b>Third Year</b>		
<b>Fall</b>		
Oral Comprehensive Exam		
SSW:7804	Thesis Writing Seminar	3
SSW:7830	Ph.D. Dissertation	3
		<b>6</b>
<b>Spring</b>		
Dissertation Prospectus and Defense <sup>f</sup>		3
SSW:7830	Ph.D. Dissertation	3
		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
SSW:7830	Ph.D. Dissertation	3
		<b>3</b>
<b>Spring</b>		
SSW:7830	Ph.D. Dissertation	3
Final Exam <sup>g</sup>		3
		<b>3</b>
		<b>52</b>

a Includes required graduate coursework, dissertation hours and 9 s.h. of elective coursework beyond the 30 s.h. transferred from the master's; work with faculty advisor to determine coursework and sequence.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

- c Work with faculty advisor to determine appropriate graduate coursework; see the General Catalog and department website for specifics.
- d Written comps proposal due second year spring; written comprehensive exam due second year summer; oral comprehensive exam due third year fall.
- e Schedule oral comprehensive exam for third year fall.
- f Proposal and defense with full committee completed in third year spring.
- g Dissertation defense.

# Sociology and Criminology

## Chair

- Michael E. Sauder

## Director, Graduate Studies

- Freda B. Lynn

## Director, Undergraduate Studies

- Jennifer Haylett (Sociology) and Michaela Ruppert (Criminology, Law and Justice)

**Undergraduate majors:** criminology, law and justice (B.A., B.S.); sociology (B.A., B.S.)

**Undergraduate minors:** criminology, law and justice; sociology

**Graduate degrees:** M.A. in sociology; Ph.D. in criminology; Ph.D. in sociology

**Faculty:** <https://clas.uiowa.edu/sociology/people>

**Website:** <https://clas.uiowa.edu/sociology/>

The Department of Sociology and Criminology offers undergraduate majors and minors as well as graduate degree programs. The department partners with the Departments of Economics, Philosophy, and Political Science to offer the undergraduate major in ethics and public policy, an interdisciplinary program administered by the Department of Philosophy; see Ethics and Public Policy [p. 505] in the Catalog. In addition, it offers courses that undergraduate students in all majors may use to fulfill GE CLAS Core [p. 20] requirements, and a rotating sociology or criminology, law and justice First-Year Seminar designed for entering undergraduate students.

## Certificate

### Social Science Analytics

The growth of big data and informatics calls for a new set of skills for social science students and an increased understanding of the logic of data collection and analysis. The certificate focuses on the application side of data analysis and allows focus to be on the specific research methods and quantitative skills using data-driven methods effective for more understanding in an increasingly complicated social-political world. The certificate offers an opportunity for interdisciplinary training on how data can be used to address important questions in the social sciences. The Department of Sociology and Criminology collaborates with the Departments of Geographical and Sustainability Sciences, Political Science, and Statistics and Actuarial Science to offer the undergraduate program in social science analytics; see the Certificate in Social Science Analytics [p. 1047] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Sociology (Bachelor of Arts) [p. 1078]
- Major in Criminology, Law and Justice (Bachelor of Arts) [p. 1083]
- Major in Sociology (Bachelor of Science) [p. 1087]
- Major in Criminology, Law and Justice (Bachelor of Science) [p. 1092]

#### Minors

- Minor in Sociology [p. 1096]
- Minor in Criminology, Law and Justice [p. 1097]

### Graduate Programs of Study

#### Majors

- Master of Arts in Sociology [p. 1098]
- Doctor of Philosophy in Criminology [p. 1099]
- Doctor of Philosophy in Sociology [p. 1100]

## Facilities

### Crime and Justice Policy Research Program

The Crime and Justice Policy Research Program conducts research on the causes and consequences of crime, interpersonal violence, and antisocial behavior. The program also considers the implementation and implications of public policies designed to prevent and control criminal offending.

### Center for the Study of Group Processes

The Center for the Study of Group Processes has a small-group laboratory with computer-controlled subject rooms that provide audiovisual and psychophysiological recording capabilities, large-group rooms with an adjoining observation room, an audiovisual control room, and other flexible research office spaces.

## Courses

- Sociology Courses [p. 1070]
- Criminology, Law and Justice Courses [p. 1075]

Prerequisites for courses are listed in the course descriptions.

### Sociology Courses

#### SOC:1000 First-Year Seminar

1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**SOC:1010 Introduction to Sociology 3-4 s.h.**

How individuals are organized into social groups, ranging from intimate groups to bureaucracies, and how these influence individual behavior; nature and interrelationships of basic social institutions (family, education, religion, economy). GE: Social Sciences.

**SOC:1022 Social Justice and Social Welfare in the United States 3 s.h.**

Historical development of social welfare and social justice in the United States; individual values and ethics; role and responsibilities of enhancing society; contemporary practice to address social injustices including poverty, discrimination, various forms of violence; small group discussions and debates of various issues to allow for an exchange of diverse views and perspectives; volunteer work. GE: Values and Culture. Same as SSW:1022.

**SOC:1030 Contemporary Social Problems 3-4 s.h.**

Emergence and distribution of selected social problems; alternative solutions; may include population, inequality, female-male relationships, racism, crime. GE: Diversity and Inclusion.

**SOC:1040 Energy, Sustainability, and Society 3 s.h.**

Energy is considered the lifeblood of modern societies, and as energy production and consumption accelerates worldwide, it is imperative that energy becomes sustainable or it is derived from resources that can maintain current operations without jeopardizing energy needs or climate of future generations; examination of global transition toward sustainable energy systems from a social science perspective; application of the concept of sociological imagination to understand challenges and opportunities presented by worldwide energy transformation towards sustainability. GE: Social Sciences.

**SOC:1219 Big Ideas: Equality, Opportunity, and Public Policy in America 3 s.h.**

Examination of major social issues and challenges faced by nation, state, and communities; what government's role is in a democratic society; how we decide when, where, and how government acts in ways consistent with social goals and values; focus on pressing social issues (i.e., education, inequality, labor standards, health care); historical development of the problem or policy; ways we address social issues; effectiveness of current policies and alternative policies; ways in which social science contributes to policy design and assessment. Same as HIST:1219.

**SOC:1220 Principles of Social Psychology 3-4 s.h.**

Introduction to a range of theories that seek to explain behavior of people within their groups, and dynamics between groups, at various levels of society. GE: Social Sciences.

**SOC:1310 Gender and Society 3 s.h.**

Role and status of women in society; sex differences, sex role socialization, theories about origin and maintenance of sexual inequalities, changes in social life cycle of women, implications for social institutions and processes; focus on contemporary United States. GE: Values and Culture. Same as GWSS:1310.

**SOC:1670 Race and Popular Culture 3 s.h.**

Explore trends in popular culture through a sociological lens; use examples from popular culture to discuss broader social issues, including interaction between members of different social groups and patterns of social inequality; topics include definitions of popular culture, advertising and branding, rise of reality television, fashion, museums and the consumption of "high culture" clubs and nightlife, social significance of hip hop music, and the impact of social media on everyday life; guest speakers, visits to local cultural venues, and screenings of television shows and films.

**SOC:2064 African American Families: Urban and Suburban 3 s.h.**

Racial inequality and experiences of African American families in the United States during the 20th and 21st centuries; historical context for contemporary research on African American family; relative impact of structural and cultural factors on various aspects of African American family life, declining marriage rates, family formation patterns; intersections of race and class in family life; research methods used to examine dynamics of African American family life, including quantitative analysis, structured qualitative interviews, and ethnography. GE: Diversity and Inclusion. Same as AFAM:2064.

**SOC:2130 Sociological Theory 3 s.h.**

Theoretical perspectives in sociology; construction, evaluation of sociological explanations. Prerequisites: SOC:1010 or SOC:1030 or SOC:1310 or CRIM:1410.

**SOC:2160 Applied Statistics for Social Scientists 3 s.h.**

Applied statistics for sociology majors: frequency distributions, graphic presentation, measures of central tendency, measures of variability, elementary probability, populations and samples, sampling distributions, estimation and confidence intervals, hypothesis testing, chi-square test, regression and correlation, analysis of variance; computer software used in data analysis; emphasis on appropriate use and interpretation of statistics in the study of sociological topics. Recommendations: sociology major.

**SOC:2170 Research Methods 3 s.h.**

Basic scientific concepts; emphasis on theoretical thinking, statement of researchable propositions, logic and meaning of proof operant in the research process; general issues in designing social research, including problems of sampling and measurement, analysis, presenting research data, interpreting research findings. Prerequisites: SOC:1010 and (PSQF:4143 or STAT:1020 or STAT:2010 or SOC:2160 or STAT:3510 or STAT:1030). Requirements: sociology major, or criminology, law and justice major.

**SOC:2710 The American Family 3 s.h.**

Structure and process; change over the life cycle; interrelations with other institutions; historical changes; variations by social class and ethnic group. GE: Values and Culture.

**SOC:2770 Black and White Community Politics 3 s.h.**

Students study the movement for environmental justice within the broader context of U.S. land use and development to understand environmental racism's prevalence and how it can be addressed; topics include pollution, health, food access, transportation and agricultural practice to land loss, public space, and infrastructure; exploration of perspectives on the environment and environmentalism. Same as AFAM:2770, GHS:2770.

- SOC:2810 Social Inequality** 3 s.h.  
Major theoretical perspectives for understanding inequality in economics, power, prestige; the magnitude of social inequality in the United States; sex and race inequality; trends in and causes of social mobility; selected consequences of social inequality. GE: Values and Culture.
- SOC:2830 Race and Ethnicity** 3 s.h.  
Multidisciplinary study of intergroup relations, with emphasis on historical, sociological, and social psychological issues in the study of American minority groups. GE: Diversity and Inclusion.
- SOC:3100 Critical Race Theory: Culture, Power, and Society** 3 s.h.  
Examination of the historical context of race and racism in U.S. history; focus on how social structures perpetuate longstanding patterns of racial inequality. Same as AFAM:3100, AMST:3100.
- SOC:3110 Race, Organizations, and Workplace** 3 s.h.  
Examination of racial discrimination in the American workplace and organizations; historical context for development of complex organizations; various forms of racial discrimination; longstanding patterns of racial inequality central to American organizations. Same as AFAM:3110.
- SOC:3170 Applied Research** 3 s.h.  
Ongoing research project investigating the Flint water crisis; organization and analysis of emails for sociological research purposes and ultimately to create a searchable website for public access to the data; how to construct and analyze a "big data" data set in an interdisciplinary collaborative research setting; how to apply and build sociological theory with empirical data; how to write an academic journal article. Prerequisites: SOC:2170 or CRIM:2470.
- SOC:3171 Drugs and Society** 3 s.h.  
How people use drugs for recreation, performance enhancement, and medical treatment; implications for drug control, treatment, and public policy.
- SOC:3220 Sociology of Mental Illness** 3 s.h.  
The socially constructed nature of mental illness; theoretical perspectives and research on social antecedents and social consequences of mental health. Prerequisites: SOC:1010 or SOC:1220 or SOC:1030.
- SOC:3510 Medical Sociology** 3 s.h.  
Theoretical perspectives and research on social precursors and consequences of physical and mental health ailments; focus on contemporary United States with cross-cultural comparisons; stereotypes and diagnosis, gender and racial/ethnic differences, health inequalities related to socioeconomic status.
- SOC:3525 Public Opinion** 3 s.h.  
Role in making public policy; formation, change of political attitudes and opinions; political ideology; measurement of public opinion; how opinion polls are conducted; experience with interviewing and conducting public opinion research. Same as POLI:3204.
- SOC:3530 Social Psychology of Small Groups** 3 s.h.  
Internal processes governing small groups (e.g., friendship cliques, families, the president's cabinet, committees); how small groups relate to the larger social environment; groups' impact on their members. Prerequisites: SOC:1030 or SOC:1010.
- SOC:3540 Social Psychology of Good and Evil** 3 s.h.  
Exploration of the social science of good and evil, how society shapes us, how people make and interpret their choices, and how we judge others; covers a range of fields including sociology, criminology, psychology, philosophy, and more.
- SOC:3610 Organizations and Modern Society** 3 s.h.  
Approaches to the sociological study of economic and noneconomic organizations; the role of power and authority within the organization, and between the organization and its environment. Prerequisites: SOC:1220 or SOC:1010.
- SOC:3630 The Racial Wealth Gap: Black Debt, White Debt** 3 s.h.  
Exploration of extent, historical origins, and contemporary factors of the racial wealth gap with special attention to role of debt in U.S. race relations; potential topics include education debt, monetary sanctions in criminal justice, redlining, recession, bankruptcy, and reparations. Same as AFAM:3630.
- SOC:3650 Education, Schools, and Society** 3 s.h.  
Overview of sociology of education; historical and current sociological perspectives on education; race, class, and gender inequality in schooling; higher education; contemporary debates in education (e.g., affirmative action, school choice). Prerequisites: SOC:1030 or SOC:1010.
- SOC:3750 Born in the USA: Fertility and Reproduction** 3 s.h.  
Exploration of when, why, how, and with whom Americans bear children; comparison to other developed and developing countries in the world; infertility and its treatments; ethics of surrogacy; voluntary childlessness; rapid rise of nonmarital childbearing in the U.S. and other countries; politics of childbirth; declining populations; rapid aging of rich where women have basically stopped having children. Same as GWSS:3750.
- SOC:3880 The Sociology of Networks** 3 s.h.  
Introduction to the basic properties of network structure (e.g., density, mutuality, cliques); substantive insights regarding the role and consequences of networks in social life; the role of networks in job searching/hiring processes; how innovations diffuse through networks; and relationships as social resources. Prerequisites: SOC:1010 or SOC:1030.
- SOC:4000 Data Science for Social Good** 3 s.h.  
The availability of big data transforms the way we solve difficult social problems; programming and analytical skills to analyze data from social media and open-access administrative data sources; basic principles and skills in data science including how to collect, clean, curate, and manipulate data, simple statistics, and computational methods; emphasis on linking big data to real world social problems and social science insights; students learn problem-solving skills and a data-driven approach to contemporary social problems. Prerequisites: SOC:2160 or POLI:3000 or STAT:3120 or STAT:3120 or CS:1210.
- SOC:4200 Sociology of Religion** 3 s.h.  
Introduction to the study of religion from a sociological perspective; religions exist in social contexts, are shaped by contexts in which they are embedded, and then often change those social contexts; to understand the relation between religions and other social systems, we must examine the sociological as well as the historical, anthropological, social psychological, and political impacts; students will study religious organizations critically and objectively, exploring and debating classical sociological theories pertaining to religions, as well as contemporary theories that predict religious behavior; social scientific perspective will be presented.



- SOC:4225 The Social Psychology of Leadership** 3 s.h.  
Techniques, proven by research, that enhance students' ability to know, work with, and lead people; recent research in social psychology, how it applies to practical leadership problems.
- SOC:4230 Sociology of Self-Improvement** 3 s.h.  
How self-improvement as a cultural goal shaped development of political, business, educational, and religious institutions in the United States; history of self-improvement movement and industry; selected readings that show how much self-improvement is possible and which techniques are more useful than others.
- SOC:4540 Political Sociology and Social Movements** 3 s.h.  
Social unrest; crowd behavior; social movements treated as a form of social change. Prerequisites: SOC:1030 or SOC:1010.
- SOC:4680 Corruption: The Social Scientific Perspectives** 3 s.h.  
Social scientists and policy makers alike recognize corruption as an obstacle to economic development, democratic governance, and human rights around the world; students survey recent research from sociology, criminology, political science, and anthropology that addresses causes and consequences of corruption; why individuals engage in corrupt behavior, how organizations affect patterns of corrupt transactions, and how rates of corruption impact and are impacted by political regimes; consequences that corruption has for social inequality, civic mobilization, lives of women and immigrants, and stability of autocratic governments. Same as CRIM:4680.
- SOC:4800 Research Practicum in Sociology** 3 s.h.  
Students engage in a sociological research activity that is not related to an honors project, conducted under the supervision of (or in collaboration with) a faculty member.
- SOC:4820 Sociology of Sexuality** 3 s.h.  
Sociological perspectives on sexuality, including theoretical and conceptual developments, empirical regularities, and social implications; sexual expression in the United States. Prerequisites: SOC:1010 or SOC:1030. Same as GWSS:4820.
- SOC:4900 Selected Topics in Sociology** 3 s.h.  
Topics vary.
- SOC:4902 Selected Topics in Family, Health, and Well-Being** 3 s.h.  
Varied topics in family structures and practices; social institutions and forces that shape or are shaped by families.
- SOC:4903 Selected Topics in Organizations, Networks, and Careers** 3 s.h.  
Varied topics in macro- and micro-level processes affecting ability to understand and manage organizations, including the groups and individuals that compose them.
- SOC:4909 Graduation Portfolio** 0 s.h.  
Submission of final graduation portfolio first assembled in capstone course required for sociology major. Corequisites: SOC:4910.
- SOC:4910 Capstone Course in Sociology and Criminology** 3 s.h.  
Senior project illustrating student's accomplishments during the undergraduate career; prepared in collaboration with sociology faculty member or other experts in the student's area of sociological interest; record for student's own reflection, information for potential employers and graduate programs. Prerequisites: SOC:2130 and (SOC:2170 or CRIM:2470). Requirements: major g.p.a. of 2.00.
- SOC:4920 Social Services Organization Internship** 3 s.h.  
Student volunteer work with social services organizations. Prerequisites: SOC:1010 with a minimum grade of C or SOC:1030 with a minimum grade of C or SOC:1310 with a minimum grade of C or SOC:2810 with a minimum grade of C. Requirements: sociology major or minor, and junior standing.
- SOC:4930 Teaching Internship** 3 s.h.  
Experience providing supervised support for instructors teaching basic courses in sociology. Requirements: appointment as sociology undergraduate teaching aide.
- SOC:4990 Directed Individual Study** arr.
- SOC:4997 Honors Seminar** 1 s.h.  
Topic development for senior honors projects. Offered spring semesters. Requirements: sociology honors standing.
- SOC:4998 Honors Research** arr.  
Research projects under faculty supervision.
- SOC:5110 History of Sociological Theory** 3 s.h.  
Ideas of major 19th- and 20th-century social thinkers (e.g., Marx, Weber, Durkheim, Simmel, Mead).
- SOC:5130 Sociology of Education** 3 s.h.  
Effects of school and school organization on educational outcomes; course-taking patterns and tracking, desegregation, differences in school sector; focus on entire span of student's academic career; examination of school and organizational effects at the primary, secondary, and postsecondary levels of education. Same as EPLS:5130.
- SOC:5160 Research Design and Methods** 3 s.h.  
Research designs; sampling designs and techniques; questionnaire construction, interviewing techniques; participant and nonparticipant observation; coding and preparation of data for analysis; measurement techniques, reliability, and validity. Requirements: SOC:6170 or graduate standing.
- SOC:5165 Race, Class, and Gender Inequalities in Education** 3 s.h.  
Role of ascribed characteristics (e.g., race, class, gender) on educational opportunities and outcomes; achievement gaps, school desegregation, social and cultural capital, peer influence, family attributes, neighborhood influence, influence of significant others, course-taking patterns, and educational destinations. Same as EPLS:5131.
- SOC:5250 Graduate Writing** 3 s.h.  
Students improve their skills in academic writing and publication; how to write abstracts and project summaries; preparation of articles for submission to professional journals; creation of grant proposals.
- SOC:5310 Gender Theory** 3 s.h.  
Introduction to sociological analysis of gender; multiple ways that gender patterns the social world in which we live; predominant theoretical stances related to study of gender; how gender structures everyday social interaction; how social institutions (e.g., work, family) give rise to and recreate gendered meanings, expectations, structures; possibilities for interventions and change to gender system.
- SOC:5510 Sociology of Health** 3 s.h.  
Overview of relevant theories and related research in sociology of health field; topics related to social construction of health and its historical variation; focus on social determinants of health including social stressors, labeling processes, cross-cultural differences, and epigenetics or social genomics.

- SOC:5680 Sociology of Higher Education** 3 s.h.  
Sociological approach to study of higher education; issues of inequality and stratification in higher education; focus on relationship between higher education and larger economic and demographic processes; college access, college destinations, attainment, and returns to a college degree. Same as EPLS:5142.
- SOC:5810 Education and Social Change** 2-3 s.h.  
Role of educational institutions, in connection with political and economic structures, in the process of social change; illumination of theories of social change through case studies of educational systems in both less-developed and industrialized nations. Same as EPLS:5210.
- SOC:6080 Master's Thesis** arr.
- SOC:6110 Theory Construction and Analysis** 3 s.h.  
Contemporary theoretical issues and nature of theory, theory's place in research, strategies of theory construction. Requirements: sociology graduate standing.
- SOC:6140 Seminar: Selected Topics in Sociological Theory** 3 s.h.
- SOC:6170 Introduction to Sociological Data Analysis** 3 s.h.  
Statistical measures for descriptive methods and association; logic of statistical inference, hypothesis testing; background essential to understanding linear models, models for categorical data analysis. Requirements: introductory statistics.
- SOC:6175 Qualitative Methods** 3 s.h.  
Logic of qualitative research; basic skills necessary for a qualitative research project. Requirements: sociology graduate standing.
- SOC:6180 Linear Models in Sociological Research** 3 s.h.  
Statistical techniques associated with general linear model; emphasis on multiple regression, its generalizations; corresponding computer programs. Requirements: SOC:6170 or graduate standing.
- SOC:6210 Contemporary Approaches to Social Psychology** 3 s.h.  
Review and critical analysis of current theoretical approaches and systems of social psychological analysis. Recommendations: sociology graduate standing.
- SOC:6220 Seminar: Selected Topics in Social Psychology** 3 s.h.  
Selected theoretical and methodological issues.
- SOC:6264 Post-Industrial Cities** 3 s.h.  
Aspects of urban inequality in post-industrial cities; racial inequality, urban poverty, neighborhood inequality, and municipal bankruptcy.
- SOC:6310 Gender Stratification Seminar** 3 s.h.  
Occupational gender segregation; gender gap in pay; role of family caregiving in women's lower pay; evaluation of caregiving work; comparable work.
- SOC:6320 Sociology of Religion** 3 s.h.  
Introduction to the sociological perspective for studying religion; examination of sociological, historical, anthropological, social psychological, and political impacts of religion on social behavior to understand the complex relation between religious institutions and other social systems; exploration of works by classical sociological theorists, as well as contemporary theories and empirical research that describe, explain, and perhaps predict religious behavior; materials focus on religion in the United States; students who wish to use a cross-cultural perspective in discussions and papers are encouraged to do so.
- SOC:6410 Seminar: Criminological Theories** 3 s.h.  
Theories of crime causation and their relationships to the cultures in which they have functioned.
- SOC:6420 Seminar: Selected Topics in Deviance and Control** 3 s.h.  
Critical analysis of current research; emphasis on theoretical contributions and methodological foundations.
- SOC:6440 Crime and Health in the Life Course** 3 s.h.  
Patterns of physical and mental health, and deviant and criminal behavior across the life course; focus on intersection between health and deviance and crime; topics incorporate research from evolutionary biology, psychology, criminology, and public health; themes include policy, developmental context, social change, and population health.
- SOC:6450 Seminar: Comparative Criminology** 3 s.h.  
Survey of theoretical and empirical literature on crime across nations with primary focus on homicide; exploration of why we even bother to study crime across nations, how crime is measured at cross-national level; where to find cross-national crime data; whether source matter for crime data across nations matters; discussion and evaluation of theoretical and empirical explanations for why some nations have more/less crime than others.
- SOC:6550 Environment and Society** 3 s.h.  
Examination of research at the intersection of society and environment; theories of environmental sociology, politics, and corporate social responsibility; opportunity to develop an understanding of complex relationships between human prosperity and natural environment; development of a micro-, meso-, or macro-level research project (e.g., determinants of environmental attitudes and behaviors, adoption of clean technologies by organizations, outcomes of environmental activism, diffusion of national environmental policies).
- SOC:6610 Complex Organizations** 3 s.h.
- SOC:6740 Racial Inequality** 3 s.h.  
Historical and contemporary overview of race scholarship with primary focus on the United States; students track the evolution of race scholarship from Du Bois and the Chicago School to contemporary theories on racial formations, systemic racism, color-blind racism, and critical race theory.
- SOC:6750 Race and Crime** 3 s.h.  
Relationships among race/ethnicity, crime, and the justice system through rigorous engagement with empirical research and data; emphasis on historical evolution of major branches of the justice system; sociological and criminological theories that predict racial/ethnic variation in crime and victimization; sociological, economic, and political reasons behind racial disparities in the justice system.
- SOC:6810 Social Stratification** 3 s.h.  
Classical and contemporary theories; current research on the causes and magnitude of inequality in economics, power, and prestige; social mobility; critical issues in stratification.

**SOC:7010 Teaching Sociology 2-3 s.h.**

Supervised preparation for teaching sociology courses; literature on teaching; course objectives, alternative teaching techniques; preparation of course syllabus, lectures, discussions, exams.

**SOC:7030 Readings and Research Tutorial arr.****SOC:7090 Ph.D. Dissertation arr.****SOC:7170 Advanced Statistical Modeling of Data 3 s.h.**

Models for analysis of categorical data, including loglinear, logit, related discrete data models. Requirements: advanced graduate standing.

**SOC:7175 Social Science Research: Big Data 3 s.h.**

New opportunities and challenges faced by social science research with the advent of technologies that collect, store, and analyze massive human digital traces; data collection, manipulation, and curation skills; survey of computational methods commonly used in computational social science; different from other big data courses in connecting new data sources to theory-focused social science; emphasis on how to ask research questions informed by data and how to design analytical strategies to answer those questions. Prerequisites: SOC:6170 and SOC:6180.

**SOC:7180 Structural Equation Modeling 3 s.h.**

Overview of structural equation models (SEMs), also known as LISREL models, covariance structure models; specific types of SEMs, such as simultaneous equations and confirmatory factor analysis; intermediate topics.

**SOC:7270 Scholarly Professionalism and Integrity I 2 s.h.**

General introduction to department and discipline for entering graduate students; departmental and graduate college requirements, program and career planning, interaction with faculty members, consideration of student interests and concerns; two semesters beginning in fall. Requirements: sociology graduate standing.

**SOC:7271 Scholarly Professionalism and Integrity II 2 s.h.**

General introduction to department and discipline for entering graduate students; departmental and graduate college requirements, program and career planning, interaction with faculty members, consideration of student interests and concerns. Requirements: sociology graduate standing.

**SOC:7410 Communities and Crime 3 s.h.**

Distribution of crime as rooted in community-level conditions such as concentrated affluence or poverty, racial residential segregation, unemployment, family disruption, and immigration. Requirements: sociology graduate standing.

**SOC:7460 Sociology of Law Seminar 3 s.h.**

Relationship between law and society explored through writings and research of classical and contemporary sociologists and legal scholars. Requirements: sociology graduate standing.

**SOC:7500 Seminar: Topics in Political Sociology 3 s.h.**

Overview of current research in political sociology; topics related to inequality, citizenship, social change, institutions, social movements, political regimes, and globalization; survey of multiple methodological and theoretical approaches.

**SOC:7620 Social Networks: Theory and Sociological Applications 3 s.h.**

Relational, data-oriented approach to representing linkages or relationships among social units, and to examine the relevance of these social structures in social processes. Requirements: basic multiple regression.

**SOC:7820 Seminar: Selected Topics in Social Stratification 3 s.h.**

Requirements: social science graduate standing.

## Criminology, Law and Justice Courses

**CRIM:1000 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**CRIM:1410 Introduction to Criminology 3 s.h.**

Nature and causes of crime; the criminal justice process, correctional treatment, crime prevention. GE: Social Sciences.

**CRIM:1447 Introduction to the Criminal Justice System 3 s.h.**

Organization and function of criminal justice system in the United States; history, organization, and current practices of policing, criminal courts, and correctional system; sociological and criminological research on major subsystems comprising criminal justice systems.

**CRIM:2210 Iowa Criminal Justice Policy and Reform 3 s.h.**

Introduction to contemporary discussions of policy and reform across all stages of criminal justice system including policing, pretrial detention, sentencing, incarceration, and reentry; current practices and policies; development of applied skills in policy analysis and communication; course material extends beyond policies for crime reduction and considers policies geared towards other outcomes (i.e., reducing inequalities and racial disparities in the criminal justice system); exploration of criminal justice policies through an Iowa lens at state and local levels. Same as CSI:2210.

**CRIM:2430 Comparative Criminal Justice Systems 3 s.h.**

Criminal justice systems around the world; similarities and differences in how justice is defined and operationalized in contemporary legal traditions in terms of police, courts, and corrections examined in light of cultural norms and values; emphasis on link between societal characteristics and legal traditions; differences in defendant rights guaranteed under various legal traditions.

**CRIM:2440 Student Practicum in Policing 3 s.h.**

Practical application of criminal justice knowledge with physical demonstrations and hands-on exercises; physical participation includes defensive tactics, firearms instruction, and violent intruder training; students journal about student police academy topics and present to faculty. Prerequisites: CRIM:1410 or CRIM:1447. Requirements: background check.

**CRIM:2460 Policing in Modern Society 3 s.h.**

History, theory, and practice of policing; exploring the link between officer decision making and department expectations; policing subculture; ethical considerations officers face; policing administration; policing/community interaction; legal issues affecting policing practice; contemporary developments in policing emergent crime types.

**CRIM:2470 Research Methods in Criminology and Criminal Justice 3 s.h.**

Introduction to social science research methods in the fields of criminology and criminal justice; techniques necessary for systematic analysis of research questions and program effectiveness; critical evaluation of existing empirical research and sources of criminal justice data; assessment of data quality. Prerequisites: (STAT:1020 or STAT:1030 or SOC:2160 or STAT:2010 or STAT:3510 or PSQF:4143) and (CRIM:1410 or CRIM:1447).

**CRIM:2901 Special Topics in Criminology, Law, and Justice 3 s.h.**

Varied topics in criminology, criminal legal system, gender and violence, global criminology.

**CRIM:3110 Communities and Crime 3 s.h.**

Why do some neighborhoods have more crime than others? Why do some neighborhoods see increasing rates of crime over time, while others seemingly do not? Although many crime events occur among individuals, scholars have long noted that crime events tend to cluster in neighborhoods and places where people live; students consider explanations for why this spatial patterning occurs; research methods that have been used to learn about crime in spatial context, classic and contemporary studies of this issue, and approaches to crime prevention that involve focusing on neighborhood or place, rather than simply on individuals. Prerequisites: CRIM:1410 or CRIM:1447.

**CRIM:3250 Drugs, Deviance, and Social Control 3 s.h.**

Introduction to social reality of drug use, drug users, and attempts to control drug behavior; exploration of relationship to crime and deviance, medicalization, and movements aimed at drugs.

**CRIM:3260 Immigration and Crime 3 s.h.**

Students are provided with a solid foundation to understanding key issues in immigration-crime debates; central to this is a critical examination of historical trends in immigration and its relationship to crime, media portrayal of immigration and its impact on public sentiment, relationship between immigration and crime at individual and aggregate levels, emergence of crimmigration—or blurring of immigration and criminal justice policies since the 1980s, and social impact of immigration policies including those that relate to deportation and militarization of U.S. borders.

**CRIM:3350 Life Course Criminology 3 s.h.**

How crime and antisocial behavior develop across the life span from birth onward, and how criminologists utilize methods and concepts of the life course perspective to examine systematic patterns of crime; focus on genetic predispositions, family environments, and biological mechanisms; patterns common to adolescence with considerations of peer settings, community processes, romantic involvement, and school context; examination of the transition to adulthood with emphasis on importance of social institutions, human agency, social change, and relevance of incarceration and criminal justice intervention for offending patterns.

**CRIM:3415 Global Criminology 3 s.h.**

Crime and the control of crime at the transnational and sub-national levels of analysis; focus on non-U.S. societies; consequences of economic, political, and cultural globalization.

**CRIM:3416 Race, Crime, and Justice 3 s.h.**

Extent and nature of racial disparities in offending and victimization; interpretation of patterns using various theoretical approaches; examination of race inequalities across many stages of criminal justice process.

**CRIM:3417 Community Corrections 3 s.h.**

Community corrections; probation, parole, intermediate sanctions (boot camps, intensive supervision, electronic monitoring); contemporary issues in community supervision of offenders.

**CRIM:3420 Juvenile Delinquency 3 s.h.**

Theories of juvenile delinquency; individual, neighborhood, and societal explanations of delinquency; research on families, schools, peers, neighborhoods, gangs, and delinquency.

**CRIM:3425 Women, Crime, and Justice 3 s.h.**

Overview of women's experiences with crime and criminal justice system, with reference to experiences of men for purposes of comparison; role of race, ethnicity, and poverty in women's experiences; causes of crime, inequalities in police-citizen interactions, imprisonment, and other aspects of criminal justice system experience. Same as GWSS:3425.

**CRIM:3437 American Crime 3 s.h.**

Prevailing issues in criminology; extent and nature of disparities in offending and victimization, interpretation of patterns using various theoretical approaches; evaluation of crime-control policies. Prerequisites: CRIM:1410 or CRIM:4430 or CRIM:3420.

**CRIM:3450 Criminal Legal System 3 s.h.**

Discretionary decision making in U.S. criminal courts from arrest through sentencing; legal and sociological issues relevant to each stage of felony adjudication; sociological and social-psychological theories of decision making in adjudication, empirical research testing these theories.

**CRIM:3600 Crime and Public Policy 3 s.h.**

Policies having to do with crime, delinquency, or deviance are often heavily debated; examination of certain crime-related policies including the theories that motivate them, research methods and design used to evaluate them, and prior studies that investigate whether they do, in fact, accomplish stated goals; students engage with a diversity of topics and policies including those dealing with individuals, groups, criminal justice institutions, geographic areas, and more. Prerequisites: CRIM:1410.

**CRIM:4120 Environmental Criminology 3 s.h.**

Macro-criminological theories tend to focus on sociodemographic correlates of crime (e.g., poverty), the basic question asked in environmental criminology is how does the built environment (e.g., roads, buildings, tourist destinations, etc.) shape where and when crime occurs? Students gain a more sophisticated understanding of spatial-temporal patterns of crime as opposed to garden variety application of peoples' routine activities; topics include seasonality and time of day, near repeat victimization, ambient population, geometry of crime, and offenders' journey to crime. Prerequisites: CRIM:1410.

**CRIM:4300 Gender and Violence 3 s.h.**

Focus on gendered violence, including violence against women and members of LGBTQ+ communities; relationship between masculinities and violence; ways in which gender, race, ethnicity, age, and social class combine to explain gendered violence; theories and empirical research.

**CRIM:4400 Internship in Criminal Justice and Corrections****3 s.h.**

Supervised fieldwork in a criminal justice or correctional agency. Prerequisites: (CRIM:1410 or CRIM:1447) and (CRIM:2430 or CRIM:2460 or CRIM:2901 or CRIM:3415 or CRIM:3416 or CRIM:3417 or CRIM:3420 or CRIM:3437 or CRIM:3450 or CRIM:4420 or CRIM:4430 or CRIM:4450 or CRIM:4460 or CRIM:4901). Requirements: criminology, law and justice major or minor, and junior standing.

**CRIM:4410 Treatment Interventions in Corrections****3 s.h.**

Introduction to treatment interventions utilized in the criminal justice system that target some of the special populations seen within the system as a whole; specific populations may include mental health, substance abuse, sex offenders, and domestic violence; emphasis on evidence-based practices and successful program outcomes with focus on identification and discussion of ethical issues and concerns that arise when providing specialized services to this population, as well as the sometimes difficult mixture of treatment and safety/security. Prerequisites: CRIM:1410 or CRIM:1447. Requirements: junior, senior, or graduate standing.

**CRIM:4420 Criminal Punishment****3 s.h.**

Sociological theories and research on criminal punishment; classical and contemporary theories; research on imprisonment and capital punishment.

**CRIM:4430 Interpersonal Violence in Society****3 s.h.**

Extent and nature of interpersonal violence in societies, in general and for specific population subgroups; theoretical explanations for the phenomenon; alternative ways of defining and responding to violence across various social contexts; application of scientific method; relevant literatures from multiple disciplines including sociology, anthropology, criminology, psychology, and behavioral economics; types of violence defined as illegal and those which are deviant but not illegal.

**CRIM:4440 Sociology of White-Collar Crime****3 s.h.**

Critical perspectives on causes and consequences of white-collar crime; definitions and types; criminological, social-psychological, and rational-choice theories; political and economic causes of white-collar crime under capitalism and socialism; rates and patterns of white-collar criminality across different social groups (defined by racial, ethnic, class, and gender attributes); control, prevention, and criminal justice response.

**CRIM:4450 Juvenile Justice: A Sociological Perspective****3 s.h.**

Examination of social, historical, and legal foundations of juvenile justice system in the United States; adjudication processes in juvenile justice, transfer of juveniles to criminal court, contemporary juvenile court, community-based corrections programs, legalities of juvenile system; current and future directions in juvenile justice.

**CRIM:4460 Sociology of Law****3 s.h.**

Conceptual, historical, and theoretical issues of law and operation of the criminal justice system; theory and research on law and the criminal justice system.

**CRIM:4680 Corruption: The Social Scientific Perspectives****3 s.h.**

Social scientists and policy makers alike recognize corruption as an obstacle to economic development, democratic governance, and human rights around the world; students survey recent research from sociology, criminology, political science, and anthropology that addresses causes and consequences of corruption; why individuals engage in corrupt behavior, how organizations affect patterns of corrupt transactions, and how rates of corruption impact and are impacted by political regimes; consequences that corruption has for social inequality, civic mobilization, lives of women and immigrants, and stability of autocratic governments. Same as SOC:4680.

**CRIM:4800 Research Practicum in Criminology****3 s.h.**

Students engage in a criminology research activity that is not related to an honors project, conducted under the supervision of (or in collaboration with) a faculty member.

**CRIM:4901 Advanced Topics in Criminology, Law, and Justice****3 s.h.**

Varied advanced topics in criminology, criminal legal system, gender and violence, global criminology.

**CRIM:4930 Teaching Internship****1-3 s.h.**

Students gain teaching experience by providing supervised support for instructors in introductory-level courses in criminology. Requirements: criminology undergraduate teaching aide appointment.

**CRIM:4990 Directed Individual Study****1-3 s.h.**

Students pursue interests not covered in other courses.

**CRIM:4998 Honors Research****arr.**

Honors research projects under faculty supervision.

# Sociology, B.A.

A bachelor's degree with a major in sociology provides a liberal arts and sciences education. Sociology provides a broad foundation for a number of careers that require a deep understanding of human interactions and behaviors. Though broad in scope, sociology can be broken down into many marketable specializations, including these at the University of Iowa: family and health services, human relations and business, social psychology, and social and political organization.

The department has an active undergraduate organization, the Sociology and Criminology Club, which is open to all interested students. The student-run group sponsors speakers, films, and career days; conducts study groups; and facilitates group volunteerism.

## Learning Outcomes

Students majoring in sociology will be able to:

- identify how sociological concepts and theories relate to everyday life,
- use a critical lens to better understand human behavior and societies,
- articulate the importance of evidence and scientific methods for explanations of social phenomena,
- identify the characteristics of high quality data and methods in sociological research,
- identify disciplinary standards for both the qualitative and quantitative analysis of data, and
- use their sociological knowledge and skills to engage with and impact the world around them.

## Requirements

The Bachelor of Arts with a major in sociology requires a minimum of 120 s.h., including at least 36 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must earn at least 18 s.h. in sociology coursework at the University of Iowa; transfer courses must be approved by a sociology advisor.

The major offers two optional tracks for students with an interest in one of the following concentrations: family and health services, or human relations and business.

Requirements for the major are similar for the Bachelor of Arts and the Bachelor of Science, except B.A. students take 3-4 s.h. of statistics, a theory course, and a methods course, while B.S. students take 9 s.h. of advanced statistics and three theory and methods courses.

Choice of a degree program should be dictated by a student's personal career goals. Though not required, students interested in pursuing a graduate program may find the additional math and methods courses helpful.

Students who earn the major in sociology can earn the major in criminology, law and justice. No more than 9 s.h. of major coursework can count toward each of the majors. Students who earn both majors may not complete a minor in either area.

Students who earn the major in sociology may earn a minor in criminology, law and justice. No more than 3 s.h. can count toward both the major and minor.

Students who earn the major in sociology may not earn the sociology minor.

In planning to complete the major, students must take courses in the proper sequence. Introduction to Sociology (SOC:1010) is a prerequisite for all required core theory and methods courses. Statistics is a prerequisite for the more advanced methods course. These introductory courses lay the foundation for all other work in the major. The recommended sequence for the major's core requirements is SOC:1010, SOC:2130 Sociological Theory, an approved statistics course, and SOC:2170 Research Methods. See the Four-Year Graduation Plan under Academic Plans [p. 1081] in this section of the Catalog.

The B.A. with a major in sociology requires the following work.

Code	Title	Hours
	Introductory Sociology Course	3-4
	Theory, Statistics, and Methods Courses	9-10
	Electives	21
	Capstone Course	3
	Graduation Portfolio	0
<b>Total Hours</b>		<b>36-38</b>

## Introductory Sociology

Code	Title	Hours
This course:		
SOC:1010	Introduction to Sociology	3-4

## Theory, Statistics, and Methods

Code	Title	Hours
Both of these (completed as soon as possible):		
SOC:2130	Sociological Theory	3
SOC:2170	Research Methods	3
One of these (completed as soon as possible):		
SOC:2160	Applied Statistics for Social Scientists	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Electives

Students complete 21 s.h. of elective coursework in sociology (prefix SOC). Four of the required electives must be advanced, chosen from sociology courses numbered 3000-4903, SOC:4920 Social Services Organization Internship, or SOC:4998 Honors Research. Two of the four advanced required electives must be taken after (and not concurrent with) the completion of SOC:2130 Sociological Theory, SOC:2170 Research Methods, and an additional approved course from the Theory, Statistics, and Methods list above. Students can use two criminology, law and justice courses (prefix CRIM) toward the electives requirement. With

permission, students may use graduate courses in sociology numbered 5000 or above to satisfy the electives requirement.

The following courses may not be used as electives.

Code	Title	Hours
SOC:1000	First-Year Seminar	1-2
SOC:4800	Research Practicum in Sociology	3
SOC:4910	Capstone Course in Sociology and Criminology	3
SOC:4930	Teaching Internship	3
SOC:4990	Directed Individual Study	arr.
SOC:4997	Honors Seminar	1

## Capstone Course

All students complete a capstone course, which illustrates their accomplishments and includes assembling a portfolio. Students may take it as early as spring of their junior year, as long as they have completed SOC:2130 Sociological Theory, SOC:2170 Research Methods, and an additional approved course from the Theory, Statistics, and Methods list.

Code	Title	Hours
One of these:		
SOC:4800	Research Practicum in Sociology	3
SOC:4910	Capstone Course in Sociology and Criminology	3
SOC:4920	Social Services Organization Internship	3

## Graduation Portfolio

During their last semester, all students enroll in the following course, in which they submit the portfolio they assembled in the capstone course.

Code	Title	Hours
SOC:4909	Graduation Portfolio	0

## Tracks

### Family and Health Services Track

The family and health services track requires a minimum of 15 s.h. of credit, including 12 s.h. of coursework taken at the University of Iowa. It is open to sociology majors who are interested in understanding family structures and practices, differences between and within families, and those social institutions and forces that shape families or are shaped by them. Additionally, the track cultivates students' understanding of the social context of health, illness, and health care. It is especially well suited for students who are interested in pursuing careers in the fields of social service and health.

Students must satisfy all requirements for the sociology major. They may count courses taken for the track as sociology electives for the major.

The family and health services track requires the following coursework.

### Required Courses

Code	Title	Hours
6 s.h. from these:		
SOC:1310	Gender and Society	3

SOC:2710	The American Family	3
SOC:3510	Medical Sociology	3

## Electives

Code	Title	Hours
9 s.h. from these:		
SOC:2064	African American Families: Urban and Suburban	3
SOC:2810	Social Inequality	3
SOC:3220	Sociology of Mental Illness	3
SOC:3171	Drugs and Society	3
SOC:3750	Born in the USA: Fertility and Reproduction	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4820	Sociology of Sexuality	3
SOC:4902	Selected Topics in Family, Health, and Well-Being	3
CRIM:3420	Juvenile Delinquency	3
CRIM:4430	Interpersonal Violence in Society	3

Or select electives from these graduate courses, with approval of instructor:

SOC:6220	Seminar: Selected Topics in Social Psychology (when topic is life course)	3
SOC:6310	Gender Stratification Seminar	3

Students also may choose the remaining required course as an elective

## Human Relations and Business Track

The human relations and business track requires a minimum of 15 s.h. of credit, including 12 s.h. of coursework taken at the University of Iowa. It is open to sociology majors who are interested in understanding the macro- and micro-level processes that affect the ability to understand and manage organizations, as well as the groups and individuals that compose them. The track provides intensive training in both theoretical and empirical approaches to organizations, and combines micro-level insights into work groups with macro-level perspectives on the influence of organizations' environments. It is especially well suited for students who are interested in pursuing careers in various services-providing sectors such as business services, educational services, social assistance, or government.

Students must satisfy all requirements for the sociology major. They may count courses taken for the track as sociology electives for the major.

The human relations and business track requires the following coursework.

### Required Courses

Code	Title	Hours
6 s.h. from these:		
SOC:3610	Organizations and Modern Society	3
SOC:3880	The Sociology of Networks	3
SOC:4225	The Social Psychology of Leadership	3

## Electives

Code	Title	Hours
9 s.h. from these:		
SOC:2810	Social Inequality	3
SOC:3110	Race, Organizations, and Workplace	3
SOC:3530	Social Psychology of Small Groups	3
SOC:3650	Education, Schools, and Society	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4540	Political Sociology and Social Movements	3
SOC:4903	Selected Topics in Organizations, Networks, and Careers	3
CRIM:4440	Sociology of White-Collar Crime	3
Or select electives from these graduate courses, with approval of instructor:		
SOC:6610	Complex Organizations	3
SOC:7620	Social Networks: Theory and Sociological Applications	3
SOC:7820	Seminar: Selected Topics in Social Stratification (when topic is social capital)	3

## Emphasis Areas

The following elective courses are grouped by emphasis for students who may want to cluster their electives according to one of the following areas of interest. The emphasis area courses are not tracks. See Courses [p. 1070] in this section of the Catalog for a complete listing of sociology courses.

### Social Psychology

Code	Title	Hours
SOC:1220	Principles of Social Psychology	3
SOC:3220	Sociology of Mental Illness	3
SOC:3530	Social Psychology of Small Groups	3
SOC:4225	The Social Psychology of Leadership	3
SOC:4230	Sociology of Self-Improvement	3

### Social and Political Organization

Code	Title	Hours
SOC:2810	Social Inequality	3
SOC:2830	Race and Ethnicity	3
SOC:3610	Organizations and Modern Society	3
SOC:3650	Education, Schools, and Society	3
SOC:3880	The Sociology of Networks	3
SOC:4820	Sociology of Sexuality	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33 in all University of Iowa courses and in all sociology courses. In order to graduate with honors in sociology, the following coursework must be completed.

Code	Title	Hours
SOC:4997	Honors Seminar	1
SOC:4998	Honors Research (honors thesis)	2-3

The honors thesis is prepared under faculty supervision. It gives students the opportunity to conduct sociological research in close consultation with a faculty member of the student's choice.

Honors students also must take at least one sociology course numbered 3000 or above with honors designation, including graduate courses (honors designation requires instructor approval). Learn more about honors in the major and honors courses on the University of Iowa Honors Program website.

### National Honor Society

The department sponsors a chapter of Alpha Kappa Delta International Sociology Honor Society. Students who have a cumulative g.p.a. of 3.30, a sociology g.p.a. of at least 3.00 (with four sociology courses), and have attained junior or higher standing are considered for membership. Consult the Alpha Kappa Delta faculty advisor for details.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the sociology major.

## Career Advancement

The major provides background for employment in fields such as human services, criminal justice, corrections, sales, public relations, advertising, personnel, applied social research, community organization, and teaching social science in secondary schools. It also offers an integrated package of courses, research training, writing enhancement, international perspective, and internships to provide graduates with impressive credentials.



The sociology degree provides a foundation for graduate or professional study in social work, urban planning, law, criminal justice, social policy, and similar areas. Finally, the major prepares students to work toward advanced degrees in sociology, which qualify them for college or university teaching and work in academic, private, and governmental research or organizations.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Sequencing of coursework is important in meeting the four-year plan.

**Before the fifth semester begins:** SOC:1010 Introduction to Sociology or equivalent, and one sociology elective.

**Before the seventh semester begins:** SOC:2130 Sociological Theory, a required statistics course, one more sociology elective, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** SOC:2170 Research Methods and one more sociology elective.

**During the eighth semester:** enrollment in all remaining coursework in the major, including a capstone course, SOC:4909 Graduation Portfolio, and the last two sociology electives; all remaining GE CLAS Core courses; and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Sociology, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>First Year</b>		
<b>Fall</b>		
SOC:1010	Introduction to Sociology <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: sociology elective/track course <sup>e</sup>		3

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>

#### Second Year

##### Fall

SOC:2130	Sociological Theory	3
Major: sociology elective/track course <sup>e</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>

##### Spring

Major: introductory statistics course - STAT:1020 Elementary Statistics and Inference recommended <sup>b</sup>		3
Major: sociology elective/track course <sup>e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		1
<b>Hours</b>		<b>14-15</b>

#### Third Year

##### Fall

SOC:2170	Research Methods	3
Major: upper-level sociology elective/track course <sup>g</sup>		3
GE CLAS Core: Values and Culture <sup>f</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

##### Spring

Major: capstone course <sup>h</sup>		3
Major: upper-level sociology elective/track course <sup>g</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

#### Fourth Year

##### Fall

Major: upper-level sociology elective/track course <sup>g</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>f</sup>		3
GE CLAS Core: Historical Perspectives <sup>f</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

##### Spring

SOC:4909	Graduation Portfolio	0
Major: upper-level sociology elective/track course <sup>g</sup>		3
GE CLAS Core: International and Global Issues <sup>f</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>120-126</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e Students have the option to choose one of two tracks in the major: family and health services, or human relations and business.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Upper-level sociology courses (prefix SOC) are numbered 3000 or above. Two of the upper-level electives must be taken after (and not concurrent with) the completion of SOC:2130, SOC:2170, and an approved introductory statistics course.
- h May be taken as early as spring of the junior year, as long as students have completed SOC:2130, SOC:2170, and one of the approved statistics courses.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Criminology, Law and Justice, B.A.

The criminology, law and justice major examines issues related to race and ethnic diversity, gender, and poverty, heightening awareness of these important topics. Students learn about sociological explanations for crime and criminal justice; the operation of law and the criminal justice system, including their complex interplay with other institutions, such as the economy and politics; and important data sources on crime in the United States and internationally.

The criminology, law and justice coursework required for the major is the same for B.A. and B.S. students, but the major for the B.S. includes additional semester hours in theory, statistics, and methods courses.

The department has an active undergraduate organization, the Sociology and Criminology Club, which is open to all interested students. The student-run group sponsors speakers, films, and career days; conducts study groups; and facilitates group volunteerism.

## Learning Outcomes

Students will be able to:

- recognize the causes and consequences of crime at the micro and macro levels and match these with prominent criminological perspectives;
- describe the interrelated institutions and processes of the criminal justice system and legal systems;
- apply theories of crime, legal systems, and criminal justice systems to explain actual and hypothetical scenarios, behaviors, and trends;
- understand the role of formal law in advanced democracies;
- explain the various social science methods of inquiry and use these to test specific criminological research questions;
- recognize and explain social inequities in crime and criminal justice processes by race, social class, gender, region, and age; and
- evaluate the effectiveness of policy interventions for altering social behavior, including those deemed illegal or harmful.

## Requirements

The Bachelor of Arts with a major in criminology, law and justice requires a minimum of 120 s.h., including at least 39 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must earn at least 24 s.h. in criminology, law and justice coursework at the University of Iowa; transfer courses must be approved by a sociology advisor.

Requirements for the major are similar for the Bachelor of Arts and the Bachelor of Science. B.A. students take a minimum of 39 s.h. of coursework for the major, while B.S. students take a minimum of 48 s.h. which includes additional theory, statistics, and methods courses.

Students who earn the major in criminology, law and justice can earn the major in sociology. No more than 9 s.h. of major

coursework can count toward each of the majors. Students who earn both majors may not complete a minor in either area.

Students who earn the major in criminology, law and justice may earn a minor in sociology. No more than 3 s.h. can count toward both the major and minor.

Students who earn the major in criminology, law and justice may not earn the criminology, law and justice minor.

Courses listed in more than one area may only be used toward one requirement.

The B.A. with a major in criminology, law and justice requires the following coursework.

Code	Title	Hours
Introductory Courses		6-7
Theory, Statistics, and Methods Courses		9-10
Upper-Level Sociology Requirement		3
Electives		18
Capstone Course		3
Graduation Portfolio Course		0
<b>Total Hours</b>		<b>39-41</b>

## Introductory Courses

Code	Title	Hours
Two of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
SOC:1010	Introduction to Sociology	3-4
or SOC:1030	Contemporary Social Problems	

## Theory, Statistics, and Methods

Students should complete SOC:2130, and either CRIM:2470 or SOC:2170 as soon as possible.

Code	Title	Hours
This course (completed as soon as possible):		
SOC:2130	Sociological Theory	3
One of these (completed as soon as possible):		
CRIM:2470	Research Methods in Criminology and Criminal Justice	3
SOC:2170	Research Methods	3
One of these (completed as soon as possible):		
SOC:2160	Applied Statistics for Social Scientists	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
STAT:2010	Statistical Methods and Computing	3
STAT:3510/ IGPI:3510	Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Upper-Level Sociology Requirement

Code	Title	Hours
3 s.h. from these:		
SOC:2064	African American Families: Urban and Suburban	3
SOC:2710	The American Family	3
SOC:2770	Black and White Community Politics	3
SOC:2810	Social Inequality	3
SOC:2830	Race and Ethnicity	3
SOC:3100	Critical Race Theory: Culture, Power, and Society	3
SOC:3171	Drugs and Society	3
SOC:3220	Sociology of Mental Illness	3
SOC:3510	Medical Sociology	3
SOC:3530	Social Psychology of Small Groups	3
SOC:3610	Organizations and Modern Society	3
SOC:3630	The Racial Wealth Gap: Black Debt, White Debt	3
SOC:3650	Education, Schools, and Society	3
SOC:3750	Born in the USA: Fertility and Reproduction	3
SOC:3880	The Sociology of Networks	3
SOC:4000	Data Science for Social Good	3
SOC:4200	Sociology of Religion	3
SOC:4225	The Social Psychology of Leadership	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4540	Political Sociology and Social Movements	3
SOC:4680	Corruption: The Social Scientific Perspectives	3
SOC:4820	Sociology of Sexuality	3

## Electives

Students complete 18 s.h. of elective coursework in criminology, law and justice (prefix CRIM). Four of the required electives must be advanced, chosen from criminology, law and justice courses numbered 3000-4901 or CRIM:4998 Honors Research. Two of the four advanced electives must be taken after (and not concurrent with) the completion of SOC:2130 Sociological Theory, CRIM:2470 Research Methods in Criminology and Criminal Justice or SOC:2170 Research Methods, and an additional approved course from the Theory, Statistics, and Methods list above. With permission, students may use graduate courses in sociology (prefix SOC) numbered 5000 or above to satisfy the electives requirement.

Code	Title	Hours
18 s.h. from these:		
CRIM:2210	Iowa Criminal Justice Policy and Reform	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3

CRIM:2901	Special Topics in Criminology, Law, and Justice	3
CRIM:3110	Communities and Crime	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:3260	Immigration and Crime	3
CRIM:3350	Life Course Criminology	3
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3425	Women, Crime, and Justice	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:3600	Crime and Public Policy	3
CRIM:4120	Environmental Criminology	3
CRIM:4300	Gender and Violence	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
CRIM:4680	Corruption: The Social Scientific Perspectives	3
CRIM:4901	Advanced Topics in Criminology, Law, and Justice	3
CRIM:4998	Honors Research	1-3
Students may apply one of the following 3 s.h. courses toward the elective requirement:		
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4410	Treatment Interventions in Corrections	3

## Capstone Course

All students complete a capstone course, which illustrates their accomplishments and includes assembling a portfolio. Students generally take the course during their last two semesters of coursework for the major, as long as they have completed an approved statistics course; CRIM:2470 Research Methods in Criminology and Criminal Justice or SOC:2170 Research Methods; one of the introductory courses in criminology, law and justice; SOC:2130 Sociological Theory; and at least 6 s.h. of electives.

Code	Title	Hours
One of these:		
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4800	Research Practicum in Criminology	3
SOC:4910	Capstone Course in Sociology and Criminology	3

## Graduation Portfolio

During their last semester, all students must enroll in the following course, in which they submit the portfolio they assembled in the capstone course.

Code	Title	Hours
SOC:4909	Graduation Portfolio	0

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33 in all University of Iowa courses and in all criminology, law and justice courses. In order to graduate with honors, the following coursework must be completed.

Code	Title	Hours
CRIM:4998	Honors Research	1-3
SOC:4997	Honors Seminar (taken spring of junior year)	1

The honors thesis is prepared under faculty supervision. It gives students the opportunity to conduct research in close consultation with a faculty member of the student's choice.

Honors students also must take at least one criminology, law and justice course numbered 3000 or above with honors designation, including graduate courses (honors designation requires instructor approval). Learn more about honors in the major and honors courses on the University of Iowa Honors Program website.

### National Honor Program Society

The department sponsors a chapter of Alpha Phi Sigma Criminal Justice Honor Society. Students who have a cumulative g.p.a. of 3.30, a criminology, law and justice g.p.a. of at least 3.00 (with four criminology courses), and have attained junior or higher standing are considered for membership. Consult the Alpha Phi Sigma faculty advisor for details.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the criminology, law and justice major.

## Career Advancement

The major in criminology, law and justice provides a foundation for graduate or professional study in criminology, criminal justice, sociology, psychology, law, social work, urban planning, social policy, and similar areas. The major pairs well with majors in other disciplines, such as psychology and social work, and affords students a competitive edge when applying to graduate school in forensic psychology or social work with a corrections emphasis.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Sequencing of coursework is important in meeting the four-year plan.

**Before the fifth semester begins:** two introductory courses and a statistics course.

**Before the seventh semester begins:** both theory and methods courses, three additional introductory courses, two electives, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** a capstone course and two additional electives.

**During the eighth semester:** enrollment in all remaining coursework in the major, including SOC:4909 Graduation Portfolio; all remaining GE CLAS Core courses; and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Criminology, Law and Justice, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Major: introductory criminology course <sup>b</sup>		3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: introductory criminology course		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
SOC:2130	Sociological Theory	3

Major: criminology, law and justice elective (prefix CRIM)	3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>	4 - 5
Elective course <sup>d</sup>	2

**Hours 16-17**

### Spring

Major: introductory statistics course - STAT:1020 Elementary Statistics and Inference recommended <sup>b</sup>	3
Major: criminology, law and justice elective (prefix CRIM)	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>	4 - 5
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	1 - 3

**Hours 14-17**

### Third Year

#### Fall

CRIM:2470 Research Methods in Criminology and Criminal Justice	3
Major: advanced criminology, law and justice elective (prefix CRIM) <sup>f</sup>	3
GE CLAS Core: Historical Perspectives <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

#### Spring

Major: capstone course	3
Major: advanced criminology, law and justice elective (prefix CRIM) <sup>f</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

### Fourth Year

#### Fall

Major: advanced criminology, law and justice elective (prefix CRIM) <sup>f</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>	3
GE CLAS Core: Values and Culture <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

#### Spring

SOC:4909 Graduation Portfolio	0
Major: upper-level sociology elective/track course	3
Major: advanced criminology, law and justice elective (prefix CRIM) <sup>f</sup>	3
GE CLAS Core: International and Global Issues <sup>e</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

**Hours 15**

**Total Hours 120-128**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Advanced courses are numbered 3000 or above. Two of the four advanced electives must be taken after (and not concurrent with) the completion of SOC:2130, an approved introductory statistics course, and CRIM:2470.

g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Sociology, B.S.

A bachelor's degree with a major in sociology provides a liberal arts and sciences education. Sociology provides a broad foundation for a number of careers that require a deep understanding of human interactions and behaviors. Though broad in scope, sociology can be broken down into many marketable specializations, including these at the University of Iowa: family and health services, human relations and business, social psychology, and social and political organization.

The department has an active undergraduate organization, the Sociology and Criminology Club, which is open to all interested students. The student-run group sponsors speakers, films, and career days; conducts study groups; and facilitates group volunteerism.

## Learning Outcomes

Students majoring in sociology will be able to:

- identify how sociological concepts and theories relate to everyday life,
- use a critical lens to better understand human behavior and societies,
- articulate the importance of evidence and scientific methods for explanations of social phenomena,
- identify the characteristics of high quality data and methods in sociological research,
- identify disciplinary standards for both the qualitative and quantitative analysis of data, and
- use their sociological knowledge and skills to engage with and impact the world around them.

## Requirements

The Bachelor of Science with a major in sociology requires a minimum of 120 s.h., including at least 45 s.h. of work for the major, with a minimum of 42 s.h. in sociology coursework. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must earn at least 18 s.h. in sociology coursework at the University of Iowa; transfer courses must be approved by a sociology advisor.

The major offers two optional tracks for students with an interest in one of the following concentrations: family and health services, or human relations and business.

Requirements for the major are similar for the Bachelor of Arts and the Bachelor of Science, except B.S. students take 9 s.h. of advanced statistics and three theory and methods courses, while B.A. students take 3-4 s.h. of statistics, a theory course, and a methods course.

Choice of a degree program should be dictated by a student's personal career goals. Though not required, students interested in pursuing a graduate program may find the additional math and methods courses helpful.

Students who earn the major in sociology can earn the major in criminology, law and justice. No more than 9 s.h. of major coursework can count toward each of the majors. Students who earn both majors may not complete a minor in either area.

Students who earn the major in sociology may earn a minor in criminology, law and justice. No more than 3 s.h. can count toward both the major and minor.

Students who earn the major in sociology may not earn the sociology minor.

In planning to complete the major, students must take courses in the proper sequence. Introduction to Sociology (SOC:1010) is a prerequisite for all required core theory and methods courses. These introductory courses lay the foundation for all other work in the major. The recommended sequence for the major's core requirements is SOC:1010, SOC:2130 Sociological Theory, and SOC:2170 Research Methods. See the Four-Year Graduation Plan under Academic Plans [p. 1070] in this section of the Catalog.

The B.S. with a major in sociology requires the following work.

Code	Title	Hours
	Introductory Sociology Course	3-4
	Theory, Statistics, and Methods Courses	18
	Electives	21
	Capstone Course	3
	Graduation Portfolio	0
<b>Total Hours</b>		<b>45-46</b>

## Introductory Sociology

Code	Title	Hours
This course:		
SOC:1010	Introduction to Sociology	3-4

## Theory, Statistics, and Methods

Code	Title	Hours
Both of these (completed as soon as possible):		
SOC:2130	Sociological Theory	3
SOC:2170	Research Methods	3
One of these (completed as soon as possible):		
SOC:4800	Research Practicum in Sociology (may count toward the theory and methods requirement or the capstone requirement, but not both)	3
PHIL:2603	Introduction to Symbolic Logic	3
PHIL:3604	Introduction to Philosophy of Science	3
All of these:		
SOC:2160	Applied Statistics for Social Scientists	3
SOC:6170	Introduction to Sociological Data Analysis	3
SOC:6180	Linear Models in Sociological Research	3

## Electives

Students complete 21 s.h. of elective coursework in sociology (prefix SOC). Four of the required electives must be advanced, chosen from sociology courses numbered 3000-4903, SOC:4920 Social Services Organization Internship, or SOC:4998 Honors Research. Two of the four advanced required electives must be taken after (and not concurrent with) the completion of SOC:2130 Sociological Theory

and SOC:2170 Research Methods. Students can use two criminology, law and justice courses (prefix CRIM) toward the electives requirement. With permission, students may use graduate courses in sociology numbered 5000 or above to satisfy the electives requirement.

The following courses may not be used as electives.

Code	Title	Hours
SOC:1000	First-Year Seminar	1-2
SOC:4800	Research Practicum in Sociology	3
SOC:4910	Capstone Course in Sociology and Criminology	3
SOC:4930	Teaching Internship	3
SOC:4990	Directed Individual Study	arr.
SOC:4997	Honors Seminar	1

## Capstone Course

All students complete a capstone course, which illustrates their accomplishments and includes assembling a portfolio. Students may take it as early as spring of their junior year, as long as they have completed SOC:2130 Sociological Theory, SOC:2170 Research Methods, and one of the approved statistics courses.

Code	Title	Hours
One of these:		
SOC:4800	Research Practicum in Sociology (may count toward the capstone requirement or the theory and methods requirement, but not both)	3
SOC:4910	Capstone Course in Sociology and Criminology	3
SOC:4920	Social Services Organization Internship	3

## Graduation Portfolio

During their last semester, all students enroll in the following course, in which they submit the portfolio they assembled in the capstone course.

Code	Title	Hours
SOC:4909	Graduation Portfolio	0

## Tracks

### Family and Health Services Track

The family and health services track requires a minimum of 15 s.h. of credit, including 12 s.h. of coursework taken at the University of Iowa. It is open to sociology majors who are interested in understanding family structures and practices, differences between and within families, and those social institutions and forces that shape families or are shaped by them. Additionally, the track cultivates students' understanding of the social context of health, illness, and health care. It is especially well suited for students who are interested in pursuing careers in the fields of social service and health.

Students must satisfy all requirements for the sociology major. They may count courses taken for the track as sociology electives for the major.

The family and health services track requires the following coursework.

### Required Courses

Code	Title	Hours
6 s.h. from these:		
SOC:1310	Gender and Society	3
SOC:2710	The American Family	3
SOC:3510	Medical Sociology	3

### Electives

Code	Title	Hours
9 s.h. from these:		
SOC:2064	African American Families: Urban and Suburban	3
SOC:2810	Social Inequality	3
SOC:3171	Drugs and Society	3
SOC:3220	Sociology of Mental Illness	3
SOC:3750	Born in the USA: Fertility and Reproduction	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4820	Sociology of Sexuality	3
SOC:4902	Selected Topics in Family, Health, and Well-Being	3
CRIM:3420	Juvenile Delinquency	3
CRIM:4430	Interpersonal Violence in Society	3

Or select electives from the following graduate courses, with approval of instructor:

SOC:6220	Seminar: Selected Topics in Social Psychology (when topic is life course)	3
SOC:6310	Gender Stratification Seminar	3

Students also may choose the remaining required course as an elective

### Human Relations and Business Track

The human relations and business track requires a minimum of 15 s.h. of credit, including 12 s.h. of coursework taken at the University of Iowa. It is open to sociology majors who are interested in understanding the macro- and micro-level processes that affect the ability to understand and manage organizations, as well as the groups and individuals that compose them. The track provides intensive training in both theoretical and empirical approaches to organizations, and combines micro-level insights into work groups with macro-level perspectives on the influence of organizations' environments. It is especially well suited for students who are interested in pursuing careers in various services-providing sectors such as business services, educational services, social assistance, or government.

Students must satisfy all requirements for the sociology major. They may count courses taken for the track as sociology electives for the major.

The human relations and business track requires the following coursework.



## Required Courses

Code	Title	Hours
6 s.h. from these:		
SOC:3610	Organizations and Modern Society	3
SOC:3880	The Sociology of Networks	3
SOC:4225	The Social Psychology of Leadership	3

## Electives

Code	Title	Hours
9 s.h. from these:		
SOC:2810	Social Inequality	3
SOC:3110	Race, Organizations, and Workplace	3
SOC:3530	Social Psychology of Small Groups	3
SOC:3650	Education, Schools, and Society	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4540	Political Sociology and Social Movements	3
SOC:4903	Selected Topics in Organizations, Networks, and Careers	3
CRIM:4440	Sociology of White-Collar Crime	3
Or select electives from these graduate courses, with approval of instructor:		
SOC:6610	Complex Organizations	3
SOC:7620	Social Networks: Theory and Sociological Applications	3
SOC:7820	Seminar: Selected Topics in Social Stratification (when topic is social capital)	3

## Emphasis Areas

The following elective courses are grouped by emphasis for students who may want to cluster their electives according to one of the following areas of interest. The emphasis area courses are not tracks. See Courses [p. 1070] in this section of the Catalog for a complete listing of sociology courses.

### Social Psychology

Code	Title	Hours
SOC:1220	Principles of Social Psychology	3-4
SOC:3220	Sociology of Mental Illness	3
SOC:3530	Social Psychology of Small Groups	3
SOC:4225	The Social Psychology of Leadership	3
SOC:4230	Sociology of Self-Improvement	3

### Social and Political Organization

Code	Title	Hours
SOC:2810	Social Inequality	3
SOC:2830	Race and Ethnicity	3

SOC:3610	Organizations and Modern Society	3
SOC:3650	Education, Schools, and Society	3
SOC:3880	The Sociology of Networks	3
SOC:4820	Sociology of Sexuality	3

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33 in all University of Iowa courses and in all sociology courses. In order to graduate with honors in sociology, the following coursework must be completed.

Code	Title	Hours
SOC:4997	Honors Seminar	1
SOC:4998	Honors Research (honors thesis)	2-3

The honors thesis is prepared under faculty supervision. It gives students the opportunity to conduct sociological research in close consultation with a faculty member of the student's choice.

Honors students also must take at least one sociology course numbered 3000 or above with honors designation, including graduate courses (honors designation requires instructor approval). Learn more about honors in the major and honors courses on the University of Iowa Honors Program website.

### National Honor Society

The department sponsors a chapter of Alpha Kappa Delta International Sociology Honor Society. Students who have a cumulative g.p.a. of 3.30, a sociology g.p.a. of at least 3.00 (with four sociology courses), and have attained junior or higher standing are considered for membership. Consult the Alpha Kappa Delta faculty advisor for details.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the sociology major.

## Career Advancement

In addition to preparing students for careers in social service, criminal justice, and other areas, this major offers

an integrated package of courses, research training, writing enhancement, international perspective, and internships to provide graduates with impressive credentials. The major provides background for employment in fields such as human services, criminal justice, corrections, sales, public relations, advertising, personnel, applied social research, community organization, and teaching social science in secondary schools.

The major also provides a foundation for graduate or professional study in social work, urban planning, law, criminal justice, social policy, and similar areas. Finally, it prepares students to work toward advanced degrees in sociology, which qualify them for college or university teaching and work in academic, private, and governmental research.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Sequencing of coursework is important in meeting the four-year plan.

**Before the fifth semester begins:** SOC:1010 Introduction to Sociology or equivalent, SOC:2130 Sociological Theory, and one sociology elective.

**Before the seventh semester begins:** two required statistics courses, SOC:2170 Research Methods, one more sociology elective, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** the remaining statistics course and one more sociology elective.

**During the eighth semester:** enrollment in all remaining coursework in the major, including a capstone course, SOC:4909 Graduation Portfolio, and the last two sociology electives; all remaining GE CLAS Core courses; and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Sociology, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SOC:1010	Introduction to Sociology <sup>b</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4

GE CLAS Core: Diversity and Inclusion <sup>c</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>

### Spring

Major: sociology elective/track course <sup>e</sup>		3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Values and Culture <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>15-17</b>

### Second Year

#### Fall

SOC:2130	Sociological Theory	3
Major: sociology elective/track course <sup>e</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Spring

SOC:2160	Applied Statistics for Social Scientists	3
Major: sociology elective/track course <sup>e</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

### Third Year

#### Fall

SOC:2170	Research Methods	3
Major: upper-level sociology elective/track course <sup>g</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>c</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

#### Spring

Major: capstone course <sup>h</sup>		3
Major: upper-level sociology elective/track course <sup>g</sup>		3
GE CLAS Core: International and Global Issues <sup>c</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

### Fourth Year

#### Fall

SOC:6170	Introduction to Sociological Data Analysis	3
Major: upper-level sociology elective/track course <sup>g</sup>		3
GE CLAS Core: Historical Perspectives <sup>c</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

SOC:4800 or PHIL:2603 or PHIL:3604	Research Practicum in Sociology or Introduction to Symbolic Logic or Introduction to Philosophy of Science	3
SOC:4909	Graduation Portfolio	0
SOC:6180	Linear Models in Sociological Research	3
Major: upper-level sociology elective/track course <sup>g</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>120-126</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Fulfills a major requirement and may fulfill a GE requirement.
- c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Students have the option to choose one of two tracks in the major: family and health services, or human relations and business.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Upper-level sociology courses (prefix SOC) are numbered 3000 or above. Two of the upper-level electives must be taken after (and not concurrent with) the completion of SOC:2130 and SOC:2170.
- h May be taken as early as spring of the junior year, as long as students have completed SOC:2130, SOC:2170, and one of the approved statistics courses.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Criminology, Law and Justice, B.S.

The criminology, law and justice major examines issues related to race and ethnic diversity, gender, and poverty, heightening awareness of these important topics. Students learn about sociological explanations for crime and criminal justice; the operation of law and the criminal justice system, including their complex interplay with other institutions, such as the economy and politics; and important data sources on crime in the United States and internationally.

The criminology, law and justice coursework required for the major is the same for B.S. and B.A. students, but the major for the B.S. includes additional semester hours in theory, statistics, and methods courses.

The department has an active undergraduate organization, the Sociology and Criminology Club, which is open to all interested students. The student-run group sponsors speakers, films, and career days; conducts study groups; and facilitates group volunteerism.

## Learning Outcomes

Students will be able to:

- recognize the causes and consequences of crime at the micro and macro levels and match these with prominent criminological perspectives;
- describe the interrelated institutions and processes of the criminal justice system and legal systems;
- apply theories of crime, legal systems, and criminal justice systems to explain actual and hypothetical scenarios, behaviors, and trends;
- understand the role of formal law in advanced democracies;
- explain the various social science methods of inquiry and use these to test specific criminological research questions;
- recognize and explain social inequities in crime and criminal justice processes by race, social class, gender, region, and age; and
- evaluate the effectiveness of policy interventions for altering social behavior, including those deemed illegal or harmful.

## Requirements

The Bachelor of Science with a major in criminology, law and justice requires a minimum of 120 s.h., including at least 48 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Transfer students must earn at least 24 s.h. in criminology, law and justice coursework at the University of Iowa; transfer courses must be approved by a sociology advisor.

Requirements for the major are similar for the Bachelor of Science and the Bachelor of Arts. B.A. students take a minimum of 39 s.h. of coursework for the major, while B.S. students take a minimum of 48 s.h. which includes additional theory, statistics, and methods courses.

Students who earn the major in criminology, law and justice can earn the major in sociology. No more than 9 s.h. of major

coursework can double count for each of the majors. Students who earn both majors may not complete a minor in either area.

Students who earn the major in criminology, law and justice may earn a minor in sociology. No more than 3 s.h. can double count for the major and minor.

Students who earn the major in criminology, law and justice may not earn the criminology, law and justice minor.

Courses listed in more than one area may only be used toward one requirement.

The B.S. with a major in criminology, law and justice requires the following coursework.

Code	Title	Hours
Introductory Courses		6-7
Theory, Statistics, and Methods Courses		18
Upper-Level Sociology Requirement		3
Electives		18
Capstone Course		3
Graduation Portfolio Course		0
<b>Total Hours</b>		<b>48-49</b>

## Introductory Courses

Code	Title	Hours
Two of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
SOC:1010	Introduction to Sociology	3-4
or SOC:1030	Contemporary Social Problems	

## Theory, Statistics, and Methods

Code	Title	Hours
This course (completed as soon as possible):		
SOC:2130	Sociological Theory	3
One of these (completed as soon as possible):		
CRIM:2470	Research Methods in Criminology and Criminal Justice	3
SOC:2170	Research Methods	3
All of these:		
SOC:2160	Applied Statistics for Social Scientists	3
SOC:6170	Introduction to Sociological Data Analysis	3
SOC:6180	Linear Models in Sociological Research	3
One of these:		
CRIM:4800	Research Practicum in Criminology	3
PHIL:2603	Introduction to Symbolic Logic	3
PHIL:3604	Introduction to Philosophy of Science	3

## Upper-Level Sociology Requirement

Code	Title	Hours
3 s.h. from these:		
SOC:2064	African American Families: Urban and Suburban	3
SOC:2710	The American Family	3
SOC:2770	Black and White Community Politics	3
SOC:2810	Social Inequality	3
SOC:2830	Race and Ethnicity	3
SOC:3100	Critical Race Theory: Culture, Power, and Society	3
SOC:3171	Drugs and Society	3
SOC:3220	Sociology of Mental Illness	3
SOC:3510	Medical Sociology	3
SOC:3530	Social Psychology of Small Groups	3
SOC:3610	Organizations and Modern Society	3
SOC:3630	The Racial Wealth Gap: Black Debt, White Debt	3
SOC:3650	Education, Schools, and Society	3
SOC:3750	Born in the USA: Fertility and Reproduction	3
SOC:3880	The Sociology of Networks	3
SOC:4000	Data Science for Social Good	3
SOC:4200	Sociology of Religion	3
SOC:4225	The Social Psychology of Leadership	3
SOC:4230	Sociology of Self-Improvement	3
SOC:4540	Political Sociology and Social Movements	3
SOC:4680	Corruption: The Social Scientific Perspectives	3
SOC:4820	Sociology of Sexuality	3

## Electives

Students complete 18 s.h. of elective coursework in criminology, law and justice (prefix CRIM). Four of the required electives must be advanced, chosen from criminology, law and justice courses numbered 3000-4901 or CRIM:4998 Honors Research. Two of the four advanced required electives must be taken after (and not concurrent with) the completion of SOC:2130 Sociological Theory, and CRIM:2470 Research Methods in Criminology and Criminal Justice or SOC:2170 Research Methods. With permission, students may use graduate courses in sociology (prefix SOC) numbered 5000 or above to satisfy the electives requirement.

Code	Title	Hours
18 s.h. from these:		
CRIM:2210	Iowa Criminal Justice Policy and Reform	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3

CRIM:2901	Special Topics in Criminology, Law, and Justice	3
CRIM:3110	Communities and Crime	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:3260	Immigration and Crime	3
CRIM:3350	Life Course Criminology	3
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3425	Women, Crime, and Justice	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:3600	Crime and Public Policy	3
CRIM:4120	Environmental Criminology	3
CRIM:4300	Gender and Violence	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociological Perspective	3
CRIM:4460	Sociology of Law	3
CRIM:4680	Corruption: The Social Scientific Perspectives	3
CRIM:4901	Advanced Topics in Criminology, Law, and Justice	3
CRIM:4998	Honors Research	1-3

Students may apply one of the following 3 s.h. courses toward the elective requirement:

CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4410	Treatment Interventions in Corrections	3

## Capstone Course

All students complete a capstone course, which illustrates their accomplishments and includes assembling a portfolio. Students generally take the course during their last two semesters of coursework for the major, as long as they have completed the three statistics courses; CRIM:2470 Research Methods in Criminology and Criminal Justice or SOC:2170 Research Methods; one of the introductory courses in criminology, law and justice; SOC:2130 Sociological Theory; and at least 6 s.h. of electives.

Code	Title	Hours
One of these:		
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4800	Research Practicum in Criminology (if taken as a Theory, Statistics, and Methods course, registration a second time is required)	3
SOC:4910	Capstone Course in Sociology and Criminology	3

## Graduation Portfolio

During their last semester, all students must enroll in the following course, in which they submit the portfolio they assembled in the capstone course.

Code	Title	Hours
SOC:4909	Graduation Portfolio	0

### Honors

## Honors in the Major

Students have the opportunity to graduate with honors in the major. Departmental honors students must maintain a g.p.a. of at least 3.33 in all University of Iowa courses and in all criminology, law and justice courses. In order to graduate with honors, the following coursework must be completed.

Code	Title	Hours
CRIM:4998	Honors Research	1-3
SOC:4997	Honors Seminar	1

The honors thesis is prepared under faculty supervision. It gives students the opportunity to conduct research in close consultation with a faculty member of the student's choice.

Honors students must also take one criminology, law and justice course numbered 3000 or above with honors designation, including graduate courses (honors designation requires instructor approval). Learn more about honors in the major and honors courses on the University of Iowa Honors Program website.

## National Honor Society

The department sponsors a chapter of Alpha Phi Sigma Criminal Justice Honor Society. Students who have a cumulative g.p.a. of 3.30, a criminology, law and justice g.p.a. of at least 3.00 (with four criminology courses), and have attained junior or higher standing are considered for membership. Consult the Alpha Phi Sigma faculty advisor for details.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the criminology, law and justice major.

### Career Advancement

The major in criminology, law and justice provides a foundation for graduate or professional study in criminology, criminal justice, sociology, psychology, law, social work, urban planning, social policy, and similar areas. The major pairs well with majors in other disciplines, such as psychology and social work, and affords students a competitive edge when applying to graduate school in forensic psychology or social work with a corrections emphasis.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Sequencing of coursework is important in meeting the four-year plan.

**Before the fifth semester begins:** two introductory courses and a statistics course.

**Before the seventh semester begins:** theory and methods courses, three additional introductory courses, two electives, statistics, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** a capstone course and two more electives.

**During the eighth semester:** enrollment in all remaining coursework in the major, including SOC:4909 Graduation Portfolio; all remaining GE CLAS Core courses; and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Criminology, Law and Justice, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		
<b>0</b>		
<b>First Year</b>		
<b>Fall</b>		
Major: introductory criminology course <sup>b</sup>		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
Major: introductory criminology course		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
SOC:2130	Sociological Theory	3
Major: criminology, law and justice elective (prefix CRIM)		3

GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>	4 - 5
Elective course <sup>d</sup>	1 - 3

**Hours 14-17**

### Spring

Major: criminology, law and justice elective (prefix CRIM)	3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>	4
GE CLAS Core: International and Global Issues <sup>e</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>	4 - 5
Elective course <sup>d</sup>	2

**Hours 16-17**

### Third Year

#### Fall

SOC:2160 Applied Statistics for Social Scientists	3
Major: advanced criminology, law and justice elective (prefix CRIM) <sup>f</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

#### Spring

SOC:2170 Research Methods	3
Major: capstone course	3
Major: advanced criminology, law and justice elective (prefix CRIM) <sup>f</sup>	3
GE CLAS Core: Values and Culture <sup>e</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

### Fourth Year

#### Fall

SOC:6170 Introduction to Sociological Data Analysis	3
Major: advanced criminology, law and justice elective (prefix CRIM) <sup>f</sup>	3
Major: upper-level sociology elective	3
GE CLAS Core: Historical Perspectives <sup>e</sup>	3
Elective course <sup>d</sup>	3

**Hours 15**

#### Spring

PHIL:3604 Introduction to Philosophy of Science or PHIL:2603 or CRIM:4800 or Introduction to Symbolic Logic or Research Practicum in Criminology	3
SOC:4909 Graduation Portfolio	0
SOC:6180 Linear Models in Sociological Research	3
Major: advanced criminology, law and justice elective (prefix CRIM) <sup>f</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>g</sup>

**Hours 15**

**Total Hours 120-128**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Advanced courses are numbered 3000 or above. Two of the four advanced electives must be taken after (and not concurrent with) the completion of SOC:2130 and SOC:2170.

g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Sociology, Minor

## Requirements

The undergraduate minor in sociology requires a minimum of 15 s.h. in sociology courses, including 12 s.h. in courses taken at the University of Iowa. The minor must include SOC:2130 Sociological Theory and a minimum of 9 s.h. in courses numbered 3000-4903. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students who earn the major in criminology, law and justice may earn a minor in sociology. No more than 3 s.h. can count toward both the major and minor.

Students who earn the major in sociology may not earn the sociology minor.

A minor in sociology is a good complement to a number of majors, particularly other social sciences, business, elementary education, or health professions.



# Criminology, Law and Justice, Minor

## Requirements

The undergraduate minor in criminology, law and justice requires a minimum of 15 s.h., including 12 s.h. in courses taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students who earn the major in sociology may earn a minor in criminology, law and justice. No more than 3 s.h. can count toward both the major and minor.

Students who earn the major in criminology, law and justice may not earn the criminology, law and justice minor.

The minor in criminology, law and justice requires the following coursework.

Code	Title	Hours
One of these:		
CRIM:1410	Introduction to Criminology	3
CRIM:1447	Introduction to the Criminal Justice System	3
12 s.h. from these:		
CRIM:2210	Iowa Criminal Justice Policy and Reform	3
CRIM:2430	Comparative Criminal Justice Systems	3
CRIM:2460	Policing in Modern Society	3
CRIM:2901	Special Topics in Criminology, Law, and Justice	3
CRIM:3110	Communities and Crime	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:3260	Immigration and Crime	3
CRIM:3350	Life Course Criminology	3
CRIM:3415	Global Criminology	3
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3420	Juvenile Delinquency	3
CRIM:3425	Women, Crime, and Justice	3
CRIM:3437	American Crime	3
CRIM:3450	Criminal Legal System	3
CRIM:3600	Crime and Public Policy	3
CRIM:4120	Environmental Criminology	3
CRIM:4300	Gender and Violence	3
CRIM:4420	Criminal Punishment	3
CRIM:4430	Interpersonal Violence in Society	3
CRIM:4440	Sociology of White-Collar Crime	3
CRIM:4450	Juvenile Justice: A Sociolegal Perspective	3
CRIM:4460	Sociology of Law	3
CRIM:4680	Corruption: The Social Scientific Perspectives	3

CRIM:4901	Advanced Topics in Criminology, Law, and Justice	3
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May include one of these:

CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4410	Treatment Interventions in Corrections	3

# Sociology, M.A.

Graduate study in sociology focuses on the Doctor of Philosophy. Students are awarded the M.A. as they fulfill requirements for the Ph.D. degree.

## Learning Outcomes

The graduate program in the Department of Sociology and Criminology develops professionals who are qualified to conduct original research in the field of sociology and serve the discipline and larger community through teaching and/or other applications of sociological and criminological knowledge.

## Goals and Outcomes

To develop the expertise to conduct original research in sociology and criminology that is publishable in scholarly outlets.

- Develop a professional skillset in research methodology commonly used in the social sciences, particularly sociology and criminology.
- Develop a professional skillset in social science theories pertaining to sociology and criminology.
- Develop professional expertise in substantive sociological and criminological research areas, which at minimum includes graduate-level competence in both a major and minor area of research.
- Develop scholarly writing and communication skills.

To serve the discipline and broader community as sociologists and criminologists.

- To be prepared to teach the field of sociology and/or criminology.
- To understand the goals, practices, and standards of research and applied professionals associated with the discipline of sociology and/or criminology. This includes developing a firm grasp of the principles of ethical research,

## Requirements

The Master of Arts program in sociology requires 30 s.h. of graduate credit with thesis or research paper and 38 s.h. of graduate credit without. Students must maintain a program g.p.a. of at least 3.25. The program without thesis is intended for students seeking a terminal degree and for whom a wider range of course content in sociology is appropriate.

All M.A. students must complete the following courses with grades of B-minus or higher.

Code	Title	Hours
SOC:5110	History of Sociological Theory	3
SOC:5160	Research Design and Methods	3
SOC:6170	Introduction to Sociological Data Analysis	3
SOC:6180	Linear Models in Sociological Research	3

## Teaching Assistantship Training

All new graduate teaching assistants (TAs) are expected to attend a three-day orientation before classes begin.

In addition, SOC:7010 Teaching Sociology is required for students who wish to teach their own courses.

## Admission

Admission to graduate study in sociology usually requires an undergraduate g.p.a. of at least 3.25.

All applicants must complete the Graduate College application form, the supplemental sociology and criminology department application, and use the department's personal reference forms to obtain three letters of recommendation.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

All application materials for fall admission must be received by January 1. Evaluation of applications begins in early January.

Admission decisions are based on consideration of prior academic performance, personal reference letters, and the applicant's statement of reasons for pursuing advanced work in sociology at the University of Iowa. The department has no specific undergraduate course requirements for admission, but a background in the social sciences with some mathematical training is useful. A foreign language is not required for admission, and there is no foreign language requirement for a graduate degree in sociology. To inquire about admission, consult the director of graduate studies, Department of Sociology and Criminology.

## Financial Support

The Department of Sociology and Criminology offers teaching assistantships and research assistantships for graduate students. Students who receive one-half-time teaching or research assistantships work 20 hours each week for faculty members on either teaching or research assignments. Out-of-state students who hold assistantships are assessed tuition at the resident rate. Graduate students also may be eligible for fellowships offered by the Graduate College.

The deadline for applying for departmental financial support is January 1.

## Career Advancement

In addition to preparing students for careers in social service, criminal justice, and other areas, the sociology major offers an integrated package of courses, research training, writing enhancement, international perspective, and internships to provide graduates with impressive credentials. The degree also prepares students for further graduate or professional study in areas such as social work, urban and regional planning, law, criminal justice, and social policy. Teaching positions in colleges or universities and research positions in academic, private, and governmental organizations often require advanced degrees in sociology.

The Pomerantz Career Center and the Graduate College's Career Exploration and Planning website offer multiple resources to help students find internships and jobs.

## **Criminology, Ph.D.**

*More information related to the Ph.D. in criminology program of study will be provided at a later date.*

# Sociology, Ph.D.

The graduate program in sociology provides rigorous training in theory and methods as well as in these substantive areas: crime, law, and social control; gender and family; social and political organizations (stratification, political sociology, complex organizations); and social psychology, which is ranked #3 in the country in *U.S. News and World Report*.

The doctoral program has a research emphasis and primarily prepares sociologists for positions at colleges and universities or research positions in academic, private, and government institutions. For a summary of where the department's recent graduates have found employment, view Recent Student Placement on the Department of Sociology and Criminology website.

Graduate students work closely with faculty on collaborative research as well as developing independent research programs. In addition to valuable research experiences, students also can obtain substantial training and experience in undergraduate teaching, including online courses. The department training program includes an orientation workshop for new teaching assistants, a credited teaching seminar, SOC:7010 Teaching Sociology, for advanced graduate students, courses on instruction, and an opportunity for these graduate students to design and teach their own courses under the mentorship of the faculty.

## Learning Outcomes

The graduate program in the Department of Sociology and Criminology develops professionals who are qualified to conduct original research in the field of sociology and serve the discipline and larger community through teaching and/or other applications of sociological and criminological knowledge. The program's specific learning outcomes are outlined below.

## Goals and Outcomes

To develop the expertise to conduct original research in sociology and criminology that is publishable in scholarly outlets.

- Develop a professional skillset in research methodology commonly used in the social sciences, particularly sociology and criminology.
- Develop a professional skillset in social science theories pertaining to sociology and criminology.
- Develop professional expertise in substantive sociological and criminological research areas, which at minimum includes graduate-level competence in both a major and minor area of research.
- Develop scholarly writing and communication skills.

To serve the discipline and broader community as sociologists and criminologists.

- To be prepared to teach in the field of sociology and/or criminology.
- To understand the goals, practices, and standards of research and applied professionals associated with the discipline of sociology and/or criminology. This includes developing a firm grasp of the principles of ethical research.

## Requirements

The Doctor of Philosophy program in sociology requires a minimum of 72 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.25.

All Ph.D. students must complete the following courses with grades of B-minus or higher.

Code	Title	Hours
SOC:5110	History of Sociological Theory	3
SOC:5160	Research Design and Methods	3
SOC:6170	Introduction to Sociological Data Analysis (required for the M.A.)	3
SOC:6180	Linear Models in Sociological Research (required for the M.A.)	3

Two elective courses in methods/statistics numbered 5000 or above

One advanced theory course such as SOC:6110

Students also must pass a comprehensive exam, write and defend a dissertation prospectus, and write and successfully defend a dissertation.

For a detailed statement of graduate study rules, visit the Department of Sociology and Criminology website. Prospective doctoral students should examine this information carefully.

## Teaching Assistantship Training

All new graduate teaching assistants (TAs) are expected to attend a three-day orientation before classes begin. In addition, SOC:7010 Teaching Sociology is required for students who wish to teach their own courses.

## Combined Programs

### Ph.D./J.D.

The Department of Sociology and Criminology and the College of Law offer the combined Juris Doctor/Doctor of Philosophy. The program is highly individualized, allowing students to explore varied aspects of the relationship between law and society. Combined degree program Ph.D./J.D. students may count up to 12 s.h. of graduate credit toward both degrees, with approval from the Department of Sociology and the College of Law.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the J.D., see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

## Admission

Admission to graduate study in sociology usually requires an undergraduate g.p.a. of at least 3.25.

All applicants must complete the Graduate College application form, the supplemental sociology and criminology department application, and use the department's personal reference forms to obtain three letters of recommendation.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

All application materials for fall admission must be received by January 1. Evaluation of applications begins in early January.

Admission decisions are based on consideration of prior academic performance, personal reference letters, and the applicant's statement of reasons for pursuing advanced work in sociology at the University of Iowa. The department has no specific undergraduate course requirements for admission, but a background in the social sciences with some mathematical training is useful. A foreign language is not required for admission, and there is no foreign language requirement for a graduate degree in sociology. To inquire about admission, consult the director of graduate studies, Department of Sociology and Criminology.

## Financial Support

The Department of Sociology and Criminology offers teaching assistantships and research assistantships for graduate students. Students who receive one-half-time teaching or research assistantships work 20 hours each week for faculty members on either teaching or research assignments. Out-of-state students who hold assistantships are assessed tuition at the resident rate. Graduate students also may be eligible for fellowships offered by the Graduate College.

The deadline for applying for departmental financial support is January 1.

## Career Advancement

The program of study for the Ph.D. primarily aims to prepare sociologists for academic positions in colleges and universities or for research positions in academic, private, and government institutions.

In addition to preparing students for careers in social service, criminal justice, and other areas, this major offers an integrated package of courses, research training, writing enhancement, international perspective, and internships to provide graduates with impressive credentials.

The Pomerantz Career Center and the Graduate College Career Exploration and Planning website offer multiple resources to help students find jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Sociology, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SOC:5110	History of Sociological Theory <sup>c</sup>	3
SOC:6170	Introduction to Sociological Data Analysis <sup>c</sup>	3
SOC:7270	Scholarly Professionalism and Integrity I	2
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
SOC:5160	Research Design and Methods <sup>c</sup>	3
SOC:6180	Linear Models in Sociological Research <sup>c</sup>	3
SOC:7271	Scholarly Professionalism and Integrity II	2
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>11</b>
<b>Second Year</b>		
<b>Fall</b>		
Final Exam (MA Defense)		
SOC:6080	Master's Thesis	3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Theory course numbered 5000 or above <sup>c, e</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Fall</b>		
Methods/Statistics course numbered 5000 or above <sup>c, e</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
SOC:7030	Readings and Research Tutorial	3
Methods/Statistics course numbered 5000 or above <sup>c, e</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
Comprehensive Exam		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Prospectus Defense		
SOC:7030	Readings and Research Tutorial	6

Elective course <sup>d</sup>		3
	<b>Hours</b>	<b>9</b>
<b>Spring</b>		
SOC:7090	Ph.D. Dissertation	5
Final Exam <sup>f</sup>		
	<b>Hours</b>	<b>5</b>
	<b>Total Hours</b>	<b>72</b>

a The graduate program provides rigorous training in theory and methods as well as in these substantive areas: Crime, Law, and Social Control; Gender and Family; Social and Political Organizations; Social Psychology. Students will work with a faculty advisor to determine an area of concentration according to the individual student's interests.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Grade of B- or better is required.

d Work with faculty advisor to determine appropriate graduate level elective coursework and sequence.

e May not count SOC:7030 or any other independent study or research course towards this requirement; selected course must be approved by director of graduate studies.

f Dissertation defense.

# Spanish and Portuguese

## Director, Division of World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Chair, Department of Spanish and Portuguese

- Amber E. Brian

**Undergraduate majors:** Spanish (B.A.); Portuguese (B.A.)

**Undergraduate minors:** Spanish; Portuguese

**Graduate degrees:** M.A. in Spanish; M.F.A. in Spanish creative writing; Ph.D. in Spanish

**Faculty:** <https://spanish-portuguese.uiowa.edu/people>

**Website:** <https://spanish-portuguese.uiowa.edu/>

The Department of Spanish and Portuguese offers undergraduate majors and minors, graduate degree programs, and coursework for students in other disciplines. The department provides a wide selection of courses taught in Spanish and Portuguese, languages that are spoken in many cultures around the world and are important in the study of linguistics, health care, culture, literature, art, film, and many other areas. Spanish and Portuguese language courses are open to any student who has satisfied the course prerequisites.

In addition to language courses, the department offers general interest courses on literature, film, and culture that are taught in English. It also participates in several study abroad programs.

Undergraduate students in all majors may satisfy the World Languages requirement of the GE CLAS Core [p. 20] with courses in Spanish or Portuguese; see "Language for GE CLAS Core" below. The department also offers other courses that are approved for GE CLAS Core and are taught in English and a First-Year Seminar designed for entering undergraduates.

Elementary and intermediate courses in Spanish language interrelate five performance goals—listening, reading, speaking, writing, and cultural knowledge—in a staged progression whose overall goal is to develop proficiency. The curriculum emphasizes acquisition of Spanish language skills in communicative contexts, enrichment of vocabulary through an introduction to Hispanic culture, and development of grammatical accuracy in speaking and writing.

The beginning course in Portuguese is for students without previous study or experience with the language. There also is a special Portuguese course for students who already know Spanish. Portuguese classes provide a great deal of individual attention in an informal language-learning environment. Courses emphasize speaking, comprehending, reading, and writing Brazilian Portuguese. They incorporate cultural material in the form of videos and music.

The department teaches many courses that count toward the Latina/o/x studies minor, which offers an interdisciplinary perspective on the history, culture, politics, and experiences of the Latina/o/x population in the United States. See the minor in Latina/o/x studies [p. 803] in the Catalog for more information.

The Department of Spanish and Portuguese is one of the academic units in the Division of World Languages, Literatures and Cultures [p. 395].

# Language for GE CLAS Core

The Department of Spanish and Portuguese offers course sequences that students in all majors may use to satisfy the World Languages requirement of the College of Liberal Arts and Sciences GE CLAS Core.

Students who have previous coursework or other experience with Spanish should take the online Placement Test, which helps determine the level at which a student should begin Spanish language study at the University of Iowa. Students should take the test before they register for their first University of Iowa Spanish course. Students with experience in Portuguese should contact the Portuguese program director to determine the level at which they should begin language study at the University of Iowa.

## Spanish

The following course sequences in Spanish satisfy the GE CLAS Core World Languages requirement. For students without previous knowledge of Spanish, the department recommends the following sequence.

Code	Title	Hours
SPAN:1001	Elementary Spanish I	4
SPAN:1002	Elementary Spanish II	4
SPAN:1501	Intermediate Spanish I	4
SPAN:1502	Intermediate Spanish II	4

The summer course, SPAN:1004 Accelerated Elementary Spanish, which combines SPAN:1001 and SPAN:1002, may be appropriate for some students.

The accelerated course, SPAN:1503 Accelerated Intermediate Spanish, which combines SPAN:1501 and SPAN:1502, may be appropriate for some students.

Those with previous knowledge of Spanish may be able to fulfill the World Languages requirement with the following sequence.

Code	Title	Hours
SPAN:1003	Elementary Spanish Review	5
SPAN:1501	Intermediate Spanish I	4
SPAN:1502	Intermediate Spanish II	4

The accelerated course, SPAN:1505 Intermediate Spanish for Heritage Speakers, may be appropriate for some students.

Students should consult a departmental advisor to determine which sequence is best for them.

## Portuguese

The following course sequences in Portuguese fulfill the GE CLAS Core World Languages requirement. The first option consists of two intensive courses that combine two semesters into one, so that the sequence is completed in a total of two semesters rather than four. Both courses are open to entering first-year students.

Code	Title	Hours
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2500	Accelerated Intermediate Portuguese	5

The second option requires three courses taken in the following sequence to complete the World Languages requirement.

Code	Title	Hours
PORT:2010	Elementary Portuguese I	3
PORT:2015	Elementary Portuguese II	3
PORT:2500	Accelerated Intermediate Portuguese	5

Students should consult the general education coordinator to determine which sequence is best for them.

## Related Certificates and Minors

### Minor and Certificate: Latin American Studies

The department plays an important role in the Latin American Studies Program, which focuses on the history, politics, social organization, economy, art, music, religion, and literature of Latin America. See Latin American Studies [p. 795] in the Catalog for information about the program's undergraduate certificate and minor.

### Minor: Translation for Global Literacy

The minor in translation for global literacy encourages undergraduate students to explore translation as a crucial dimension of global literacy and communication. The Department of Spanish and Portuguese offers several courses that count toward the minor. See the minor in translation for global literacy [p. 1191] in the Catalog for more information.

### Certificate: International Business

The College of Liberal Arts and Sciences and the Tippie College of Business offer the Certificate in International Business. The program entails study of international business and economics; international relations and institutions; a language; and the art, literature, culture, and/or politics of a geographic area. For more information, see the Certificate in International Business [p. 1286] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Spanish (Bachelor of Arts) [p. 1114]
- Major in Portuguese (Bachelor of Arts) [p. 1119]

#### Minors

- Minor in Spanish [p. 1122]
- Minor in Portuguese [p. 1124]

### Graduate Programs of Study

#### Majors

- Master of Arts in Spanish [p. 1125]
- Master of Fine Arts in Spanish Creative Writing [p. 1127]
- Doctor of Philosophy in Spanish [p. 1129]

## Facilities

### Center for Language and Culture Learning

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC) and five All-In-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignAll lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

### Spanish Writing, Speaking, and Conversation Center

The Spanish Writing, Speaking, and Conversation Center assists students in understanding their assignments and helps them recognize what constitutes good Spanish speaking and writing. Tutors and students brainstorm ideas for an oral presentation or a paper, generate outlines, organize information, and explore dictionaries and other resources to avoid direct translations from English to Spanish. Tutors also provide students with tools for future writing and oral assignments.

The center helps students develop confidence to participate in class discussions, practice conversational skills, and assists students with reading comprehension. Any student enrolled in SPAN:1502 Intermediate Spanish II or above can use the services of the center free of charge by making an appointment online.

## Courses

- Spanish Courses [p. 1105]
- Portuguese Courses [p. 1112]

Spanish and Portuguese language courses are open to all students who have satisfied the specified course prerequisites.

### Spanish Course Levels

#### Basic Spanish Courses

These courses are included in the number range SPAN:1000-SPAN:1900. Students must have permission from the chair of the Department of Spanish and Portuguese to take an elementary course for credit after having completed a higher-level course for which the elementary course or its equivalent is a prerequisite.



## Spanish Level 1

These courses are included in the number range SPAN:2000-SPAN:2999. Students should take these courses at the start of the Spanish major.

## Spanish Level 2

These courses are included in the number range SPAN:3000-SPAN:3999. Students should have at least one Spanish Level 1 course before starting these courses. Some courses have additional prerequisites.

- Language skills courses are numbered SPAN:3000-SPAN:3099.
- Hispanic linguistics courses are numbered SPAN:3100-SPAN:3199.
- Spanish American literature and culture courses are numbered SPAN:3200-SPAN:3599.
- Spanish literature and culture courses are numbered SPAN:3600-SPAN:3899.

## Spanish Level 3

These courses are included in the number range SPAN:4000-SPAN:4999. Undergraduates should take these courses during their last semesters of enrollment. These courses also are open to M.A. students. All of these courses require a research paper. Prerequisites vary.

## Spanish Graduate Level

These courses are included in the number range SPAN:5000-SPAN:7600.

## Spanish Courses

### SPAN:1000 First-Year Seminar 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

### SPAN:1001 Elementary Spanish I 4 s.h.

Emphasis on oral and written skills. Taught in Spanish. Recommendations: no previous study of Spanish. GE: World Languages First Level Proficiency.

### SPAN:1002 Elementary Spanish II 4 s.h.

Continuation of SPAN:1001; emphasis on oral and written skills. Taught in Spanish. Requirements: SPAN:1001. GE: World Languages Second Level Proficiency.

### SPAN:1003 Elementary Spanish Review 5 s.h.

Intensive treatment of material presented in SPAN:1001 and SPAN:1002. Taught in Spanish. Requirements: two years of secondary school Spanish. GE: World Languages Second Level Proficiency.

### SPAN:1004 Accelerated Elementary Spanish 6 s.h.

Course sequence SPAN:1001 and SPAN:1002 in one semester. Taught in Spanish. GE: World Languages Second Level Proficiency.

### SPAN:1501 Intermediate Spanish I 4 s.h.

Communication in speaking and writing; cultural topics. Taught in Spanish. Requirements: SPAN:1002 or SPAN:1003. GE: World Languages Third Level Proficiency.

### SPAN:1502 Intermediate Spanish II 4 s.h.

Continuation of SPAN:1501. Requirements: SPAN:1501. GE: World Languages Fourth Level Proficiency.

### SPAN:1503 Accelerated Intermediate Spanish 6 s.h.

Course sequence SPAN:1501 and SPAN:1502 in one semester. Requirements: SPAN:1002 or SPAN:1003. GE: World Languages Fourth Level Proficiency.

### SPAN:1505 Intermediate Spanish for Heritage Speakers 5 s.h.

Focus on communication and consolidation of skills acquired from listening to or speaking Spanish at home; development or improvement of Spanish through reading and writing; emphasis on four language skills—listening, speaking, reading, and writing—via cultural and community activities. Taught in Spanish. Requirements: Spanish placement test score of 401 or higher. GE: World Languages Fourth Level Proficiency.

### SPAN:1700 Latina/o/x Literature in the United States 3 s.h.

Introduction to growing cultural production of varied Latina/o/x communities (e.g., Chicano, Puerto Rican American/Nuyorican, Cuban American) that have a strong presence in the United States; recent cultural production from borderland transcultural spaces with physical, cultural, economic, political, and mythical elements; visions of the United States from contemporary Latin American writers who recently have become U.S. residents. Taught in English. GE: Literary, Visual, and Performing Arts; Values and Culture. Same as LATS:1700.

### SPAN:1800 Contemporary Spanish American Narrative 3 s.h.

Themes and narrative techniques in major texts, 1960-present; overview of cultural, sociopolitical aspects. Taught in English, readings in English. GE: Literary, Visual, and Performing Arts.

### SPAN:2000 Spanish Language Skills: Writing 4 s.h.

Bridge from second-year Spanish to more advanced courses in Spanish language, linguistics, and literature; emphasis on skill development in writing, critical reading in Spanish, and oral communication. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503.

### SPAN:2001 Global Science Fiction 3 s.h.

Science fiction from around the world; spanning poetry, fiction, drama, film, television, comics, mobile phone games, and music; produced on six continents. Taught in English. GE: Diversity and Inclusion. Same as ASIA:2001, FREN:2010, RUSS:2001, TRNS:2001, WLLC:2001.

### SPAN:2005 Writing Global Spanish 3 s.h.

Spanish in the digital age; linguistic varieties of Spanish spoken globally; emphasis on skill development in writing, critical reading in Spanish, and oral communication. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503.

### SPAN:2010 Spanish Language Skills: Speaking 3 s.h.

Development of conversational proficiency and cultural competence through action learning; strategic role playing and creative language use based on everyday situations in Hispanic cultures; composition skills and grammar review. Requirements: SPAN:1502 or SPAN:1503.

### SPAN:2020 Hispanic Institute: Language 3 s.h.

Grammar essentials, written exercises, short compositions, conversational activities. Requirements: SPAN:1502 or SPAN:1503.

### SPAN:2030 Study of Language: Myths and Concepts 3 s.h.

How linguists look at language; basic concepts of linguistics and grammar. Requirements: SPAN:1502 or SPAN:1503.

- SPAN:2040 Spanish for Heritage Speakers** 3 s.h.  
Emphasis on reading and writing skills for bilingual students who have acquired Spanish listening and speaking skills at home and in their communities; focus on literacy development and registers of use; designed specifically for native or heritage speakers of Spanish. Taught in Spanish.
- SPAN:2050 Spanish in the United States** 3 s.h.  
Issues related to Spanish in the United States; aspects of linguistics and sociolinguistics inherent to the existence and proliferation of Spanish in the United States. Taught in English. GE: Diversity and Inclusion.
- SPAN:2060 Spanish Pronunciation** 4 s.h.  
Pronunciation as a key element of communication in a second language; self-evaluation of pronunciation in Spanish; how sounds differ between English and Spanish; analysis of pronunciation; production exercises. Requirements: SPAN:1502 or SPAN:1503.
- SPAN:2080 Business Spanish** 4 s.h.  
Effective written and oral communication in Spanish in the business world; emphasis on linguistic and cultural proficiency. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503.
- SPAN:2090 Medical Spanish in Contemporary Society** 4 s.h.  
Vocabulary related to medical field; grammatical concepts; health-related cultural competence; discussion of health issues concerning Hispanic communities in the U.S. and abroad. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as GHS:2090.
- SPAN:2095 Activities Attendance for Spanish Majors** 1 s.h.  
Attendance at Spanish literary readings, scholarly presentations, and Hispanic cultural events on the University of Iowa campus and in Iowa City, featuring visiting, local, and University of Iowa writers, filmmakers, artists, scholars, and community members. Taught in Spanish. Requirements: SPAN:2000 or SPAN:2005 or SPAN:3000 or SPAN:3020 or SPAN:3060.
- SPAN:2200 Introduction to Spanish American Cultures** 3 s.h.  
Introduction to study of cultural history of Spanish America; topics range from precolombian times to present; for students who are just starting work on the Spanish major or minor. Requirements: SPAN:1502 or SPAN:1503. Same as LAS:2200.
- SPAN:2280 Introduction to Latina/o/x Studies** 3 s.h.  
Introduction to field of Latina/o/x studies through interdisciplinary readings from literature, history, sociology, political science, urban studies, and anthropology; commonalities and differences among long-standing Latina/o/x populations (i.e., Mexican Americans, Puerto Ricans, Cuban Americans); challenges faced by newer arrivals (i.e., Dominican Americans, Salvadoran Americans, Guatemalan Americans, Central and South American immigrants). Taught in English. GE: Diversity and Inclusion. Same as HIST:2280, LATS:2280.
- SPAN:2300 Introduction to Reading Literature** 4 s.h.  
Close readings of literary texts from Spain and Spanish America; basic concepts of genre (narrative, poetry, theater, essay); writing about literature. Requirements: SPAN:1502 or SPAN:1503.
- SPAN:2400 Readings in Spanish Literature** 3 s.h.  
Tools for improving reading skills; basic concepts for textual understanding; historical overview of literary works, with focus on literature of Spain. Requirements: SPAN:1502 or SPAN:1503.
- SPAN:2500 Readings in Spanish American Literature** 3 s.h.  
Tools for improving reading skills; basic concepts for textual understanding; historical overview of literary works, with focus on Spanish American literature. Requirements: SPAN:1502 or SPAN:1503.
- SPAN:2700 Introduction to Latin American Studies** 3 s.h.  
Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Taught in English. Same as COMM:2800, IS:2700, LAS:2700, PORT:2700.
- SPAN:2800 Screening Latin America** 3 s.h.  
Basic introduction to contemporary Latin American societies and cultures through fiction feature films (i.e., comedies, dramas) and documentaries by major filmmakers; previous knowledge of film analysis not required. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as LAS:2800.
- SPAN:2810 Screening Spain** 3 s.h.  
Basic introduction to contemporary Spanish society and culture through fiction feature films (i.e., comedies, dramas) and documentaries by major filmmakers; previous knowledge of film analysis not required. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503.
- SPAN:2850 Brazilian Narrative in Translation** 3 s.h.  
Representative readings of modern and contemporary novels, short stories, and other narrative forms; cultural background; focus on major writers. Taught in English. Prerequisites: ENGL:1200. GE: Literary, Visual, and Performing Arts. Same as LAS:2850, PORT:2850.
- SPAN:2900 Music of the Hispanic World** 3 s.h.  
Introduction to music of Spain and Latin America, including the United States; listening skills, music appreciation, continuing development of Spanish language skills. Taught in Spanish. Requirements: SPAN:1502 or SPAN:1503. Same as LAS:2900.
- SPAN:2901 Diversity and Cultures in Spain** 3 s.h.  
Introduction to diversity of cultures within Spain; political, social, and economic background, cultural movements. Taught in English. GE: Values and Culture.
- SPAN:2910 Hispanic Institute: Study/Life in Spain** 1 s.h.
- SPAN:3000 Cultural Narratives for Heritage Speakers** 3 s.h.  
Development of writing skills in Spanish, focus on expository writing for academic purposes. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3005 Study Abroad in the Hispanic World: Return and Reflect** 3 s.h.  
Students integrate culture and language learning achieved in a foreign country into their Spanish studies at the University of Iowa through extensive writing exercises and oral presentations; for students returning from study abroad. Requirements: completion of study abroad program.

**SPAN:3010 Advanced Spanish Speaking and Writing****3 s.h.**

Development of oral proficiency; secondary emphasis on continuing development of writing skills; cultural knowledge of several Spanish-speaking countries. Requirements: two courses taught in Spanish at the 2000 level or above.

**SPAN:3015 Fast Fixes: Improved Spanish in Six Weeks****1 s.h.**

Varied topics focused on improving common problems with Spanish grammar; emphasis on written and oral expression. Requirements: SPAN:2000 or SPAN:2005 or SPAN:3000 or SPAN:3020 or SPAN:3060 or SPAN:3070.

**SPAN:3020 Journalistic Writing in Spanish****3 s.h.**

Spanish writing skills; introduction to style and practice of journalistic reporting and writing. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as JMC:3445, LAS:3020.

**SPAN:3030 Translation Workshop: English to Spanish****3 s.h.**

Introduction to translation theory and effective translation processes; examination of potential translation problems in specific areas of English to Spanish translation; primary focus on nonfiction. Requirements: at least one course taught in Spanish at the 2000 level or above.

**SPAN:3035 Translation Practicum: English to Spanish****1 s.h.**

Students develop a plan of work in consultation with instructor and submit a community outreach translation project (English to Spanish) for a local nonprofit organization of their choice, periodical translation reports, and a final portfolio of their work. Taught in Spanish. Prerequisites: SPAN:3030 with a minimum grade of B.

**SPAN:3045 Spanish Health Narratives****3 s.h.**

Narratives are the central communicative act through which humans make sense of wellness and illness, life and death, always within contexts of language and culture; students focus on reading and analyzing narratives about health and health care, and opportunities to create their own narratives; particular emphasis on health care disparities and issues they present for Spanish-language communities in the United States and abroad as context for individual narratives. Taught in Spanish. Requirements: one course numbered SPAN:2000 or above. Same as GHS:3045.

**SPAN:3050 Translation Workshop: Spanish to English****3 s.h.**

Spanish to English literary translation; meaning, form and equivalence, authenticity; questions of untranslatability. Requirements: at least one course taught in Spanish at the 2000 level or above.

**SPAN:3060 Introductory Workshop on Creative Writing in Spanish****3 s.h.**

Development of writing skills in Spanish through creative writing. Taught in Spanish. Requirements: one course numbered SPAN:2000 or above.

**SPAN:3070 Introductory Workshop Writing Scripts****3 s.h.**

Development of writing skills in Spanish through writing scripts. Taught in Spanish. Requirements: at least one course numbered SPAN:2000 or above.

**SPAN:3080 Spanish for International Business****3 s.h.**

Tools for effective business communication; linguistic, sociolinguistic, and practical skills for effective oral and written communication developed through discussion of business case studies, presentations, and meetings; selected Spanish and Latin American companies examined through varied media including news and internet; role of transaction intermediaries in international trade. Requirements: at least one course numbered SPAN:3000 or above.

**SPAN:3090 Spanish at Work****1 s.h.**

Uses for a Spanish degree; knowledge and skills gained as a Spanish major that are in high demand among a wide variety of employers; important steps taken as a student that translate unique career dreams into reality; includes work with Pomerantz Career Center staff. Requirements: at least two courses numbered SPAN:2000 or above.

**SPAN:3091 Spanish Creative Literacy Outreach****1 s.h.**

Hands-on outreach experience for Spanish majors and minors who develop and participate in activities for the Spanish Creative Literacy Project. Requirements: SPAN:2000 or SPAN:2005 or SPAN:3000 or SPAN:3020 or SPAN:3060.

**SPAN:3092 Spanish in the Community****3 s.h.**

Students work directly with Spanish speakers through community-based service learning; focus on issues of interest to the local Latina/o/x community, develop oral proficiency, and enhance their civil engagement. Requirements: two courses numbered SPAN:2000 or above.

**SPAN:3095 Spanish Composition and Grammar****3 s.h.**

Development of three types of compositions; selected readings and comprehension activities; vocabulary expansion; grammar review with exercises. Requirements: proficiency in written and oral Spanish, based on several university Spanish classes (about half the coursework towards a Spanish major), plus study abroad experience in a Hispanic country.

**SPAN:3096 Advanced Spanish Grammar****3 s.h.**

Comprehensive grammar review of standard written Spanish; explanations and examples, exercises, videos. Requirements: SPAN:2000 or SPAN:2005 or SPAN:3000 or SPAN:3020 or SPAN:3060 or SPAN:3070.

**SPAN:3100 Structures of Spanish: Words and Sentences****3 s.h.**

Basic concepts and methods for analysis of linguistics as applied to Spanish patterns of word formation (morphology) and sentence formation (syntax). Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above.

**SPAN:3105 Linguistic Aspects of the Lusophone World****3-4 s.h.**

Introduction to Portuguese incorporating formal (theoretical), historical, and sociolinguistic perspectives; linguistic analysis of phonetics/phonology, morphology, and syntax; origins of Portuguese and its expansion to Africa, Asia, and Latin America. Taught in English. Same as LING:3105, PORT:3105.

**SPAN:3110 Spanish Sound Structure****3 s.h.**

Articulation of Spanish sounds—description and practice; how Spanish sounds are organized into classes, relations among the different classes, how they are implemented in context, patterns they exhibit. Requirements: at least one course taught in Spanish at the 2000 level or above.

- SPAN:3120 Foundations in Sociolinguistics** 3 s.h.  
Dialects, speech communities, variation, choosing a code, solidarity and politeness, language and gender, language planning. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3130 Introduction to Bilingualism** 3 s.h.  
Psycholinguistic and sociolinguistic aspects of bilingualism; language usage, maintenance, attitudes, shift, transfer, loss; code-switching. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3151 Spanish Applied Linguistics** 3 s.h.  
Concepts of linguistic analysis applied to Spanish; focus on problematic areas of Spanish grammar, lexicon, semantics; introduction to cross-cultural pragmatics; connections between language learning, technology, and assessment; for future teachers of Spanish. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3170 Introduction to Spanish Language Acquisition** 3 s.h.  
Basic principles of language acquisition theory applied to learning Spanish as a first or second language. Requirements: at least one course taught in Spanish at the 2000 level or above. Recommendations: completion of SPAN:3100.
- SPAN:3190 Psycholinguistic Aspects of Bilingualism** 3-4 s.h.  
Interaction of two languages in a bilingual in terms of sound system, words, and grammar; different meanings of bilingualism, how bilingualism and multilingualism can change across lifespan. Taught in English. Requirements: linguistics or language acquisition course. Same as LING:3190.
- SPAN:3191 Introduction to Spanish-English Interpretation (Medical Emphasis)** 1,3 s.h.  
Introduction to Spanish-English language interpretation; focus on history, techniques, types, and practice with emphasis on the medical field. Prerequisites: SPAN:2090 with a minimum grade of B+ or SPAN:2040 with a minimum grade of B+. Requirements: advanced level of oral proficiency and familiarity with basic medical terminology.
- SPAN:3192 Teaching Spanish Heritage Speakers** 3 s.h.  
Focus on cutting-edge research and methods to develop suitable language curriculum for Spanish heritage speakers (SHS); topics include bilingual development, sociolinguistics, language teaching, and heritage speakers' affective needs; use of these theories to help understand and apply best practices in teaching SHS; topics also help create best practices in teaching mixed language courses for second language and heritage students. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as EDTL:3492.
- SPAN:3195 Spanish Linguistics Lab I** 1 s.h.  
Hands-on research experience collecting and analyzing linguistic data.
- SPAN:3200 Latin American Cultural Studies** 3 s.h.  
Interdisciplinary, multiregional approach to Latin American history, society, politics, economics, and culture. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3210 Cultural Storytelling** 3 s.h.  
Examination of memoir, short story, and journalism from Latin America to distinguish truth from accuracy and individual choices within cultural norms; course will enrich students' Spanish language fluency and writing as well as their knowledge of Latin American cultures. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3211 Comparative Arts** 3 s.h.  
Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Taught in English. Same as ASIA:3210, FREN:3210, IWP:3210, WLLC:3210.
- SPAN:3215 Medellín** 3 s.h.  
Medellín, Colombia has been transformed from one of the most violent places on Earth to an award-winning city of innovation in only 20 years; introduction to the city and its people through literature, music, and a digital map project. Taught in Spanish. Requirements: at least one course numbered SPAN:2000 or above. Same as LAS:3215.
- SPAN:3225 Latin American Women Writers** 3 s.h.  
Focus on long tradition of strong female writers in Latin America; materials may include poetry, theater, fiction, and essay from the Spanish-speaking countries of Mexico, Central America, South America, and Brazil. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as LAS:3225.
- SPAN:3230 Modern Mexico** 3 s.h.  
Twentieth-century Mexican cultural history, including nationalism, gender relations, Indigenous cultures, border issues, and popular culture; materials range from journalistic and literary writing to film, music, images, and television. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3240 Mexico City** 3 s.h.  
Broad historical survey of Mexico City as center of cultural life in Mexico and Latin America and city of global importance; conquest and contemporary narratives, visual culture, music, and film. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3290 Topics in Cinema and Society** 3 s.h.  
Film and cultural history of one Latin American nation. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3295 Topics in Film and Culture** 3 s.h.  
Role of film in cultural transformations; art and politics of film; audiovisual media and culture. Taught in English. Requirements: at least one course in literature and/or culture taught in English or Spanish at the 2000 level.
- SPAN:3310 Spanish American Short Story** 3 s.h.  
Works by 19th- and 20th-century Spanish American writers; emphasis on reading strategies and historical, cultural, literary backgrounds. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as LAS:3310.
- SPAN:3320 Spanish American Poetry** 3 s.h.  
Poetry as a literary genre, short history of its development, early forms in Spanish America, poets from Modernism to present; readings from writers including Rubén Darío, Pablo Neruda, César Vallejo, Octavio Paz, J.L. Borges. Requirements: at least one course taught in Spanish at the 2000 level or above.

- SPAN:3350 Contemporary Spanish American Literature** 3 s.h.  
Comprehensive view of 20th-century literature from Spanish-speaking countries in the Americas, including narrative and poetry; examination of issues related to texts and contexts through written and oral analysis. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3370 Topics in Literatures and Cultures** 3 s.h.  
Literature and culture of specific regions, countries, or cities of Latin America. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3400 Chicano Literature and Culture** 3 s.h.  
Recent fiction and poetry by Chicano and Chicana writers; readings in Spanish and English. Taught in English. Requirements: satisfaction of GE CLAS Core Interpretation of Literature, or LATS:2280 or SPAN:2280 or HIST:2280. Same as LATS:3400.
- SPAN:3440 Topics in Latina/o/x Literature and Culture** 3 s.h.  
Examination of special topics in interdisciplinary field of Latina/o/x studies. Taught in Spanish or English. Requirements: one course taught in Spanish at the 2000 level or above, or LATS:2280 or SPAN:2280 or HIST:2280. Same as LATS:3440.
- SPAN:3500 Topics in Culture of the Hispanic World** 3 s.h.  
Specific topics; culture of different parts of Spanish-speaking world, or cross-regional or cross-national cultural phenomenon. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3520 Introduction to Film Studies** 3 s.h.  
Introduction to film analysis and theory; focus on Latin American and Spanish cinemas in context of international film history. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3600 Cultures of Spain** 3 s.h.  
Political, religious, social, economic background; important cultural, literary movements. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3610 Hispanic Institute: Culture** 3 s.h.  
Overview of geography, history (political, economic, social), architecture, painting, music of Spain; readings, slides, video and audio cassettes, visits to local sites of cultural significance. Requirements: SPAN:1502 or SPAN:1503.
- SPAN:3620 Madrid** 3 s.h.  
Contemporary Madrid as one of the premier capital cities of the European Union; history and present day reality of the city; examination of paintings, descriptions, movies, fashion, and customs from several historical periods. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3630 Spanish Youth Culture** 3 s.h.  
Literary texts, films, and music produced by young people in Spain from 1939 to present; gender issues and relationships between market, popular culture, and high culture. Requirements: one course taught in Spanish at the 2000 level or above.
- SPAN:3750 Literature in the Time of Cervantes** 3 s.h.  
Introduction to literary questions of 15th to 17th centuries in Spain; understanding of literary Spanish and cultural issues of the period—end of the feudal mind, beginning of individualism, poetry, emergence of theater, crisis of empire. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3790 Hispanic Institute: Literature** 3 s.h.  
Introduction to poetry, narrative, and theater in Spanish literature; textual commentary and critical interpretations of major representative works of selected historical periods. Requirements: SPAN:1502 or SPAN:1503.
- SPAN:3820 Modern and Contemporary Spanish Literature** 3 s.h.  
Works of the last 30 years of the 19th century, up to the outbreak of the Spanish Civil War; Realism, Naturalism, generation of 1898, generation of 1913, generation of 1927. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3840 Contemporary Spanish Short Story** 3 s.h.  
Contemporary short stories from 20th- and 21st-century Spain; emphasis on reading strategies and interpretation skills; focus on historical and social contexts. Requirements: at least one course taught in Spanish at the 2000 level or above.
- SPAN:3850 Topics in Cultural Studies** 3 s.h.  
Specific topics; interdisciplinary approaches; cultural relations of different parts of Portuguese-speaking world, cross-regional or cross-national discourses. Taught in English. Same as PORT:3850.
- SPAN:3999 Major Ambassadors** 1 s.h.  
Students serve as representatives for Spanish and Portuguese majors during class visits and recruiting events; course format includes instruction for presentations and answering questions. Same as PORT:3999.
- SPAN:4100 Introduction to Spanish Phonology** 3 s.h.  
Sound patterns of Spanish; how various theoretical approaches solve basic problems in Spanish phonology; identification of linguistic universals, how they are manifested in the sound structure of Spanish. Taught in Spanish. Same as SLA:4301.
- SPAN:4140 History of the Spanish Language** 3 s.h.  
Development of phonetic, morphological, syntactical properties of the Spanish language from its Latin roots; emphasis on internal history and process of expansion from a minor dialect (Castilian) to a significant world language. Prerequisites: SPAN:3110 or SPAN:3100.
- SPAN:4150 Introduction to Spanish Syntax** 3 s.h.  
Basic principles of generative syntax as applied to analysis of Spanish syntactic structure; extensive syntactic analysis. Taught in Spanish. Prerequisites: SPAN:3100. Same as SLA:4300.
- SPAN:4160 Language, Justice, and the Law** 3 s.h.  
Focus on language policy, immigrants' linguistic rights, and cultural communication in context of U.S. law; development of Spanish language skills in legal and cultural contexts. Taught in Spanish. Requirements: two courses in Spanish numbered 3000 or above. Same as LATS:4160.
- SPAN:4170 Second Language Acquisition** 3 s.h.  
Linguistic approaches to acquisition of Spanish as a second language. Taught in Spanish. Prerequisites: LING:3001 or CSD:3117 or CSD:3118 or PSY:2601 or EDTL:4410 or EDTL:4417 or SPAN:3130 or SPAN:3100 or SPAN:3110 or SPAN:3120.
- SPAN:4190 Topics in Hispanic Linguistics** 3 s.h.  
Prerequisites: SPAN:3100 or SPAN:3110 or SPAN:3120 or SPAN:3130. Requirements: completion of at least one Hispanic linguistics course.
- SPAN:4195 Spanish Linguistics Lab II** 3 s.h.  
Hands-on research experience collecting and analyzing linguistic data. Requirements: at least one linguistics course.

- SPAN:4200 Discourse and Dialogue** 3 s.h.  
Discourse analysts and creative writers examine how language is used, analysts on the microlevel of interaction and on the macrolevel of circulation of systems of meaning; writers construct and recreate conversations in fiction and nonfiction prose to develop plot, characters, relationships, and point-of-view; these two approaches to Spanish are brought and used together, conceptually and practically; students read and discuss how analysts and creative writers can learn from each other, then examine topics such as history, ideology, identity, and choice versus structure through analytic and creative writing. Taught in Spanish. Requirements: one course taught in Spanish numbered SPAN:2000 or above.
- SPAN:4205 Culture, Language, and Health** 3 s.h.  
Exploration of health, wellness, and illness from a perspective of language and culture; languages we use to describe our mental and physical health that are situated within culture-specific ideas of human bodies, minds, disease, and wellness; understanding where beliefs about health and wellness come from and exploring other systems of belief on their own terms prepares students to be better informed health care practitioners, more aware patients within health care systems, and more sensitive caregivers in health related settings; emphasis on observation, asking questions, and analyzing health care worlds. Taught in Spanish. Requirements: two courses in Spanish numbered 3000 or above. Same as GHS:4205.
- SPAN:4330 Colonial Spanish American Literature** 3 s.h.  
Readings from the formative period of Spanish American culture; may include discovery and conquest, ethnicity and gender, dissent and popular resistance. Requirements: one literature course taught in Spanish numbered SPAN:3200 or above.
- SPAN:4390 Topics in Spanish American Literature** 3 s.h.  
Taught in Spanish. Requirements: one literature course in Spanish numbered SPAN:3200 or above. Same as LAS:4390.
- SPAN:4620 Spanish Golden Age Fiction** 3 s.h.  
Literature and society in first centuries of Spanish Modernity, Renaissance and Baroque periods, love and the self, alienation, utopias, the body and morals, cultural dimensions of genres. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.
- SPAN:4630 Society and Poetry: Spanish Lyric** 3 s.h.  
Twentieth-century Spanish lyric poetry in its sociocultural context. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.
- SPAN:4650 Don Quijote** 3 s.h.  
Exploration of Cervantes' *Don Quijote*; sociohistorical context, questions of human existence, literary tradition, metafiction, influence of *Don Quijote* on novelists and filmmakers, critical reception of the text. Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.
- SPAN:4690 Topics in Spanish Literature** 3 s.h.  
Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.
- SPAN:4805 Chicano Cinema** 3 s.h.  
History of Chicano independent and industry film and television production since the Chicano political and cultural movement began in the 1960s. Taught in English. Requirements: one Spanish literature or culture course numbered SPAN:3200 or above, or one film studies course numbered above CINE:2100. Same as CINE:4705, LATS:4805.
- SPAN:4815 Lost Childhoods: Marginal Children of Latin America** 3 s.h.  
Focus on lost childhoods from a cultural studies perspective; analysis of marginal perspectives that emerge from a globalized urban landscape; evolution of literary, artistic (art, photography, comics), and film productions about dispossessed children, the construction of childhood by nongovernmental and nonprofit organizations, and how these cultural productions denounce social violence. Taught in Spanish. Requirements: two courses numbered SPAN:3000 or above. Same as LAS:4815.
- SPAN:4820 Latina/o/x Popular Culture** 3 s.h.  
Role of Latina/o/x popular culture as a site of contemporary social practice and cultural politics in both local and global contexts; specific attention to notions of citizenship, identity, and culture. Taught in English. Same as AMST:4800, LATS:4800.
- SPAN:4830 The Hispanic World in the Digital Era** 3 s.h.  
Global digital space and construction of culture in Hispanic world; how digital data creates knowledge and ways it represents and impacts societies; power of computer technology to disseminate critical thinking, social outreach, and creative expressions; how digital realities and tools of constant communication promote change. Requirements: two literature or culture courses in Spanish, at least one of which must be numbered SPAN:3300 or above.
- SPAN:4840 Visual Culture in Modern and Contemporary Spain** 3 s.h.  
How to analyze different types of images in connection to the social and political developments of modern and postmodern Spain; special attention given to the role that images played in the periods of political turmoil that defined modern Spanish history. Requirements: two courses taught in Spanish and at least one numbered SPAN:3000 or above.
- SPAN:4850 Topics in Cultural Studies** 3 s.h.  
Requirements: one literature or culture course taught in Spanish numbered SPAN:3200 or above.
- SPAN:4870 Islamic Cultural Presence in Spain** 3 s.h.  
Islamic history and culture in the Iberian Peninsula from Middle Ages to present. Taught in Spanish. Requirements: one literature or culture course taught in Spanish numbered SPAN:3200 or above. Same as RELS:4870.
- SPAN:4880 Comic Books and Graphic Novels in the Hispanic World** 3 s.h.  
Analysis of comics and graphic novels from Hispanic world; diverse Hispanic representational perspectives on creativity, humor, storytelling, culture, politics, nationality, and ethnicity; opportunity for students to express their own creativity with comics. Recommendations: two literature or culture courses taught in Spanish, at least one of which must be numbered SPAN:3200 or above.
- SPAN:4900 Latin American Studies Seminar** 3-4 s.h.  
Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, HIST:4504, LAS:4700, PORT:4700.
- SPAN:4910 Topics in Literary Studies** 3 s.h.  
Requirements: two literature courses in Spanish, at least one of which must be numbered SPAN:3300 or above.
- SPAN:4920 Topics in Film Studies** 3 s.h.  
Requirements: one literature or culture course taught in Spanish numbered SPAN:3200 or above.

- SPAN:4925 Topics in Film Narrative** 3 s.h.  
Exploration of relationship between film narratives and social systems. Taught in English. Requirements: at least one course in literature and/or culture taught in English or Spanish at the 3000 level.
- SPAN:4950 Advanced Workshop on Creative Writing in Spanish** 3 s.h.  
In-depth consideration of characters, dialog, conflict, setting, point of view, other fundamentals of fiction; experience writing short stories and other pieces, with class discussion; fictional texts by renowned writers, authors' essays on their own creative process; narrative strategies of short stories, songs, painting, films. Requirements: one creative writing course in Spanish and one literature course in Spanish numbered SPAN:3300 or above, or two literature courses in Spanish numbered SPAN:3300 or above.
- SPAN:4980 Advanced Translation: Spanish to English** 3 s.h.  
Examination of translation through practical exercises and readings related to the problem of working with literature between languages; questions related to style and form as well as historical and cultural distance will be examined. Requirements: SPAN:3030 or SPAN:3050 and one literature course taught in Spanish.
- SPAN:4998 Honors: Research and Thesis** 2-3 s.h.  
Requirements: honors standing.
- SPAN:4999 Special Work** 1-3 s.h.
- SPAN:5000 Teaching and Learning Languages** 3 s.h.  
Readings in pedagogical theory and practice, second language acquisition; experience designing activities for teaching and assessment with critiques based on current theories and approaches; development of reflective practices toward one's language teaching. Taught in English. Same as FREN:5000, GRMN:5001, SLA:5000, WLLC:5000.
- SPAN:5002 Pedagogical Practicum** 2 s.h.  
Practice in lesson design, classroom management techniques, evaluation skills during work with faculty. Requirements: Ph.D. standing.
- SPAN:5003 Professional Training and Development** 1 s.h.  
Professional training and preparation for a variety of professional opportunities within and outside of academia. Requirements: Spanish Ph.D. standing.
- SPAN:5005 Heritage and Dual Language Teaching** 3 s.h.  
Theoretical issues (e.g., ideological, educational, linguistic) of heritage language teaching and learning; pedagogical issues including curriculum development and assessment for dual language programs in the United States; focus on teaching heritage language learners (those who learned a language other than English at home) or dual language education (those who develop academic skills in their native language while building skills in a different language) in the United States. Taught in English. Same as WLLC:5005.
- SPAN:6110 Spanish Phonology** 3 s.h.  
Modern approaches to synchronic phonology as applied to Spanish; focus on traditional descriptive problems, recent generative analyses. Taught in Spanish. Requirements: phonology or linguistics course. Same as SLA:6303.
- SPAN:6120 Spanish Syntax** 3 s.h.  
Spanish syntactic constructions examined in framework of selected syntactic theory; emphasis on development of syntactic argumentation. Taught in Spanish. Requirements: one course in syntax. Same as SLA:6304.
- SPAN:6150 Topics in Spanish Language Acquisition** 3 s.h.  
Theoretical linguistic approaches to monolingual, bilingual, and second language acquisition of Spanish and Portuguese; varied topics. Taught in Spanish. Requirements: at least one course in linguistics (e.g., general introduction to linguistics). Same as SLA:6301.
- SPAN:6180 Topics in Hispanic Linguistics** 3 s.h.  
Taught in Spanish or English.
- SPAN:6190 Topics in Comparative Romance Linguistics** 3 s.h.  
Comparative study of phonology, morphology, or syntax of the main Romance languages as informed by linguistic theory; diachronic or synchronic perspective. Taught in English. Recommendations: additional graduate coursework in linguistics. Same as LING:6190, SLA:6302.
- SPAN:6195 Undergraduate Lab Research Supervision** 1 s.h.  
Hands-on experience supervising undergraduate students in a research context. Requirements: enrollment in Ph.D. or M.A. program in Spanish linguistics or Ph.D. program in linguistics.
- SPAN:6210 Fiction Workshop** 4 s.h.  
Craft of writing short stories; underlying principles examined through lectures, readings, craft analysis, discussions, exercises, and workshops; activities linked with International Writing Program. Requirements: admission to M.F.A. Spanish Creative Writing program.
- SPAN:6220 Poetry Workshop** 4 s.h.  
Construction and recognition of poetic voice through readings, analysis, and exercises from different poets and by students; poetic voice in three spaces (diary of poetic prose, collection of poems, object poem). Requirements: admission to M.F.A. Spanish Creative Writing program.
- SPAN:6231 Graphic Novel/Comic Script Workshop** 1,4 s.h.  
Basic steps to develop a comic book or a graphic novel; different styles and ways to develop scripts and characters; main authors and their graphic works; students work on possible script or group of characters. Requirements: admission to M.F.A. Spanish Creative Writing program.
- SPAN:6235 Film Script/Theater Workshop** 4 s.h.  
Basic steps to developing plays; different styles and ways to develop plays and characters; reading main authors and their plays; student work on a possible play. Requirements: admission to M.F.A. in Spanish Creative Writing program.
- SPAN:6241 Creative Project Development** 4 s.h.  
Development of creative project. Requirements: admission to M.F.A. Spanish Creative Writing program.
- SPAN:6251 Workshop on Editing a Literary e-Journal** 4 s.h.  
Plan, produce, write, and edit a literary digital magazine; manage and write for *Iowa Literaria*. Requirements: admission to M.F.A. in Spanish Creative Writing program.
- SPAN:6271 Children, Youth Literature** 1,3 s.h.  
Practice of writing literature for children and youth; reading literary texts in different cultural traditions; how narratives and poems for children or youth are created; using readings as springboards for thinking about ways to write for children and youth; texts for this group of readers. Requirements: admission to M.F.A. Spanish Creative Writing program.

**SPAN:6280 Nonfiction Workshop 4 s.h.**

Practice of self narrative and construction of the self in literature; readings of self-narrated texts in different literary forms and cultural traditions (from autobiography to testimonial narratives); various ways in which the narrating self is formed and deformed by literary conventions that define him/her; readings as springboards for thinking on ways to write the self; series of autobiographical sketches. Requirements: admission to M.F.A. Spanish Creative Writing program.

**SPAN:6290 Topics in Spanish Creative Writing 1-4 s.h.**  
Examination of special issues related to craft, context, and practice of Spanish creative writing.

**SPAN:6295 Practicum Editing a Literary e-Journal arr.**  
Practice in planning, producing, and editing *Iowa Literaria*. Recommendations: SPAN:6251.

**SPAN:6299 Thesis: Creative Writing arr.**  
Continuation of work on student manuscript. Requirements: admission to M.F.A. Spanish Creative Writing program.

**SPAN:6300 Colonial Spanish American Literature 3 s.h.**  
Chronicles of the conquest: close reading with focus on role of writing and operations of "othering"; balance between critical secondary sources and primary sources.

**SPAN:6320 Contemporary Spanish American Narrative 3 s.h.**  
Narrative from mid-20th century to present; emphasis on the Boom, post-Boom.

**SPAN:6330 Spanish American Narrative: Modern and Regional 3 s.h.**

**SPAN:6390 Topics in Spanish American Literature 3 s.h.**

**SPAN:6600 Medieval Spanish Literature 3 s.h.**  
Critical reading of canonical medieval texts in their cultural context; application of modern theory to medieval texts; works such as *El Poema del Cid*, *El Romancero Viejo*, *Milagros de Nuestra Señora*, *El Conde Lucanor*, *El Libro de Buen Amor*.

**SPAN:6620 Spanish Renaissance and Baroque Literature 3 s.h.**  
Critical analysis of social, moral, political function of literature in early modern Spain; Renaissance and Baroque poetry; *La Celestina*; pastoral literature; *Don Quijote*; narratives of the court; modern subjectivity; the question of genre.

**SPAN:6660 Contemporary Spanish Fiction 3 s.h.**  
The post-Franco novel in Spain; literary "postmodernism" and relationships between Spanish literature, politics, and society since 1975; representative significant works.

**SPAN:6670 Contemporary Spanish Poetry 3 s.h.**  
Poetry on the Spanish literary scene circa 1968; authors' reactions to predecessors, their connections with foreign traditions, metapoetry, the aesthetics of culturalism.

**SPAN:6680 Contemporary Non-Castilian Narrative Spain 3 s.h.**  
Readings in Spanish of novels and short stories written in another language of the Spanish state or by a member of one of Spain's non-Castilian historic nationalities.

**SPAN:6690 Topics in Spanish Literature 3 s.h.**

**SPAN:6850 Topics in Literary Studies 3 s.h.**

**SPAN:6860 Topics in Cultural Studies 3 s.h.**

**SPAN:6904 Crossing Borders Seminar 2-3 s.h.**  
Taught in English. Same as AFAM:6635, ANTH:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, IWP:6635, POLI:6635.

**SPAN:6920 Multimedia and Second Language Acquisition 3 s.h.**

Combination of theory and practice regarding use of multimedia and technology to enhance foreign language teaching and second language acquisition research. Taught in English. Same as FREN:6920, GRMN:6920, SLA:6920.

**SPAN:6965 Topics in Second Language Acquisition: Writing 3 s.h.**

Theory, pedagogy, research, and assessment in second language writing. Taught in English. Same as RHET:6965, WLLC:6965.

**SPAN:6998 Special Work arr.**

**SPAN:6999 Thesis arr.**

**SPAN:7000 Seminar: Spanish Linguistics 3 s.h.**  
Taught in Spanish. Same as LING:7000.

**SPAN:7200 Seminar: Literary Studies 3 s.h.**  
Specific topics on aspects of Spanish and/or Spanish American literature.

**SPAN:7300 Seminar: Cultural Studies 3 s.h.**  
Specific topics in Spanish and/or Spanish American cultural studies.

**SPAN:7505 Readings: Latin American History arr.**  
Introduction to historiography in the field of Latin American history; students deepen their understanding of the region's history and become acquainted with trends in topical concerns, sources, and methods that are shaping historical research on Latin America's past. Taught in English. Same as HIST:7505.

**Portuguese Courses**

**PORT:1000 First-Year Seminar 1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

**PORT:2000 Accelerated Elementary Portuguese 5 s.h.**  
First-year course in one semester; comprehending, speaking, reading, writing modern Portuguese; emphasis on speaking; previous knowledge of Portuguese not required. GE: World Languages Second Level Proficiency.

**PORT:2010 Elementary Portuguese I 3 s.h.**  
Emphasis on oral and written skills; first in a series; no previous knowledge of Portuguese necessary. Recommendations: no previous study of Portuguese. GE: World Languages First Level Proficiency.

**PORT:2015 Elementary Portuguese II 3 s.h.**  
Emphasis on oral and written skills; second in a series. Requirements: PORT:2010. GE: World Languages Second Level Proficiency.

**PORT:2500 Accelerated Intermediate Portuguese 5 s.h.**  
Second-year course in one semester; reading comprehension, oral and writing skills; grammar review. Requirements: PORT:2000. GE: World Languages Fourth Level Proficiency.

**PORT:2700 Introduction to Latin American Studies 3 s.h.**  
Cultures of Latin American countries with emphasis on cultural history and cultural production; interdisciplinary survey. Taught in English. Same as COMM:2800, IS:2700, LAS:2700, SPAN:2700.



- PORT:2850 Brazilian Narrative in Translation** 3 s.h.  
Representative readings of modern and contemporary novels, short stories, and other narrative forms; cultural background; focus on major writers. Taught in English. Prerequisites: ENGL:1200. GE: Literary, Visual, and Performing Arts. Same as LAS:2850, SPAN:2850.
- PORT:3050 Intensive Portuguese for Spanish Speakers** 4 s.h.  
Compare and contrast Spanish and Portuguese; development of basic communicative skills in Portuguese. Taught in Spanish and Portuguese. Requirements: undergraduate Spanish native speaker, Spanish heritage speaker, or two courses in Spanish numbered SPAN:4000 or above, or graduate standing.
- PORT:3100 Writing and Speaking** 3 s.h.  
Speaking and writing skills through discussion, oral presentations, grammar and vocabulary review, composition. Taught in Portuguese. Requirements: PORT:2500.
- PORT:3105 Linguistic Aspects of the Lusophone World** 3-4 s.h.  
Introduction to Portuguese incorporating formal (theoretical), historical, and sociolinguistic perspectives; linguistic analysis of phonetics/phonology, morphology, and syntax; origins of Portuguese and its expansion to Africa, Asia, and Latin America. Taught in English. Same as LING:3105, SPAN:3105.
- PORT:3150 Topics in Portuguese Language** 3 s.h.  
Various aspects of Portuguese language use. Taught in Portuguese. Requirements: one course numbered PORT:2500 or above.
- PORT:3400 Brazilian Literature After 1900** 3 s.h.  
Modern and contemporary representative readings from all periods and genres; focus on works of major Brazilian authors. Taught in Portuguese. Requirements: one course numbered PORT:2500 or above.
- PORT:3850 Topics in Cultural Studies** 3 s.h.  
Specific topics; interdisciplinary approaches; cultural relations of different parts of Portuguese-speaking world, cross-regional or cross-national discourses. Taught in English. Same as SPAN:3850.
- PORT:3999 Major Ambassadors** 1 s.h.  
Students serve as representatives for Spanish and Portuguese majors during class visits and recruiting events; course format includes instruction for presentations and answering questions. Same as SPAN:3999.
- PORT:4000 Topics in Luso-Brazilian Literature** 3 s.h.  
Study of genres, themes, and movements. Taught in Portuguese. Requirements: one course numbered PORT:2500 or above.
- PORT:4100 Topics in Luso-Brazilian Culture** 3 s.h.  
Study of past, present, and future of Portuguese-speaking countries; interdisciplinary. Taught in Portuguese. Requirements: PORT:2500.
- PORT:4700 Latin American Studies Seminar** 3-4 s.h.  
Examination of past, present, and future of Latin America; interdisciplinary. Taught in English. Same as ANTH:4700, HIST:4504, LAS:4700, SPAN:4900.
- PORT:4995 Portuguese Senior Project** 3 s.h.  
Voluntary student-initiated projects outside the classroom; designed or executed during senior year; similar to independent study, but based on research and completed in close consultation with a faculty mentor. Requirements: at least one course taught in Portuguese numbered PORT:4000 or above.
- PORT:4998 Special Work** 1-3 s.h.  
Independent study arranged between student and a faculty member to complete requirements for the major in Portuguese.
- PORT:4999 Honors Research and Thesis** 2-3 s.h.  
Requirements: honors standing.

## Spanish, B.A.

The Spanish major is built on coursework in Spanish Peninsular and Spanish American literature, Hispanic cultures, Hispanic linguistics, and advanced language skills. The goal of the major is twofold: to study content areas related to the Spanish language, such as literature, culture, and linguistics; and to develop proficiency in the Spanish language in all four skills—speaking, listening, reading, and writing.

### Learning Outcomes

By graduation, Spanish majors will have the following.

#### Proficiency

Increased Spanish language proficiency in speaking, writing, listening, and reading.

#### Analytical Skills

Acquired the skills to engage critically with one or more of the following areas.

- Spanish, Spanish American, and U.S. Latino literatures and cultures.
- Hispanic linguistics.
- Creative and/or journalistic writing.
- Second language acquisition and/or pedagogy.
- Literatures and cultures of the Portuguese-speaking world.

#### Knowledge

Gained knowledge of the diversity of the Hispanic world (Spain/Portugal, Latin America, and the United States) and its cultural, artistic, and linguistic history.

### Advising

First-year students are initially advised by the Academic Advising Center. Second-year students are advised by the Division of World Languages, Literatures and Cultures academic advisor. Third- and fourth-year students are advised by a faculty advisor who guides a student regarding academic or career-focus experiences and opportunities.

### Requirements

The Bachelor of Arts with a major in Spanish requires a minimum of 120 s.h., including at least 36 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. A maximum of 15 s.h. of approved transfer credit may be counted toward the major. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Coursework for the major includes a core, which consists of one course from each of the five principal academic areas of the department (see "Required Core" below), and seven electives, which may focus on one or more of the five principal areas or may include a broad range of courses (see "Electives" below).

All courses taken for the Spanish major must be numbered SPAN:2000 or above. Advanced Placement Program (AP) credit is considered to be equivalent to a Spanish course at the 2000 level. Students may count 3 s.h. in AP Spanish Language and Culture or Literature and Culture exams with a score of a 4 or higher as elective credit toward the major. See "Electives" below.

A minimum of one and a maximum of four courses for the major must be numbered 2000-2999, including AP credit. At least three courses for the major must be numbered 4000-4999, and students can either count these as core courses or as elective courses. Courses at the 4000-4999 level must be taken at the University of Iowa in the Department of Spanish and Portuguese; no transfer credit or study abroad courses are accepted.

Advanced undergraduate students preparing to earn honors may enroll in graduate courses with the permission of their advisor and the department chair. Ordinarily, permission is granted only to students who have completed a minimum of 30 s.h. of work for the major and whose g.p.a. in the major is 3.75 or higher.

Students may apply up to 6 s.h. of approved coursework taught in English or Portuguese toward the major. This includes coursework taught in the Department of Spanish and Portuguese or in another department, as approved by their advisor. All other courses for the major must be taught in Spanish. Courses taught in English are listed below.

### Spanish Courses Taught in English

Code	Title	Hours
SPAN:2001	Global Science Fiction	3
SPAN:2050	Spanish in the United States	3
SPAN:2280	Introduction to Latina/o/x Studies	3
SPAN:2700	Introduction to Latin American Studies	3
SPAN:2850	Brazilian Narrative in Translation	3
SPAN:2901	Diversity and Cultures in Spain	3
SPAN:3105	Linguistic Aspects of the Lusophone World	3-4
SPAN:3190	Psycholinguistic Aspects of Bilingualism	3-4
SPAN:3211	Comparative Arts	3
SPAN:3295	Topics in Film and Culture	3
SPAN:3999	Major Ambassadors	1
SPAN:3400	Chicano Literature and Culture	3
SPAN:3440	Topics in Latina/o/x Literature and Culture	3
SPAN:3850	Topics in Cultural Studies	3
SPAN:4805	Chicano Cinema	3
SPAN:4820	Latina/o/x Popular Culture	3
SPAN:4900	Latin American Studies Seminar	3
SPAN:4925	Topics in Film Narrative	3

### Requirements for the Major

The B.A. with a major in Spanish requires the following coursework.

Code	Title	Hours
	Hispanic Linguistics Course	3
	Spanish Peninsular Literature Course	3
	Spanish American Literature Course	3
	Culture (Peninsular or Spanish American) Course	3

Writing Course	3-4
Electives	21
<b>Total Hours</b>	<b>36-37</b>

## Required Core

### Hispanic Linguistics

Code	Title	Hours
One of these:		
SPAN:3100	Structures of Spanish: Words and Sentences	3
SPAN:3105	Linguistic Aspects of the Lusophone World	3-4
SPAN:3110	Spanish Sound Structure	3
SPAN:3120	Foundations in Sociolinguistics	3
SPAN:3130	Introduction to Bilingualism	3
SPAN:3151	Spanish Applied Linguistics	3
SPAN:3170	Introduction to Spanish Language Acquisition	3
SPAN:4100	Introduction to Spanish Phonology	3
SPAN:4140	History of the Spanish Language	3
SPAN:4150	Introduction to Spanish Syntax	3
SPAN:4160	Language, Justice, and the Law	3
SPAN:4170	Second Language Acquisition	3
SPAN:4190	Topics in Hispanic Linguistics	3
SPAN:4195	Spanish Linguistics Lab II	3
SPAN:4200	Discourse and Dialogue	3
SPAN:4205	Culture, Language, and Health	3

### Spanish Peninsular Literature

Code	Title	Hours
One of these:		
SPAN:2400	Readings in Spanish Literature	3
SPAN:3750	Literature in the Time of Cervantes	3
SPAN:3790	Hispanic Institute: Literature	3
SPAN:3820	Modern and Contemporary Spanish Literature	3
SPAN:3840	Contemporary Spanish Short Story	3
SPAN:4620	Spanish Golden Age Fiction	3
SPAN:4630	Society and Poetry: Spanish Lyric	3
SPAN:4650	Don Quijote	3
SPAN:4690	Topics in Spanish Literature	3

### Spanish American Literature

Code	Title	Hours
One of these:		
SPAN:2500	Readings in Spanish American Literature	3

SPAN:3310	Spanish American Short Story	3
SPAN:3320	Spanish American Poetry	3
SPAN:3225	Latin American Women Writers	3
SPAN:3350	Contemporary Spanish American Literature	3
SPAN:3370	Topics in Literatures and Cultures	3
SPAN:3400	Chicano Literature and Culture	3
SPAN:4330	Colonial Spanish American Literature	3
SPAN:4390	Topics in Spanish American Literature	3

### Culture (Peninsular or Spanish American)

Code	Title	Hours
One of these:		
SPAN:2200	Introduction to Spanish American Cultures	3
SPAN:2280	Introduction to Latina/o/x Studies	3
SPAN:2800	Screening Latin America	3
SPAN:2810	Screening Spain	3
SPAN:2900	Music of the Hispanic World	3
SPAN:2901	Diversity and Cultures in Spain	3
SPAN:3045	Spanish Health Narratives	3
SPAN:3200	Latin American Cultural Studies	3
SPAN:3210	Cultural Storytelling	3
SPAN:3215	Medellin	3
SPAN:3230	Modern Mexico	3
SPAN:3240	Mexico City	3
SPAN:3290	Topics in Cinema and Society	3
SPAN:3400	Chicano Literature and Culture	3
SPAN:3440	Topics in Latina/o/x Literature and Culture	3
SPAN:3500	Topics in Culture of the Hispanic World	3
SPAN:3520	Introduction to Film Studies	3
SPAN:3600	Cultures of Spain	3
SPAN:3610	Hispanic Institute: Culture	3
SPAN:3620	Madrid	3
SPAN:3630	Spanish Youth Culture	3
SPAN:4805	Chicano Cinema	3
SPAN:4815	Lost Childhoods: Marginal Children of Latin America	3
SPAN:4820	Latina/o/x Popular Culture	3
SPAN:4830	The Hispanic World in the Digital Era	3
SPAN:4840	Visual Culture in Modern and Contemporary Spain	3
SPAN:4850	Topics in Cultural Studies	3
SPAN:4880	Comic Books and Graphic Novels in the Hispanic World	3

SPAN:4900	Latin American Studies Seminar	3
SPAN:4920	Topics in Film Studies	3

## Writing

Code	Title	Hours
One of these:		
SPAN:2000	Spanish Language Skills: Writing	4
SPAN:2005	Writing Global Spanish	3
SPAN:3000	Cultural Narratives for Heritage Speakers	3
SPAN:3020	Journalistic Writing in Spanish	3
SPAN:3060	Introductory Workshop on Creative Writing in Spanish	3
SPAN:3070	Introductory Workshop Writing Scripts	3
SPAN:4950	Advanced Workshop on Creative Writing in Spanish	3

## Electives

Code	Title	Hours
Seven elective courses in Spanish numbered SPAN:2000 or above		21

Students choose elective coursework according to the following guidelines.

Electives may include coursework in Spanish language skills as well as more advanced language courses that focus on specialized language functions and purposes. They also may include a maximum of 6 s.h. earned in Portuguese courses numbered PORT:2500 or above or in related courses at the appropriate level offered by other University of Iowa departments and programs, such as history, anthropology, international studies, or linguistics. Related courses must be approved by the director of undergraduate studies; for a list of approved related courses, contact the Department of Spanish and Portuguese.

The following courses are only applicable toward the Spanish major as electives.

Code	Title	Hours
SPAN:2010	Spanish Language Skills: Speaking	3
SPAN:2020	Hispanic Institute: Language	3
SPAN:2030	Study of Language: Myths and Concepts	3
SPAN:2040	Spanish for Heritage Speakers	3
SPAN:2050	Spanish in the United States	3
SPAN:2060	Spanish Pronunciation	4
SPAN:2080	Business Spanish	4
SPAN:2090	Medical Spanish in Contemporary Society	4
SPAN:2095	Activities Attendance for Spanish Majors	1
SPAN:2300	Introduction to Reading Literature	4
SPAN:2700	Introduction to Latin American Studies	3

SPAN:2850	Brazilian Narrative in Translation	3
SPAN:2910	Hispanic Institute: Study/Life in Spain	1
SPAN:3010	Advanced Spanish Speaking and Writing	3
SPAN:3015	Fast Fixes: Improved Spanish in Six Weeks	1
SPAN:3030	Translation Workshop: English to Spanish	3
SPAN:3035	Translation Practicum: English to Spanish	1
SPAN:3050	Translation Workshop: Spanish to English	3
SPAN:3080	Spanish for International Business	3
SPAN:3090	Spanish at Work	1
SPAN:3095	Spanish Composition and Grammar	3
SPAN:3096	Advanced Spanish Grammar	3
SPAN:3190	Psycholinguistic Aspects of Bilingualism	3-4
SPAN:3192	Teaching Spanish Heritage Speakers	3
SPAN:3195	Spanish Linguistics Lab I	1
SPAN:3211	Comparative Arts	3
SPAN:3295	Topics in Film and Culture	3
SPAN:3850	Topics in Cultural Studies	3
SPAN:3999	Major Ambassadors	1
SPAN:4910	Topics in Literary Studies	3
SPAN:4925	Topics in Film Narrative	3
SPAN:4980	Advanced Translation: Spanish to English	3

A maximum of 3 s.h. earned in PORT:2500 Accelerated Intermediate Portuguese may be counted toward the major. The following Spanish and Portuguese courses do not count toward the major and may not be used as elective credit.

Code	Title	Hours
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2010	Elementary Portuguese I	3
PORT:2015	Elementary Portuguese II	3

## Study Abroad

The department participates in study abroad programs in Spain and Latin America; most of these programs offer both summer and semester or yearlong programs. The programs in Spain include the Board of Regents Hispanic Institute program in Valladolid (summer only); Cultures of Spain (Madrid, summer only), USAC (University Studies Abroad Consortium) programs in Alicante, Bilbao, Madrid, and San Sebastián; and CIEE programs in Alcalá de Henares, Alicante, Barcelona, Madrid, Palma de Mallorca, and Seville.

The programs in Latin America include USAC programs in Chile (Santiago) and Costa Rica (Heredia, Puntarenas, and San Ramón); CIEE programs in Argentina (Buenos Aires), Chile (Santiago and Valparaíso), Dominican Republic (Santiago), and Peru (Lima). They also include the CIC Latin America Health, Nutrition, and Environmental Issues Program in Santiago, Dominican Republic. For information about other

international study programs in Spanish, contact International Programs Study Abroad.

Participation in a number of different programs allows the department to offer study abroad opportunities that take into account a variety of student interests and needs. Credit earned in these or other study abroad programs may be applied toward the requirements for the Spanish major. The amount of credit that may be accepted varies according to the program.

Interested students should contact the department's study abroad advisor. Credit earned in study abroad programs other than those listed above counts as transfer credit and is subject to the 15 s.h. maximum allowed for the major.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. They must have a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in the major in order to enter the honors program, and are required to maintain the same grade-point average requirements to earn honors in the major.

Students must request honors designation for one course they take for the major (3 s.h.), in consultation with the department honors advisor. They also must register for 3 s.h. in SPAN:4998 Honors: Research and Thesis. To complete SPAN:4998 successfully, students must submit an honors thesis they have written in Spanish and must present it orally to a faculty committee in a meeting conducted in Spanish.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Spanish major.

## Career Advancement

Spanish majors combine their Spanish studies with other areas to prepare for career opportunities in international business, government, travel, health, journalism, law, or communication, where knowledge of another language and other cultures is essential. They also may go on to graduate study in areas such as Spanish and Spanish American literature, Hispanic or Spanish linguistics, cultural studies, film studies, translation, or comparative literature.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** Intermediate Spanish I (or equivalent second-year, first-semester competence in Spanish).

**Before the fifth semester begins:** two courses in Spanish beyond Intermediate Spanish II (or equivalent second-year, second-semester competence).

**Before the seventh semester begins:** four more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** nine courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Spanish, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SPAN:1001	Elementary Spanish I <sup>b, c</sup>	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
Elective course <sup>e</sup>		1
Elective course <sup>e</sup>		1
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
SPAN:1002	Elementary Spanish II <sup>b, c</sup>	4
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>e</sup>		1
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>15-16</b>

**Second Year****Fall**

SPAN:1501	Intermediate Spanish I <sup>b, c</sup>	4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		1
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>15</b>

**Spring**

SPAN:1502	Intermediate Spanish II <sup>b, c</sup>	4
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>15</b>

**Third Year****Fall**

Major: culture (Peninsular or Spanish American) core course <sup>f</sup>		3
Major: Spanish writing core course <sup>f</sup>		3
Major: Spanish elective course <sup>f, g</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

Major: Hispanic linguistics core course <sup>f</sup>		3
Major: Spanish American literature core course <sup>f</sup>		3
Major: Spanish elective course <sup>f, g</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

**Fourth Year****Fall**

Major: Spanish Peninsular literature core course <sup>f</sup>		3
Major: Spanish elective course <sup>f, g</sup>		3
Major: Spanish elective course <sup>f, g</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

Major: Spanish elective course <sup>f, g</sup>		3
Major: Spanish elective course <sup>f, g</sup>		3
Major: Spanish elective course <sup>f, g</sup>		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
<b>Hours</b>		<b>15</b>

<b>Total Hours</b>	<b>119-121</b>
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International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b SPAN:1001, SPAN:1002, SPAN:1501, and SPAN:1502 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level coursework and not be required to take semesters 1-4 of the language.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f A minimum of one and a maximum of four courses for the major must be numbered 2000-2999. At least three courses for the major must be numbered 4000-4999. Students may apply up to 6 s.h. of approved coursework taught in English or Portuguese toward the major. All other courses for the major must be taught in Spanish, including study abroad courses.

g Students must complete 21 s.h. in Spanish major electives. Electives may include a maximum of 6 s.h. earned in Portuguese courses numbered PORT:2500 or above or in related courses at the appropriate level offered by other UI departments and programs, such as history, anthropology, international studies, or linguistics. Related courses must be approved.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives;

# Portuguese, B.A.

Portuguese is widely spoken in four continents and is the official language of eight countries: Angola, Brazil, Cape Verde, East Timor, Guine-Bissau, Mozambique, Portugal, and São Tomé and Príncipe. Portuguese is the third most spoken European language (after English and Spanish) and the sixth most spoken language in the world. Brazil is the largest country in South America, comparable in size with the United States. Knowledge of Portuguese and of Luso-Brazilian culture is a marketable skill.

## Learning Outcomes

By graduation, Portuguese majors will have:

- enhanced language proficiency and cultural awareness of the Portuguese-speaking world; and
- attained skills to engage critically with histories, cultures, literatures, and other arts, and gained knowledge of the diversified Lusophone world (Angola, Brazil, Cape Verde, East Timor, Guine Bissau, Mozambique, Portugal, São Tomé and Príncipe).

## Requirements

The Bachelor of Arts with a major in Portuguese requires a minimum of 120 s.h., including at least 33 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Furthering Language Incentive Program (FLIP) credit may not be counted toward the major.

Students must take at least one course in Portuguese (prefix PORT) numbered 4000 or above. No more than 9 s.h., with approval of advisor, may be taken in courses that are not Portuguese courses (prefix PORT). Students must complete PORT:2500 Accelerated Intermediate Portuguese or the equivalent before they complete any other requirements for the major. They may only apply 3 s.h. earned in PORT:2500 toward the major. Two courses (6 s.h.) taught in English and two courses (6 s.h.) taught in Spanish numbered SPAN:2000 or above may count toward the major. Students can identify courses taught in English by viewing the course description for each course.

These courses do not count toward the 33 s.h. of work for the major.

Code	Title	Hours
PORT:1000	First-Year Seminar	1
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2010	Elementary Portuguese I	3
PORT:2015	Elementary Portuguese II	3
PORT:3050	Intensive Portuguese for Spanish Speakers	4

The B.A. with a major in Portuguese requires the following courses or their equivalents.

## Requirements for the Major

Code	Title	Hours
	Language Skills Course	3
	Literature Courses	6
	Culture Courses	6-7

Electives 18

**Total Hours 33-34**

## Language Skills Course

Code	Title	Hours
One of these:		
PORT:3100	Writing and Speaking	3
PORT:3150	Topics in Portuguese Language (repeatable)	3

## Literature Courses

Code	Title	Hours
Two of these:		
PORT:2850	Brazilian Narrative in Translation	3
PORT:3400	Brazilian Literature After 1900	3
PORT:4000	Topics in Luso-Brazilian Literature (repeatable)	3

## Culture Courses

Code	Title	Hours
Two of these; however, PORT:4100 must be taken at least once:		
PORT:3850	Topics in Cultural Studies	3
PORT:4100	Topics in Luso-Brazilian Culture (repeatable; taught in Portuguese)	3
PORT:4700	Latin American Studies Seminar	3-4

## Electives

Students may not use a course as an elective that has been applied toward another requirement.

Code	Title	Hours
At least 18 s.h. from these:		
PORT:2500	Accelerated Intermediate Portuguese (students may only apply 3 s.h. toward the major)	5
PORT:2700	Introduction to Latin American Studies	3
PORT:2850	Brazilian Narrative in Translation	3
PORT:3100	Writing and Speaking	3
PORT:3105	Linguistic Aspects of the Lusophone World	3-4
PORT:3150	Topics in Portuguese Language (repeatable)	3
PORT:3400	Brazilian Literature After 1900	3
PORT:3850	Topics in Cultural Studies	3
PORT:4000	Topics in Luso-Brazilian Literature (repeatable)	3
PORT:4100	Topics in Luso-Brazilian Culture (repeatable)	3
PORT:4700	Latin American Studies Seminar	3-4
PORT:4995	Portuguese Senior Project	3

PORT:4998	Special Work	1-3
PORT:4999	Honors Research and Thesis	2-3

## Study Abroad

Credit earned in study abroad programs other than those listed above counts as transfer credit and is subject to the 15 s.h. maximum allowed for the major. Contact International Programs Study Abroad for details.

### Honors

## Honors in the Major

Students have the opportunity to graduate with honors in the major. They must have a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.50 in the major in order to enter the honors program, and are required to maintain the same grade-point average requirements to earn honors in the major.

Students must earn 3 s.h. in PORT:4999 Honors Research and Thesis plus 3 s.h. in a course chosen in consultation with the department honors advisor. Both courses (6 s.h.) count toward the total 33 s.h. required for the major in Portuguese. Students also must write an honors thesis and present it orally to a committee of three faculty members.

## University of Iowa Honors Program

In addition to honors in the major, students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the Portuguese major.

### Career Advancement

Graduates have reported securing positions in multinational companies, international agencies, import/export companies, government tourism, research institutes, health institutions, the arts, graduate schools, and with the airlines, to name just a few. Portuguese can help students prepare to work in diverse fields such as banking, diplomacy, journalism, publishing, advertising, social services, media, law, and academia.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** competence in first-year Portuguese.

**Before the fifth semester begins:** competence in intermediate Portuguese.

**Before the seventh semester begins:** three or four additional courses for the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** seven courses in the major.

**During the eighth semester:** enrollment in remaining major coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Portuguese, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PORT:2000	Accelerated Elementary Portuguese <sup>b, c</sup>	5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
PORT:2500	Accelerated Intermediate Portuguese <sup>c</sup>	5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
PORT:3150 or PORT:3100	Topics in Portuguese Language or Writing and Speaking	3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
PORT:3400 or PORT:2850 or PORT:4000	Brazilian Literature After 1900 or Brazilian Narrative in Translation or Topics in Luso-Brazilian Literature	3
Major: PORT elective course <sup>f</sup>		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
Elective course <sup>e</sup>		3



Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>
<b>Third Year</b>		
<b>Fall</b>		
PORT:4000 or PORT:3400 or PORT:2850	Topics in Luso-Brazilian Literature or Brazilian Literature After 1900 or Brazilian Narrative in Translation	3
Major: PORT elective course <sup>f</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
PORT:4700 or PORT:3850 or PORT:4100	Latin American Studies Seminar <sup>g</sup> or Topics in Cultural Studies or Topics in Luso-Brazilian Culture	3
Major: PORT elective course <sup>f</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>
<b>Fourth Year</b>		
<b>Fall</b>		
PORT:3850 or PORT:4100 or PORT:4700	Topics in Cultural Studies <sup>g</sup> or Topics in Luso-Brazilian Culture or Latin American Studies Seminar	3
Major: PORT elective course <sup>f</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
Major: PORT elective course <sup>f</sup>		3
Major: PORT elective course <sup>f</sup>		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>121-123</b>

coursework and not be required to take semesters 1-4 of the language.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Students may not use a course as an elective that has been applied towards another requirement. At least 18 s.h. of PORT elective coursework must be completed. See General Catalog for list of approved courses.

g PORT:4100 must be taken at least once.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b PORT:1000, PORT:2000, PORT:2010, PORT:2015, and PORT:3050 do not count for credit toward the major. Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin major level

# Spanish, Minor

## Requirements

The undergraduate minor in Spanish requires a minimum of 18 s.h. in Spanish courses, including at least 15 s.h. in Department of Spanish and Portuguese courses at the University of Iowa numbered SPAN:2000-SPAN:4998. At least 6 s.h. must be numbered SPAN:3000-SPAN:4998. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students can count coursework toward the minor in study abroad programs that earn University of Iowa resident credit. At least one course for the minor must be a literature, culture, or Hispanic linguistics course. For a list of courses, see Requirements [p. 1114] in the B.A. in Spanish section of the Catalog and view the appropriate areas.

Students can apply one University of Iowa course taught in English toward the minor (see "Spanish Courses Taught in English" below), but all other courses for the minor must be taught in Spanish.

Students are not assigned an advisor for minors, but they may consult with the Division of World Languages, Literatures and Cultures academic advisor. In consultation with the advisor, students also may choose to count 3 s.h. toward their Spanish minor from:

- coursework in Spanish at the University of Iowa below the major level (such as SPAN:1502 Intermediate Spanish II); or
- transfer credit approved by the department, including credit from study abroad programs sponsored by other universities; or
- Advanced Placement Program (AP) Spanish Language and Culture or Literature and Culture exams with a score of 4 or higher; or
- incentive credit earned from the Furthering Language Incentive Program (FLIP).

## Spanish Courses Taught in English

Code	Title	Hours
SPAN:2001	Global Science Fiction	3
SPAN:2050	Spanish in the United States	3
SPAN:2280	Introduction to Latina/o/x Studies	3
SPAN:2700	Introduction to Latin American Studies	3
SPAN:2850	Brazilian Narrative in Translation	3
SPAN:2901	Diversity and Cultures in Spain	3
SPAN:3105	Linguistic Aspects of the Lusophone World	3-4
SPAN:3190	Psycholinguistic Aspects of Bilingualism	3-4
SPAN:3211	Comparative Arts	3
SPAN:3295	Topics in Film and Culture	3
SPAN:3400	Chicano Literature and Culture	3

SPAN:3440	Topics in Latina/o/x Literature and Culture	3
SPAN:3850	Topics in Cultural Studies	3
SPAN:3999	Major Ambassadors	1
SPAN:4805	Chicano Cinema	3
SPAN:4820	Latina/o/x Popular Culture	3
SPAN:4900	Latin American Studies Seminar	3
SPAN:4925	Topics in Film Narrative	3

## Study Abroad

The department participates in study abroad programs in Spain and Latin America; most of these programs offer both summer and semester or yearlong programs. The programs in Spain include the Board of Regents Hispanic Institute program in Valladolid (summer only); Cultures of Spain (Madrid, summer only), USAC (University Studies Abroad Consortium) programs in Alicante, Bilbao, Madrid, and San Sebastián; and CIEE programs in Alcalá de Henares, Alicante, Barcelona, Madrid, Palma de Mallorca, and Seville.

The programs in Latin America include USAC programs in Chile (Santiago) and Costa Rica (Heredia, Puntarenas, and San Ramón); CIEE programs in Argentina (Buenos Aires), Chile (Santiago and Valparaíso), Dominican Republic (Santiago), and Peru (Lima). They also include the CIC Latin America Health, Nutrition, and Environmental Issues Program in Santiago, Dominican Republic. For information about other international study programs in Spanish, contact International Programs Study Abroad.

Participation in a number of different programs allows the department to offer study abroad opportunities that take into account a variety of student interests and needs. Credit earned in these or other study abroad programs may be applied toward the requirements for the Spanish minor. The amount of credit that may be accepted varies according to the program.

Interested students should contact the department's study abroad advisor. Credit earned in study abroad programs other than those listed above counts as transfer credit and is subject to the 3 s.h. maximum allowed for the minor.

## Teacher Licensure

Students who plan to use their work toward a minor in Spanish as academic background for earning teacher licensure should contact the Office of Student Services in the College of Education about requirements.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Spanish, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in Spanish requires a minimum of 18 s.h. in Spanish courses, including at least 15 s.h. in the Department of Spanish and Portuguese courses at the University of Iowa with prefix SPAN, numbered 2000-4998. At least 6 s.h. must be numbered 3000-4998.		
Students must maintain a GPA of at least 2.00 in all courses for the Spanish minor and in all UI courses for the minor.		
Coursework in the Spanish minor may not be taken pass/nonpass.		
Study Abroad: students can count coursework toward the Spanish minor from study abroad programs that earn University of Iowa resident credit.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SPAN:1001	Elementary Spanish I <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
SPAN:1002	Elementary Spanish II <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
SPAN:1501	Intermediate Spanish I <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
SPAN:1502	Intermediate Spanish II <sup>a, c</sup>	4
<b>Hours</b>		<b>4</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: Spanish elective (prefix SPAN) numbered 2000-4998 <sup>d, e</sup>		3
Minor: Spanish elective (prefix SPAN) numbered 2000-4998 <sup>d, e</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
Minor: Spanish elective (prefix SPAN) numbered 2000-4998 <sup>d, e</sup>		3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Minor: Spanish elective (prefix SPAN) numbered 3000-4998 <sup>d, e</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Minor: Spanish elective (prefix SPAN) numbered 3000-4998 <sup>d, e</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>31</b>

coursework at that level and will not be required to take semesters 1-4 of the language.

- b This course is a prerequisite for the required minor courses.
- c Students may choose to count 3 s.h. toward their Spanish minor from one of the following four choices: coursework below the major level (such as SPAN:1502); transfer credit approved by the department, including from study abroad programs sponsored by other universities; Advanced Placement Program (AP) Spanish Language and Culture or Literature and Culture exams with a score of 4 or higher; incentive credit earned from the Furthering Language Incentive Program (FLIP).
- d Students can apply one University of Iowa course or one study abroad course (3 s.h.) taught in English toward the minor, but all other courses for the minor must be taught in Spanish. See General Catalog for list of approved courses.
- e At least one course for the minor must be a literature, culture, or Hispanic linguistics course.

a Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin

# Portuguese, Minor

## Requirements

The undergraduate minor in Portuguese requires a minimum of 15 s.h. in Portuguese courses, including 12 s.h. in University of Iowa courses numbered PORT:2500 or above; credit earned in a University of Iowa study abroad program also may be counted toward the minor. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. A maximum of 3 s.h. of transfer credit may be applied toward the minor. Furthering Language Incentive Program (FLIP) credit may not be applied toward the minor.

Students may apply up to 3 s.h. from PORT:2500 Accelerated Intermediate Portuguese toward the minor. One 3 s.h. course taught in English in the Department of Spanish and Portuguese or one course taught in Spanish numbered SPAN:2000 or above can be applied toward the minor, but not both. All other courses must be numbered PORT:2500 or above. Students can identify courses taught in English by viewing the course description for each course.

All students planning to complete a minor in Portuguese are strongly encouraged to consult with Portuguese faculty advisors.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Portuguese, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The undergraduate minor in Portuguese requires a minimum of 15 s.h. in Portuguese courses, including 12 s.h. in University of Iowa courses numbered PORT:2500 Accelerated Intermediate Portuguese or above.		
Study Abroad: credit earned in a University of Iowa study abroad program may be counted toward the Portuguese minor.		
A maximum of 3 s.h. of transfer credit may be applied toward the Portuguese minor.		
Students must maintain a GPA of at least 2.00 in all courses for the Portuguese minor and in all UI courses for the minor.		
Coursework in the Portuguese minor may not be taken pass/nonpass.		
Furthering Language Incentive Program (FLIP) credit may not be applied toward the Portuguese minor.		
Students planning to minor in Portuguese are strongly encouraged to consult with a Portuguese faculty advisor.		
<b>Hours</b>		<b>0</b>

### First Year

#### Fall

PORT:2000	Accelerated Elementary Portuguese <sup>a, b, c</sup>	5
<b>Hours</b>		<b>5</b>

#### Spring

PORT:2500	Accelerated Intermediate Portuguese <sup>a, d</sup>	5
<b>Hours</b>		<b>5</b>

### Second Year

#### Fall

Minor: Portuguese course (prefix PORT) numbered 2500 or above <sup>e</sup>		3
<b>Hours</b>		<b>3</b>

#### Spring

Minor: Portuguese course (prefix PORT) numbered 2500 or above <sup>e</sup>		3
<b>Hours</b>		<b>3</b>

### Third Year

#### Fall

Minor: Portuguese course (prefix PORT) numbered 2500 or above <sup>e</sup>		3
<b>Hours</b>		<b>3</b>

#### Spring

Minor: Portuguese course (prefix PORT) numbered 2500 or above <sup>e</sup>		3
<b>Hours</b>		<b>3</b>

**Total Hours** **22**

a Language level placement will be determined by placement exam score and/or oral interview. Students who place into the 5th semester level of the language will begin coursework at that level and will not be required to take semesters 1-4 of the language.

b This course is a prerequisite for the required minor courses.

c Alternately, students may substitute PORT:2010 and PORT:2015 for PORT:2000.

d Students may apply up to 3 s.h. from PORT:2500 toward the minor.

e One 3 s.h. course taught in English in the Department of Spanish and Portuguese or one course taught in Spanish numbered SPAN:2000 or above can be applied toward the minor, but not both. All other courses must be numbered above PORT:2500. Students can identify courses taught in English by viewing the course description for each course.

## Spanish, M.A.

For the M.A. program in Spanish, students choose one of two emphases: literature, which provides training in literary analysis and broad knowledge of representative works in principal areas of Spanish literature; or linguistics, which provides training in linguistic analysis and argumentation and broad knowledge of the principal subfields of Spanish linguistics.

### Learning Outcomes

Students will be able to demonstrate:

- basic understanding of primary source material in three of the following distribution fields—Spanish phonology, theory and analysis; Spanish syntax, theory and analysis; applied linguistics/pedagogy history of the Spanish language; language acquisition; sociolinguistics (linguistics) or medieval literature; Spanish Renaissance and Baroque literature; 18th- and 19th-centuries; 20th- and 21st-centuries; colonial Spanish American literature; Spanish American literature; 19th-century Spanish American literature, 1900-1960; Spanish American literature, 1960 to the present; U.S. Latina/o/x literature; Brazilian literature; Portuguese literature; or Latin American film (literature);
- basic understanding of the methodology of their field;
- skill in textual analysis;
- sustained critical thinking, writing, and speaking abilities; and
- knowledge and skills necessary to be effective instructors for 1000-level courses.

### Requirements

The Master of Arts program in Spanish requires 30 s.h. of graduate credit. A maximum of 6 s.h. of graduate credit in approved courses may be transferred from other institutions toward the 30 s.h. required for the M.A. degree. Students must maintain a cumulative g.p.a. of at least 2.75.

The M.A. with a major in Spanish requires the following 10 courses. Students choose one of two emphasis areas—literature or linguistics.

### Literature Emphasis Courses

Code	Title	Hours
All of these:		
WLLC:5000	Teaching and Learning Languages	3
One course in Spanish linguistics numbered SPAN:4000 or above		
Two courses in Spanish (peninsular) literature numbered SPAN:4000 or above		
Two courses in Spanish American literature numbered SPAN:4000 or above		
One course in literary theory		
Three electives		

At least eight of the ten literature emphasis courses must be taken in Department of Spanish and Portuguese courses numbered 5000 or above. The remaining two may be taken in Department of Spanish and Portuguese courses numbered

4000 or above or in courses offered by related departments, subject to approval by the director of graduate studies.

### Linguistics Emphasis Courses

Code	Title	Hours
All of these:		
WLLC:5000	Teaching and Learning Languages	3
One course in Spanish or Spanish American literature numbered SPAN:4000 or above		
Two courses in syntax		
Two courses in phonetics/phonology		
One course in history of the Spanish language or sociolinguistics/language variation		
One course in applied linguistics or language acquisition		
Two electives		

At least six of the ten linguistics emphasis courses must be taken in Department of Spanish and Portuguese courses numbered 5000 or above. The remaining four may be taken in Department of Spanish and Portuguese courses numbered 4000 or above or in Department of Linguistics courses (prefix LING).

### Language Tool Requirement

Students must complete the equivalent of one year of college-level study of any approved second foreign language; Portuguese is highly recommended. They may satisfy this requirement either by examination or through courses taken at the University of Iowa or another accredited university; such coursework does not count toward the 30 s.h. required for the degree.

### Examinations

The comprehensive examination includes written and oral components. The written portion consists of a two-hour examination in each of three areas; an oral examination follows, usually lasting 90 minutes. The examining committee is composed of four departmental faculty members.

Students in the literature emphasis may choose to be examined in three literature areas or in two literature areas and one linguistics area. At least one literature area must be in Spanish literature and at least one must be in Spanish American literature. If three literature areas are chosen, at least one must represent literature written before 1700 (peninsular or Spanish American).

Students in the linguistics emphasis may choose to be examined in three linguistics areas or in two linguistics areas and one literature area. At least one of the linguistics areas must be in syntax or phonology. For students in both emphases, the third examination area may be a film area.

For reading lists, contact the Department of Spanish and Portuguese.

### Graduate Study Loads

Maximum course registration for all graduate students is 15 s.h. of graduate-level coursework in fall or spring semesters and 12 s.h. of graduate-level work in summer sessions. Students with one-quarter-time and one-third-time teaching assistantships are permitted to register for the maximum study loads. Students who hold one-half-time assistantships are permitted to register for a maximum of 12 s.h. in fall and

spring semesters and 6 s.h. in summer sessions. Students must have approval from the Graduate College to register for additional semester hours.

The minimum course registration is 1 s.h. for all graduate students. Students who fail to register for 36 months must apply for readmission to the Graduate College.

## Admission

Applicants to the M.A. program should have completed the equivalent of the undergraduate Spanish major with a g.p.a. of at least 3.00 in coursework for the major.

## Financial Support

Teaching and research assistantships are available to qualified graduate students. Usually, two years of support are available for completion of the M.A. degree. Applications for financial support should be made directly to the Department of Spanish and Portuguese.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Spanish, M.A.

### Literature Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; maximum of 6 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. a, b, c		
Students must complete the equivalent of one year of college-level study of any approved second foreign language; Portuguese is highly recommended. d		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
WLLC:5000	Teaching and Learning Languages	3
Spanish Linguistics course (SPAN prefix, numbered 4000 or above)		3
Spanish (Peninsular) Literature course (SPAN prefix, numbered 4000 or above)		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Spanish (Peninsular) Literature course (SPAN prefix, numbered 4000 or above)		3
Spanish American Literature course (SPAN prefix, numbered 4000 or above)		3

Elective course	3
<b>Hours</b>	<b>9</b>
<b>Second Year</b>	
<b>Fall</b>	
Spanish American Literature course (SPAN prefix, numbered 4000 or above)	
	3
Literary Theory course	
	3
Elective course	
	3
<b>Hours</b>	<b>9</b>
<b>Spring</b>	
Elective course	
	3
Final Exam <sup>e</sup>	
	3
<b>Hours</b>	<b>3</b>
<b>Total Hours</b>	<b>30</b>

a Two of the ten courses required for the degree may be taken in courses offered by related departments, subject to approval by the director of graduate studies.

b Work with faculty advisor to select appropriate graduate coursework.

c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

d This requirement can be satisfied either by examination or through courses taken at the University of Iowa or another accredited university; coursework does not count toward the 30 s.h. required for the degree.

e Comprehensive final exam which includes both written and oral components; see General Catalog and department website for more information.

# Spanish Creative Writing, M.F.A.

## Learning Outcomes

Students will be able to demonstrate:

- skills and knowledge of Spanish creative writing practice,
- broad knowledge of the professional field of Spanish creative writing,
- understanding Spanish creative writing as a critical and reflective practice in the context of the history and critical discourse on literature written in Spanish,
- ability to independently complete a publishing-quality creative project in Spanish, and
- knowledge and skills necessary to be effective instructors for 1000-level courses.

## Requirements

The Master of Fine Arts program in Spanish creative writing requires 51 s.h. of graduate credit earned over four semesters in residence at the University of Iowa. Students must maintain a cumulative g.p.a. of at least 2.75.

Students complete courses in writing, including several workshops and other relevant coursework. They also are required to do a final public reading in the spring semester of their second year. Work toward the degree culminates in a creative thesis. They must enroll in SPAN:6210 Fiction Workshop and SPAN:6220 Poetry Workshop during each year of residence in the program. Groups of 8-12 students read and critique each other's work in these courses.

For more information, visit the Master of Fine Arts in Spanish Creative Writing website.

The M.F.A. with a major in Spanish creative writing requires the following coursework.

## Required Courses

Code	Title	Hours
All of these:		
SPAN:6210	Fiction Workshop (taken twice for 4 s.h. each)	8
SPAN:6220	Poetry Workshop (taken twice for 4 s.h. each)	8
Four graduate-level courses offered by the Department of Spanish and Portuguese		12
Four additional courses offered by the M.F.A. program in Spanish creative writing, the Department of Spanish and Portuguese, or related units in consultation with faculty advisor		12
8 s.h. from these:		
SPAN:6241	Creative Project Development (course may be taken more than once)	4
SPAN:6280	Nonfiction Workshop	4

## Thesis

Students submit their graduate thesis, a manuscript of substantial length, during their last semester, and must enroll in SPAN:6299 Thesis: Creative Writing. The thesis committee is composed of at least three members: two

faculty members in the Spanish creative writing program and a third Department of Spanish and Portuguese faculty member who could be part of the creative writing program, or a faculty member from one of the related units—Center for the Book, the Creative Writing Program (Iowa Writers' Workshop), or the International Writing Program.

Code	Title	Hours
SPAN:6299	Thesis: Creative Writing	3

## Graduate Study Loads

Maximum course registration for all graduate students is 15 s.h. of graduate-level coursework in fall or spring semesters and 12 s.h. of graduate-level work in summer sessions. Students with one-quarter-time and one-third-time teaching assistantships are permitted to register for the maximum study loads. Students who hold one-half-time assistantships are permitted to register for a maximum of 12 s.h. in fall and spring semesters and 6 s.h. in summer sessions. Students must have approval from the Graduate College to register for additional semester hours.

The minimum course registration is 2 s.h. for all graduate students. Students who fail to register for 36 months must apply for readmission to the Graduate College.

## Admission

In order to receive full consideration for financial aid, applications to the program should be received from October 1 to January 15.

## Financial Support

Teaching and research assistantships are available to qualified graduate students. Applications for financial support should be made directly to the Department of Spanish and Portuguese.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Spanish Creative Writing, M.F.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
51 s.h. must be graduate level coursework earned over four semesters in residence; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

**First Year****Fall**

SPAN:6210	Fiction Workshop <sup>b</sup>	4
SPAN:6220	Poetry Workshop <sup>b</sup>	4
Department elective course <sup>c</sup>		3
Other elective course <sup>d</sup>		3
<b>Hours</b>		<b>14</b>

**Spring**

SPAN:6241	Creative Project Development <sup>e</sup>	4
SPAN:6280	Nonfiction Workshop <sup>e</sup>	4
Department elective course <sup>c</sup>		3
Department elective course <sup>c</sup>		3
<b>Hours</b>		<b>14</b>

**Second Year****Fall**

SPAN:6210	Fiction Workshop <sup>b</sup>	4
SPAN:6220	Poetry Workshop <sup>b</sup>	4
Department elective course <sup>c</sup>		3
Other elective course <sup>d</sup>		3
<b>Hours</b>		<b>14</b>

**Spring**

Public Reading <sup>f</sup>		
SPAN:6299	Thesis: Creative Writing	3
Other elective course <sup>d</sup>		3
Other elective course <sup>d</sup>		3
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>51</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Taken twice for a total of 8 s.h.

c Students must complete four additional courses (at least 12 s.h.) offered by the Department of Spanish and Portuguese; work with faculty advisor to determine appropriate coursework and sequence.

d Students must complete four additional courses (at least 12 s.h.) offered by the MFA program in Spanish creative writing, the Department of Spanish and Portuguese, or related units in consultation with faculty advisor.

e Complete a total of 8 s.h. from SPAN:6241 and SPAN:6280; both courses are typically offered during spring semesters and SPAN:6241 is repeatable.

f MFA students are required to do a final public reading in the spring semester of their second year.

g Submission of a graduate thesis during the last semester; see the General Catalog and department website for more information.



# Spanish, Ph.D.

The Ph.D. program in Spanish offers courses in the literature of the Spanish-speaking world and Spanish linguistics. In the literature program, students may take courses in Spanish American or peninsular literature, culture, and cinema. The Department of Spanish and Portuguese also offers a creative track in literature for students who have graduated with an M.F.A. in creative writing. In the Spanish linguistics program, students take courses in Spanish syntax, phonology, language acquisition, and sociolinguistics.

## Learning Outcomes

Students will be able to:

- demonstrate understanding and application of research methods and methodological knowledge;
- demonstrate understanding of and ability to analyze theoretical concepts and research in their field of study;
- express ideas effectively in professional academic settings in written and spoken communication in English and Spanish;
- continue to demonstrate knowledge and skills necessary to be effective teaching assistants for 1000-level courses and beyond;
- plan, conduct, report on, and disseminate original research; and
- develop the critical research and writing skills necessary to publish peer-reviewed articles.

## Requirements

The Doctor of Philosophy program in Spanish requires a total of at least 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00.

In this research-oriented degree, Ph.D. students choose from two different tracks: literatures/cultures and Spanish linguistics. The literatures/cultures track trains students in textual analysis and literary history, criticism, and theory. The linguistics track provides training in linguistic analysis and theory. All courses taken to fulfill the semester hour requirement for the degree must be taken on a graded basis; no graduate credit is awarded for a grade lower than C-minus.

Both tracks require a specified number of semester hours of coursework, of which up to, but not more than, 30 s.h. (10 courses) may be counted from the M.A. in Spanish or the M.F.A. in Spanish creative writing at the University of Iowa or elsewhere, as approved by the director of graduate studies. The Ph.D. also requires 3-15 s.h. for the thesis in SPAN:6999 Thesis. The degree also requires successful completion and defense of a dissertation representing original research or creative work.

No credit is awarded for coursework completed after the M.A. is granted and prior to entrance into the Ph.D. program. If, in the course of doctoral study, the advisory committee recommends a student take coursework at another institution, the student may petition the director of graduate studies well in advance of undertaking the coursework, for approval of up to 9 s.h. of transfer credit. At least 39 s.h. of the 72 s.h. required for the degree must be in coursework taken at the University of Iowa.

Students who hold a teaching assistantship in the department are required to take WLLC:5000 Teaching and Learning Languages, a course in foreign language teaching methods.

A student who has not earned the M.A. in Spanish or the M.F.A. in Spanish creative writing at the University of Iowa may request that this requirement be waived because of previous coursework in foreign language teaching methods. The decision to waive the requirement is made by the Spanish CLAS Core director; no transfer credit is awarded toward the 72 s.h. required for the degree.

Course requirements for each track are as follows.

## Literatures/Cultures Track Courses

Students must complete at least 36 s.h. (12 courses) beyond the master's degree (or 22 courses beyond the bachelor's degree). The following courses are required; courses taken for the M.A. may be used to meet part of this requirement.

Code	Title	Hours
All of these:		
SPAN:5002	Pedagogical Practicum	2
	Proseminar course focused on professional training and development	1
	Three courses in Spanish American literature or culture; at least one course must be in pre-1700 literature	9
	Three courses in Spanish literature or culture; at least one course must be in pre-1700 literature	9
	Six courses chosen in conjunction with advisor (students approved for a creative writing dissertation must take at least three graduate courses in Spanish creative writing, and students approved for a literary or cultural studies dissertation must take at least three graduate courses in Spanish or Spanish American literature or culture)	18
SPAN:6999	Thesis	3

The specific plan of study for students, tailored to their area of emphasis, must be approved by their advisory committee by the end of the first semester in the Ph.D. program. Coursework must be numbered at the 5000 to 7000 level.

Students are encouraged to complete a graduate certificate. University of Iowa graduate certificates that complement the literatures/cultures track include the Certificates in Book Studies/Book Arts and Technologies [p. 1727]; College Teaching [p. 1732]; Gender, Women's, and Sexuality Studies [p. 564]; Literary Translation [p. 1195]; Online Teaching [p. 1436]; and Public Digital Humanities. [p. 1792]

## Language Tool Requirement

Students in this track must complete the equivalent of three years of college-level study in one language.

Students who plan to write dissertations on topics in Spanish or Spanish American literature before 1700 are strongly encouraged to select Latin, Arabic, or an Amerindian language to satisfy this requirement; they should consult specialists in their field to determine which language is most appropriate. Students may take more than two languages if their coursework permits.

Language tool coursework below the third-year college level does not count toward the 72 s.h. required for the degree. Courses taken to fulfill the language tool requirements may be taken on a nongraded basis. If the language tool requirements

are satisfied by examination, the exam results must be documented in a student's file.

## Spanish Linguistics Track

### Courses

Students must earn at least 27 s.h. (9 courses) beyond the master's degree (or 19 courses beyond the bachelor's degree). The following courses are required; courses taken for the M.A. may be used to meet part of this requirement.

Code	Title	Hours
SPAN:6110	Spanish Phonology	3
SPAN:6120	Spanish Syntax	3
SPAN:6150	Topics in Spanish Language Acquisition	3
SPAN:6190	Topics in Comparative Romance Linguistics	3
SPAN:6999	Thesis	6
LING:3005	Articulatory and Acoustic Phonetics	3
LING:5010	Introduction to Syntax	3
LING:5020	Introduction to Phonology	3
LING:6010	Syntactic Theory	3
One additional course in the dissertation research area		3
One course in historical linguistics, sociolinguistics/language variation, or language acquisition/psycholinguistics		3
One Spanish linguistics seminar numbered 7000 or above		3

The additional course in the dissertation research area (phonology, syntax, language acquisition, language variation) must be taken in the Department of Spanish and Portuguese or the Department of Linguistics.

The specific plan of study for students, tailored to their chosen area of emphasis, must be approved by their advisory committee by the end of the first semester in the Ph.D. program. Coursework in Spanish (taken after the M.A.) must be numbered 6000 or above, except for some courses offered by the Department of Linguistics and the required third-year-level course in Portuguese (see "Language Tool and Additional Requirements" below).

### Language Tool and Additional Requirements

Students in this track must complete the equivalent of three years of college-level study of Portuguese, and the equivalent of one year of college-level study in each of two other languages. For students specializing in historical linguistics, one of those two languages must be Latin.

Students may satisfy the language tool requirement by examination or by coursework at the University of Iowa or at another accredited university. Courses taken to fulfill the language tool requirements may be taken on a nongraded basis. If the language tool requirements are satisfied by examination, the exam results must be documented in the student's file. The language tool coursework does not count toward the 57 s.h. of pre-thesis coursework required for the degree, except for the third-year-level coursework in Portuguese, which may be counted with the faculty advisor's approval if a student completed the course with a grade.

Students also must write two extended research papers and give two colloquium presentations based on these papers. The first paper must be in an area distinct from the intended dissertation research; it must be approved by a student's advisory committee by the end of fall semester of the second year of Ph.D. coursework in order for the student to continue in the track. The second paper must be in the dissertation research area, must be of publishable quality, and must be approved by the student's advisory committee no later than the beginning of the semester in which the student takes the comprehensive exam.

### Timeline: Post-M.A./M.F.A.

By the end of the fourth semester of enrollment, students should have completed all their required coursework. They typically present their Ph.D. comprehensive examination at the beginning of their fifth semester of enrollment. Students should develop the various parts of the comprehensive portfolio in conjunction with their Ph.D. coursework. The two broad area reading lists can be developed while taking graduate-level courses in the department, and their article should be based on a research paper written in a graduate course in the department. Students are encouraged to complete their comprehensive examinations before October 15 (in the fall semester) or March 15 (in the spring semester) and present and defend their dissertation prospectus before the end of the same semester. Some grants require students to have completed their doctoral examination and prospectus defense before they apply, so it is recommended that students finish the examinations early in the semester.

### Comprehensive Examinations

The purpose of the comprehensive examination is to determine whether students have gained sufficient breadth and depth of research knowledge in Spanish literatures or linguistics to enter the profession as a teacher-scholar. The examining committee is composed of five departmental faculty members, or four departmental faculty members and a fifth faculty member from a related department.

Graduate students who plan to take the examination must file the departmental Notification of Intent to Take M.A. or Ph.D. Exams form with the graduate student academic coordinator by the third week of the relevant semester; see the Graduate Program Manual on the Department of Spanish and Portuguese website. Students presenting the comprehensive exams cannot have more than one coursework requirement left to be completed, including courses for the fulfillment of the language tool requirements, after the semester in which the exams are presented. Generally, students either have finished their coursework requirements prior to presenting the comprehensive exams or they are completing them in the semester of their exams.

As with advisory committees, the student's advisor contacts the relevant faculty members to request their participation in the examining committee, and then submits the proposed committee for approval by the director of graduate studies and the chair of the Department of Spanish and Portuguese. These individuals consult with the advisor as part of the approval process. This should be done as early as possible during the semester preceding the examinations, but not later than fifteen weeks prior to the start of examinations.

The Graduate College requires that written and oral exams be completed within a 15-week period. The research essay and position paper should be given to the Comprehensive Examination Committee at least one month before the oral exam, after approval by the faculty supervisors. The two

written examinations are typically scheduled over a two-week period and must be finished at least one week before the oral exam. Between the time of the written exams and the oral exam, examining faculty individually evaluate and discuss the exams with the student. The information provided in the evaluation guides the student in final preparation for the oral component of the examination; although, it does not include specific questions to be asked in the oral exam nor does it limit the questions that may be asked.

The oral examination provides the opportunity for further development of the written examinations as well as review of the position paper and research essay. At the end of the oral exam, the student is asked to leave the exam room in order for the committee to determine its evaluation. The student is then invited to return to the room to learn of the committee's evaluation, including an appraisal of specific areas of strength and/or weakness and recommendations for future academic work. The official evaluation of the exam is reported to the Graduate College as satisfactory, reservation, or unsatisfactory. If reservations are imposed, the examination committee must send a letter to the student specifying the reservations to be met and the deadline for their removal; copies are sent to the student's file, the director of graduate studies, and the Graduate College.

Students must be registered during the semester in which they take their comprehensive examinations. If all coursework has been completed prior to that semester, then students should register for 2 s.h. in SPAN:6998 Special Work with their advisor, on a satisfactory/unsatisfactory basis. Students may not register in SPAN:6999 Thesis during the semester of their comprehensive examination.

### Literatures/Cultures Track Comprehensive Exams

The comprehensive examination has written and oral components. The written component includes four elements: two broad areas, one specialized area, and one article, each under the supervision of a committee member.

The elements of the written component are as follows.

- Two 2-hour written examinations, one for each of two broad areas of literary history, one Spanish and one Spanish American. The broad area lists should consist of approximately 35 readings. Selection of the two broad areas should be tied to a student's Ph.D. coursework, particularly the courses taken after admission to the Ph.D. program. The lists must be developed in consultation with the advisory committee and approved by the broad area supervisors before they are submitted to the rest of the committee for final approval. The written examination may include questions of textual analysis and aesthetics as well as historical periodization and literary criticism.
- One position paper in a specialized area related to the thesis. The specialized area list should include approximately 10-15 works that define the area. The narrow area is examined via a 10-15 page position paper that is a critical synthesis, particularly of the secondary readings. The list and position paper should be written in consultation with a faculty supervisor and must be approved by that supervisor at least one month before the date of the exam. The position paper is expected to form part of the introduction to the dissertation.
- One research essay. This part of the examination is a 20-25 page research essay. Typically, this essay is a substantially revised version of a paper written in one of the required graduate courses. The essay should be

revised in consultation with the professor who taught the course for which the paper was originally written and with a second member of the exam committee. The research essay must be approved by both faculty members at least one month before the date of the exam.

- One oral examination. The oral examination lasts for approximately two hours. Approximately one half the oral exam is devoted to an examination of the two broad areas and the other half examines the research essay and position paper.

### Spanish Linguistics Track Comprehensive Exams

The comprehensive exam includes written and oral components. The written component includes two weekend take-home exams consisting of linguistic analysis in two subdisciplines distinct from the subdiscipline of the intended dissertation research. The two-hour oral exam consists of one hour devoted to discussion of the second research paper and the other hour devoted to follow-up questions on the written exams.

### Dissertation

After the comprehensive examination is completed, a student submits a dissertation prospectus for the dissertation committee's approval. The dissertation committee is composed of five faculty members; at least four committee members must be from the Department of Spanish and Portuguese.

The dissertation, complete and in final form, must be submitted in the required electronic format to the Graduate College office by the first-deposit deadline date of the session in which the degree is to be conferred. The final deposit of the approved dissertation in electronic format must be deposited at the office by the appropriate deadline in a student's graduation semester.

Students must adhere to the Graduate College regulations regarding preparation of the dissertation copy; consult the Graduate College. For information on the dissertation and final examinations, see the Manual of Rules and Regulations on the Graduate College website.

### Literatures/Cultures Track Dissertation

Dissertations can present a research project within literary/cultural history and/or theory in the form of a monographic study; present a research project within literary/cultural history and/or theory in the form of a set of journal article-style research essays, accompanied by an in-depth theoretical and critical reflection of 20-30 pages in length; offer a major creative project, accompanied by an in-depth theoretical and critical reflection; a critical edition of a literary work, accompanied by an in-depth theoretical and critical reflection; a translation of a literary work, accompanied by an in-depth theoretical and critical reflection. Theoretical and critical reflections for the major creative project, a critical edition of literary work, or the translation of a literary work options may be no less than 50 pages in length.

### Dissertation Prospectus

The first step in the dissertation process is the submission and defense of the dissertation prospectus. The prospectus consists of these sections: a narrative which describes in detail the dissertation, the work done in the field previously, the research methodology and/or theoretical or creative approach, and a preliminary description of chapter divisions; a preliminary bibliography; and a timetable for completion

of the research and writing of the dissertation. Typically, the entire prospectus is from 35-40 pages long.

Ideally, the prospectus should be approved by the dissertation committee by the end of the semester in which the comprehensive examination was successfully completed. In order to be considered to be making adequate progress toward the degree, a student should turn in the prospectus no later than the fourth week of the semester following the comprehensive exam.

### Prospectus Defense

After the dissertation director has given preliminary approval of the prospectus, that faculty member schedules the prospectus defense. The defense is a meeting of the dissertation committee at which the student gives a brief oral presentation of the prospectus and answers questions that the committee members may have; the committee members should receive the written prospectus at least two weeks prior to the defense meeting. At this time, two members of the dissertation committee, in addition to the director, agree to read the dissertation on a chapter-by-chapter basis. Once approved, a copy of the prospectus and the departmental prospectus approval form are handed in to the graduate student academic coordinator by the dissertation director, and is placed in the student's file.

## Additional Requirements

### Independent Study

Only 3 s.h. earned for post-M.A. independent study may be applied toward the 72 s.h. required for the degree; the department discourages students from including independent study as a part of their coursework. Exceptions are made under extraordinary circumstances, but must be preapproved by the director of graduate studies. For consideration of a request for independent study credit, students must complete the Department of Spanish and Portuguese Independent Study Contract for Graduate Students form obtained from the director of graduate studies, then secure the approval of the director of graduate studies and the chair of the department, and submit a copy of the form to the graduate student academic coordinator before the first day of the semester. Only students in good academic standing may enroll in an independent study course.

### Graduate Study Loads

Maximum course registration for all graduate students is 15 s.h. of graduate-level coursework in fall or spring semesters and 12 s.h. of graduate-level work in summer sessions. Students with one-quarter-time and one-third-time teaching assistantships are permitted to register for the maximum study loads. Students who hold one-half-time assistantships are permitted to register for a maximum of 12 s.h. in fall and spring semesters and 6 s.h. in summer sessions. Students must have approval from the Graduate College to register for additional semester hours.

The minimum course registration is 1 s.h. for all graduate students. Doctoral students who have passed the comprehensive examinations typically register for 1 s.h. of thesis work to satisfy the minimum registration requirement. Students who fail to register for 36 months must apply for readmission to the Graduate College.

## Financial Support

Teaching and research assistantships are available to qualified graduate students. Usually, four years of support are available beyond the receipt of the M.A. for the Ph.D. Applications for financial support should be made directly to the Department of Spanish and Portuguese.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Spanish, Ph.D.

### Literatures/Cultures Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; maximum of 30 s.h. of graduate transfer credits taken for the master's from an accredited institution allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students in the Literatures/Cultures track must possess the equivalent of three years of college-level study in one language.		
Completion of a graduate certificate that complements the Literatures/Cultures track is strongly encouraged. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
SPAN:5002	Pedagogical Practicum	2
Proseminar course focused on professional training and development		1
Spanish American literature course (pre-1700) <sup>d</sup>		3
Spanish literature course (pre-1700) <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Spanish American literature or culture course <sup>d</sup>		3
Spanish literature or culture course <sup>d</sup>		3
WLLC:5000	Teaching and Learning Languages <sup>e</sup>	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Spanish American literature or culture course <sup>d</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>

**Spring**

Spanish literature or culture course <sup>d</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
<b>Hours</b>	<b>9</b>

**Third Year****Fall**

Comprehensive Exam <sup>f</sup>	
Elective course <sup>e</sup>	3
<b>Hours</b>	<b>3</b>

**Spring**

Dissertation Prospectus	
SPAN:6999 Thesis <sup>g</sup>	1
<b>Hours</b>	<b>1</b>

**Fourth Year****Fall**

SPAN:6999 Thesis <sup>g</sup>	1
<b>Hours</b>	<b>1</b>

**Spring**

SPAN:6999 Thesis <sup>g</sup>	1
Final Exam <sup>h</sup>	
<b>Hours</b>	<b>1</b>
<b>Total Hours</b>	<b>42</b>

a Students entering with fewer than 30 s.h. of coursework from the master's degree must work with their faculty advisor to complete the needed appropriate graduate coursework.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Possible options include the certificates in Book Studies/ Book Arts and Technologies; College Teaching; Gender, Women's, and Sexuality Studies; Literary Translation; Online Teaching; and Public Digital Humanities. More information is included in the General Catalog and on department website.

d Work with faculty advisor to select appropriate graduate coursework.

e Complete six courses (at least 18 s.h.) chosen in consultation with faculty advisor. Depending on dissertation approval, students must take three courses in either Spanish creative writing, or in Spanish or Spanish American literature or culture.

f Includes both written and oral components.

g Complete at least 3 s.h. of thesis credit.

h Dissertation defense.

# Statistics and Actuarial Science

## Chair

- Kung-Sik Chan

## Director of Undergraduate Studies, Actuarial Science

- Elias S. Shiu

## Director of Undergraduate Studies, Data Science and Statistics

- Sanvesh Srivastava

## Director of Graduate Studies

- Aixin Tan

**Undergraduate majors:** actuarial science (B.S.); statistics (B.S.)

**Undergraduate minor:** statistics

**Graduate degrees:** M.S. in actuarial science; M.S. in statistics; Ph.D. in statistics

**Faculty:** <https://stat.uiowa.edu/people>

**Website:** <https://stat.uiowa.edu/>

The Department of Statistics and Actuarial Science offers undergraduate majors, an undergraduate minor, and graduate degree programs. They partner with other departments to offer the B.S. in data science and the undergraduate Certificate in Social Science Analytics (see below). The department offers courses that any undergraduate student may use to satisfy the GE CLAS Core [p. 20] Quantitative or Formal Reasoning requirement.

Probability and statistics are important scientific disciplines essential to all fields of study that rely on information obtained from data. In a world bombarded with numerical information, informed decisions rely on the ability to separate fact from fiction by applying valid statistical analyses and visualizations. Statisticians can provide crucial guidance in determining what information is reliable and which predictions may be trusted. They often help search for clues to the solution of a scientific mystery and sometimes keep investigators from being misled by false impressions.

The work of a statistician may range from the theoretical (developing new methodologies and statistical theory) to the applied (working with scientists and decision makers to collect, analyze, and interpret data). Regardless of the areas in which they work, statisticians need strong mathematical, computational, and communication skills. Because uncertainty and data arise in many settings, statisticians have the opportunity to work on a variety of projects in industry, education, government, and research. Thousands of statisticians work in medicine, law, agriculture, business, finance, public policy, marketing, manufacturing, engineering, and other fields in the social and natural sciences. The diversity of applications is an exciting aspect of the field and is one reason why the demand for well-trained statisticians continues to be strong.

An actuary is a business executive, professionally trained in the mathematical sciences. Actuaries specialize in the evaluation of financial risk—most often in the context of life, health, and casualty insurance, where they design, analyze, and refine varied programs to meet the insurance

needs of society. Many actuaries are employed by insurance companies, where they have responsibilities for all phases of the development and maintenance of their company's products. They have considerable influence on the financial soundness of their company through work in pricing insurance policies and in compiling data for financial statements.

Many actuaries are employed as consultants. Their actuarial services are used by smaller insurance companies and by individual employers who need actuarial guidance in establishing insurance and retirement programs for their employees. A growing number of actuaries work in the areas of asset/liability management and risk management. Some of these actuaries are employed by investment and consulting firms; others are employed by insurance companies.

Actuaries have been called financial architects and social mathematicians because their combined analytical and business skills help solve a growing variety of financial and social problems. The actuarial profession is a demanding yet rewarding career choice.

## Related Major and Certificate

### Major: Data Science

The B.S. in data science produces graduates with the sophisticated analytical and computational skills required to thrive in a quantitative world where new problems are encountered at an ever-increasing rate. The major emphasizes the statistical/probabilistic and algorithmic methods that underlie the preparation, analysis, and communication of complex data. With focus on technical foundations, the data science program promotes skills useful for creating and implementing new or special-purpose analysis and visualization tools. It also promotes a fundamental understanding of how to best handle uncertainty when making data-driven decisions.

Statistics majors may not earn a major in data science. The Department of Statistics and Actuarial Science and the Department of Computer Science collaborate to offer the major in data science. The B.S. in data science is administered by the Department of Statistics and Actuarial Science; see the B.S. in data science [p. 383] in the Catalog.

### Certificate: Social Science Analytics

The growth of big data and informatics calls for a new set of skills for social science students and an increased understanding of the logic of data collection and analysis. The certificate focuses on the application side of data analysis and allows focus to be on the specific research methods and quantitative skills using data-driven methods effective for more understanding in an increasingly complicated social-political world. The certificate offers an opportunity for interdisciplinary training on how data can be used to address important questions in the social sciences. The Department of Statistics and Actuarial Science collaborates with the Departments of Geographical and Sustainability Sciences, Political Science, and Sociology and Criminology to offer the undergraduate program in social science analytics; see the Certificate in Social Science Analytics [p. 1047] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Statistics (Bachelor of Science) [p. 1140]
- Major in Actuarial Science (Bachelor of Science) [p. 1146]

#### Minor

- Minor in Statistics [p. 1149]

### Graduate Programs of Study

#### Majors

- Master of Science in Statistics [p. 1150]
- Master of Science in Actuarial Science [p. 1152]
- Doctor of Philosophy in Statistics [p. 1154]

## Facilities

The Department of Statistics and Actuarial Science is housed in Schaeffer Hall, adjacent to Old Capitol, a National Historic Landmark and the center of campus. The department operates two computer labs in Schaeffer Hall. One, which also is used as an electronic classroom, contains 28 Windows PCs. The second houses 18 high-end UNIX workstations. Students use these labs for class work and research.

## Courses

- Statistics Courses [p. 1135]
- Actuarial Science Courses [p. 1138]
- Data Science Courses [p. 1139]

### Undergraduate Duplication and Regression Policy

Data science majors may not earn a major or minor in computer science or statistics, a major in computer science and engineering, or the Certificate in Social Science Analytics. Likewise, statistics majors may not earn a major in data science.

Undergraduate students should be aware of the duplication and regression policies concerning the following courses.

Students may earn credit for only two of these: STAT:1010 Statistics and Society, STAT:1015 Introduction to Data Science, STAT:1020/PSQF:1020 Elementary Statistics and Inference, STAT:1030 Statistics for Business, and STAT:2010 Statistical Methods and Computing.

Credit for STAT:1010 Statistics and Society may be earned only if the course is taken before any of these: STAT:1015 Introduction to Data Science, STAT:1020/PSQF:1020 Elementary Statistics and Inference, STAT:1030 Statistics for Business, and STAT:2010 Statistical Methods and Computing.

Students may receive credit for only one course from each of these pairs: STAT:2010 Statistical Methods and Computing and STAT:4200/IGPI:4200 Statistical Methods and Computing, STAT:3100/IGPI:3100 Introduction to Mathematical Statistics I and STAT:3120/DATA:3120/IGPI:3120 Probability and

Statistics, and STAT:3510/IGPI:3510 Biostatistics and STAT:4143/PSQF:4143 Introduction to Statistical Methods.

Students may not take STAT:3101/IGPI:3101 Introduction to Mathematical Statistics II and STAT:4101/IGPI:4101 Mathematical Statistics II at the same time and get credit for both (nor go back to STAT:3101/IGPI:3101 after taking STAT:4101/IGPI:4101).

## Statistics Courses

#### **STAT:1000 First-Year Seminar** **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **STAT:1010 Statistics and Society** **3 s.h.**

Statistical ideas and their relevance to public policy, business, humanities, and the social, health, and physical sciences; focus on critical approach to statistical evidence. Requirements: one year of high school algebra or MATH:0100. GE: Quantitative or Formal Reasoning.

#### **STAT:1015 Introduction to Data Science** **3 s.h.**

Data collection, visualization, and wrangling; basics of probability and statistical inference; fundamentals of data learning including regression, classification, prediction, and cross-validation; computing, learning, and reporting in the R environment; literate programming; reproducible research. Requirements: one year of high school algebra or MATH:0100.

#### **STAT:1020 Elementary Statistics and Inference** **3 s.h.**

Graphing techniques for presenting data, descriptive statistics, correlation, regression, prediction, logic of statistical inference, elementary probability models, estimation and tests of significance. Requirements: one year of high school algebra or MATH:0100. GE: Quantitative or Formal Reasoning. Same as PSQF:1020.

#### **STAT:1030 Statistics for Business** **4 s.h.**

Descriptive statistics, graphical presentation, elementary probability, estimation and testing, regression, correlation; statistical computer packages. Prerequisites: MATH:1005 or MATH:1020 or MATH:1340 or MATH:1350 or MATH:1380 or MATH:1440 or MATH:1460 or MATH:1550 or MATH:1850. GE: Quantitative or Formal Reasoning.

#### **STAT:2010 Statistical Methods and Computing** **3 s.h.**

Methods of data description and analysis using SAS; descriptive statistics, graphical presentation, estimation, hypothesis testing, sample size, power; emphasis on learning statistical methods and concepts through hands-on experience with real data. Recommendations: undergraduate standing. GE: Quantitative or Formal Reasoning.

#### **STAT:2020 Probability and Statistics for the Engineering and Physical Sciences** **3 s.h.**

Probability, random variables, important discrete and continuous distributions, joint distributions, transformations of random variables, descriptive statistics, point and interval estimation, tests of hypotheses, regression. Prerequisites: MATH:1560 or MATH:1860.

#### **STAT:3100 Introduction to Mathematical Statistics I** **3 s.h.**

Descriptive statistics, probability, conditional probability, discrete and continuous univariate and multivariate distributions, sampling distributions. Prerequisites: MATH:1860 or MATH:1560. Same as IGPI:3100.

- STAT:3101 Introduction to Mathematical Statistics II** 3 s.h.  
Point and interval estimation, testing statistical hypotheses, simple regression, nonparametric methods. Prerequisites: STAT:3100. Same as IGPI:3101.
- STAT:3120 Probability and Statistics** 4 s.h.  
Models, discrete and continuous random variables and their distributions, estimation of parameters, testing statistical hypotheses. Prerequisites: MATH:1560 or MATH:1860. Same as DATA:3120, IGPI:3120.
- STAT:3200 Applied Linear Regression** 3 s.h.  
Regression analysis with focus on applications; model formulation, checking, and selection; interpretation and presentation of analysis results; simple and multiple linear regression; logistic regression; ANOVA; polynomial regression; tree models; bootstrapping; hands-on data analysis with computer software. Prerequisites: STAT:2020 or STAT:2010 or STAT:3120. Same as IGPI:3200, ISE:3760.
- STAT:3210 Experimental Design and Analysis** 3 s.h.  
Single- and multifactor experiments; analysis of variance; multiple comparisons; contrasts; diagnostics; fixed, random, and mixed effects models; designs with blocking and/or nesting; two-level factorials and fractions thereof; use of statistical computing packages. Prerequisites: STAT:3200.
- STAT:3510 Biostatistics** 3 s.h.  
Statistical concepts and methods for the biological sciences; descriptive statistics, elementary probability, sampling distributions, confidence intervals, parametric and nonparametric methods, one-way ANOVA, correlation and regression, categorical data. Requirements: MATH:0100 or MATH:1005 or ALEKS score of 30 or higher. Same as IGPI:3510.
- STAT:3620 Quality Control** 3 s.h.  
Basic techniques of statistical quality control; application of control charts for process control variables; design of inspection plans and industrial experimentation; modern management aspects of quality assurance systems. Offered fall semesters. Prerequisites: STAT:2020 or BAIS:9100 or (STAT:3100 and STAT:3101 and STAT:3200). Same as CEE:3142, ISE:3600.
- STAT:4100 Mathematical Statistics I** 3 s.h.  
Probability, conditional probability, random variables, distribution and density functions, joint and conditional distributions, various families of discrete and continuous distributions, mgf technique for sums, convergence in distribution, convergence in probability, central limit theorem. Prerequisites: MATH:2850 and MATH:2700. Same as IGPI:4100.
- STAT:4101 Mathematical Statistics II** 3 s.h.  
Transformations, order statistics, point estimation, sufficient statistics, Rao-Blackwell Theorem, delta method, confidence intervals, likelihood ratio tests, applications. Prerequisites: STAT:4100. Same as IGPI:4101.
- STAT:4143 Introduction to Statistical Methods** 3 s.h.  
Analysis, interpretation of research data; descriptive statistics; introduction to probability, sampling theory, statistical inference (binomial, normal distribution, t-distribution models); linear correlation, regression. Same as PSQF:4143.
- STAT:4200 Statistical Methods and Computing** 3 s.h.  
Methods of data description and analysis using SAS; descriptive statistics, graphical presentation, estimation, hypothesis testing, sample size, power; emphasis on learning statistical methods and concepts through hands-on experience with real data. Recommendations: graduate standing in non-statistics or less quantitative major. Same as IGPI:4200.
- STAT:4520 Bayesian Statistics** 3 s.h.  
Bayesian statistical analysis, with focus on applications; Bayesian and frequentist methods compared; Bayesian model specification, choice of priors, computational methods; hands-on Bayesian data analysis using appropriate software; interpretation and presentation of analysis results. Prerequisites: STAT:3200 and (STAT:3101 or STAT:4101 or STAT:3120). Same as IGPI:4522, PSQF:4520.
- STAT:4540 Statistical Learning** 3 s.h.  
Introduction to supervised and unsupervised statistical learning, with a focus on regression, classification, and clustering; methods will be applied to real data using appropriate software; supervised learning topics include linear and nonlinear (e.g., logistic) regression, linear discriminant analysis, cross-validation, bootstrapping, model selection, and regularization methods (e.g., ridge and lasso); generalized additive and spline models, tree-based methods, random forests and boosting, and support-vector machines; unsupervised learning topics include principal components and clustering. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to programming and/or software, such as R, SAS, and Matlab. Same as BAIS:4540, IGPI:4540.
- STAT:4560 Statistics for Risk Modeling I** 3 s.h.  
Simple linear regression, multiple linear regression, model diagnostics, linear models from a statistical learning perspective, generalized linear models, and implementations of these models on real data. Prerequisites: STAT:4101 with a minimum grade of C+ or STAT:5101 with a minimum grade of C+.
- STAT:4561 Statistics for Risk Modeling II** 3 s.h.  
Regression-based time series models, decision trees, principal components analysis, cluster analysis, and implementations of these analytic techniques on real data. Prerequisites: STAT:4560 with a minimum grade of C+.
- STAT:4580 Data Visualization and Data Technologies** 3 s.h.  
Introduction to common techniques for visualizing univariate and multivariate data, data summaries, and modeling results; how to create and interpret these visualizations and assess effectiveness of different visualizations based on an understanding of human perception and statistical thinking; data technologies for obtaining and preparing data for visualization and further analysis; students learn how to present results in written reports and use version control to manage their work. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to basic use of statistical programming software (e.g., R or SAS) as obtained from a regression course strongly recommended. Same as IGPI:4580.



- STAT:4740 Large Data Analysis** 3 s.h.  
Current areas that deal with problem of big data; techniques from computer science, mathematics, statistics; high performance and parallel computing, matrix techniques, cluster analysis, visualization; variety of applications including Google PageRank, seismology, Netflix-type problems, weather forecasting; fusion of data with simulation; projects. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:3800 or CS:3700) and (STAT:3200 or ISE:3760 or IGPI:3200). Same as CS:4740, IGPI:4740, MATH:4740.
- STAT:5090 ALPHA Seminar** 1 s.h.  
Resources available to students, program requirements, tips for academic success, professional statistical organizations, library and career center resources, statistical computing, scientific document preparation, history of statistics. Requirements: graduate standing in statistics.
- STAT:5100 Statistical Inference I** 3 s.h.  
Review of probability, distribution theory (multiple random variables, moment-generating functions, transformations, conditional distributions), sampling distributions, order statistics, convergence concepts, generating random samples. Prerequisites: MATH:2850 and STAT:3101.
- STAT:5101 Statistical Inference II** 3 s.h.  
Continuation of STAT:5100; principles of data reduction, point estimation theory (MLE, Bayes, UMVU), hypothesis testing, interval estimation, decision theory, asymptotic evaluations. Prerequisites: STAT:5100.
- STAT:5120 Mathematical Methods for Statistics** 3 s.h.  
Real numbers, point set theory, limit points, limits, metric spaces, continuity, sequences and series, Taylor series (multivariate), uniform convergence, Riemann-Stieltjes integrals. Requirements: statistics graduate standing.
- STAT:5200 Applied Statistics I** 4 s.h.  
Descriptive statistics, basic inferential methods (confidence intervals, chi-square tests); linear models (regression and ANOVA models—specification and assumptions, fitting, diagnostics, selection, testing, interpretation); nonlinear models, logistic regression. Prerequisites: STAT:3101. Corequisites: STAT:4100 or STAT:5100. Requirements: facility with matrix algebra. Same as IGPI:5199.
- STAT:5201 Applied Statistics II** 3 s.h.  
Design of experiments and analysis of designed experiments; models for fixed and random effects; mixed models; design and analysis of complex plans; sample-size methods. Prerequisites: STAT:5200. Recommendations: prior exposure to SAS software.
- STAT:5400 Computing in Statistics** 3 s.h.  
R; database management; graphical techniques; importing graphics into word-processing documents (e.g., LaTeX); creating reports in LaTeX; SAS; simulation methods (Monte Carlo studies, bootstrap, etc.). Prerequisites: CS:1210 and STAT:3200 and (STAT:3120 or STAT:3101 or STAT:4101). Corequisites: STAT:5100 and STAT:5200 if not already completed. Same as IGPI:5400.
- STAT:5610 Regression Modeling and ANOVA in the Health Sciences** 3 s.h.  
Continuation of BIOS:4120; correlation, simple and multiple linear regression, confounding, interactions, model selection, single and multiple factor ANOVA (analysis of variance) models, contrasts, multiple comparisons, nested and block designs; introduction to mixed models; for non-biostatistics majors. Offered spring semesters. Prerequisites: BIOS:4120. Same as BIOS:5120, IGPI:5120.
- STAT:5810 Research Data Management** 3 s.h.  
Introduction to data management techniques and problems encountered in gathering and processing data from biomedical investigations; introduction to SAS, techniques taught in SAS; designed for non-biostatistics majors. Offered fall and spring semesters. Recommendations: prior programming experience with C, C++, Python, Java, or other. Same as BIOS:5310, IGPI:5310.
- STAT:6220 Statistical Consulting** 3 s.h.  
Realistic supervised data analysis experiences, including statistical packages, statistical graphics, writing statistical reports, dealing with complex or messy data. Offered spring semesters. Prerequisites: (STAT:3200 and STAT:3210) or (STAT:5201 and STAT:5200). Requirements: for undergraduate majors—major g.p.a. of 3.00 or above, and grades of B or higher in STAT:3200 and STAT:3210.
- STAT:6300 Probability and Stochastic Processes I** 3 s.h.  
Conditional expectations; Markov chains, including random walks and gambler's ruin; classification of states; stationary distributions; branching processes; Poisson processes; Brownian motion. Prerequisites: STAT:4100.
- STAT:6301 Probability and Stochastic Processes II** 3 s.h.  
Markov chains with continuous state space, Martingales, random walks, Brownian motion and other continuous-time Markov chains, simulation methods. Prerequisites: STAT:6300.
- STAT:6513 Intermediate Statistical Methods** 3 s.h.  
Statistical inference and uncertainty estimation using general linear models (i.e., linear regression, analysis of variance); interpreting and conveying statistical results. Requirements: for PSQF:6243—PSQF:4143; for STAT:6513—STAT:4143. Same as PSQF:6243.
- STAT:6514 Correlation and Regression** 4 s.h.  
Correlation techniques; selected bivariate procedures, multiple, partial, curvilinear correlation; multiple linear regression; sampling theory applied to regression analysis and correlation coefficients; simple causal models. Requirements: for PSQF:6244—PSQF:6243; for STAT:6514—STAT:6513. Same as PSQF:6244.
- STAT:6516 Design of Experiments** 3 s.h.  
Theory and methods in the planning and statistical analysis of experimental studies; testing of hypotheses about linear contrasts among means in single-factor and multifactor, completely randomized, and repeated measurement designs. Requirements: for PSQF:6246—PSQF:6243; for STAT:6516—STAT:6513. Same as PSQF:6246.
- STAT:6530 Environmental and Spatial Statistics** 3 s.h.  
Geostatistics kriging, variogram estimation, trend estimation, sampling design, extensions to river networks and the globe, lattice data analysis, analysis of spatial point patterns. Prerequisites: STAT:4101 and STAT:3200. Same as IGPI:6530.
- STAT:6547 Nonparametric Statistical Methods** 3 s.h.  
Selected nonparametric methods; one- and two-sample location tests and estimation methods, measures of association, analyses of variance; emphasis on relationships to classical parametric procedures. Same as PSQF:6247.

**STAT:6550 Introductory Longitudinal Data Analysis****3 s.h.**

Introduction to statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; focus on applications and computer software methods for ANOVA based methods, hierarchical linear models, linear mixed models, correlated regression models, generalized estimating equations, and generalized linear mixed models. Offered fall semesters. Prerequisites: BIOS:5120 or STAT:3200. Same as BIOS:6310, IGPI:6310.

**STAT:6560 Applied Time Series Analysis****3 s.h.**

General stationary, nonstationary models, autocovariance autocorrelation functions; stationary, nonstationary autoregressive integrated moving average models; identification, estimation, forecasting in linear models; use of statistical computer packages. Offered spring semesters. Prerequisites: (STAT:5200 or STAT:3200) and STAT:3101.

**STAT:6970 Topics in Statistics****3 s.h.**

Selected advanced topics in statistics.

**STAT:6990 Readings in Statistics****arr.**

Supervised reading and research in statistics.

**STAT:7100 Advanced Inference I****3 s.h.**

Concepts of convergence, asymptotic methods including the delta method, sufficiency, asymptotic efficiency, Fisher information and information bounds for estimation, maximum likelihood estimation, the EM-algorithm, Bayes estimation, decision theory. Prerequisites: STAT:5101 and STAT:5120.

**STAT:7101 Advanced Inference II****3 s.h.**

Hypothesis testing, asymptotics of the likelihood ratio test, asymptotic efficiency, statistical functionals, robustness, bootstrap and jackknife, estimation with dependent data. Prerequisites: STAT:7100.

**STAT:7190 Seminar: Mathematical Statistics****arr.**

Selected advanced topics in mathematical statistics.

**STAT:7200 Linear Models****4 s.h.**

Linear spaces and selected topics in matrix algebra, full rank and non-full rank linear models, estimability, least squares and best linear unbiased estimation, multivariate normal distribution and distributions of quadratic forms, interval estimation, hypothesis testing, random and mixed models, best linear unbiased prediction, variance component estimation. Prerequisites: STAT:5101 and STAT:5200 and STAT:5201.

**STAT:7290 Seminar: Applied Statistics****arr.**

Selected advanced topics in applied statistics.

**STAT:7300 Foundations of Probability I****3 s.h.**

Probability theory, with emphasis on constructing rigorous proofs; measure spaces, measurable functions, random variables and induced measures, distribution functions, Lebesgue integral, product measure and independence, Borel Cantelli lemma, modes of convergence. Prerequisites: STAT:5120.

**STAT:7301 Foundations of Probability II****3 s.h.**

Laws of large numbers, characteristic functions and properties, central limit theorem, Radon-Nikodym derivatives, conditional expected value and martingales. Prerequisites: STAT:7300.

**STAT:7390 Seminar: Probability****arr.**

Selected advanced topics in probability.

**STAT:7400 Computer Intensive Statistics****3 s.h.**

Computer arithmetic, random variate generation, numerical optimization, numerical linear algebra, smoothing techniques, bootstrap methods, cross-validation, MCMC, EM and related algorithms; other topics per student/instructor interests. Prerequisites: (BIOS:5710 or STAT:5200) and STAT:3101. Requirements: proficiency in Fortran or C or C++ or Java. Same as IGPI:7400.

**STAT:7500 Statistical Machine Learning****3 s.h.**

Regularization methods for sparse models, computational algorithms for large scale problems, statistical inference in high-dimensional models, reproducing kernel Hilbert space, supervised learning, nonparametric density and conditional density estimation, neural networks and deep learning, optimal transport and generative learning, dimension reduction and representation learning. Prerequisites: STAT:5100 or STAT:5200. Same as BAIS:7500.

**STAT:7510 Analysis of Categorical Data****3 s.h.**

Models for discrete data, distribution theory, maximum likelihood and weighted least squares estimation for categorical data, tests of fit, models selection. Offered spring semesters. Prerequisites: (BIOS:5720 or STAT:5200) and (STAT:5101 or STAT:4101). Same as BIOS:7410.

**STAT:7520 Bayesian Analysis****3 s.h.**

Decision theory, conjugate families, structure of Bayesian inference, hierarchical models, asymptotic approximations for posterior distributions, Markov chain Monte Carlo methods and convergence assessment, model adequacy and model choice. Prerequisites: STAT:5101 and STAT:5400 and STAT:5200.

**STAT:7560 Time Series Analysis****3 s.h.**

Stationary time series, ARIMA models, spectral representation, linear prediction inference for the spectrum, multivariate time series, state space models and processes, nonlinear time series. Prerequisites: STAT:4101 and (STAT:3200 or STAT:6560).

**STAT:7570 Survival Data Analysis****3 s.h.**

Types of censoring and truncation; survival function estimation; parametric inference using exponential, Weibull, and accelerated failure time models; nonparametric tests; sample size calculation; Cox regression with stratification and time-dependent covariates; regression diagnostics; competing risks; topics may include analysis of correlated survival data and/or recurrent events; designed for biostatistics and statistics majors. Offered fall semesters of odd years. Prerequisites: BIOS:5720 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as BIOS:7210, IGPI:7210.

**STAT:7990 Reading Research****arr.**

Supervised reading and research in statistics.

## Actuarial Science Courses

**ACTS:1000 First-Year Seminar****1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**ACTS:1001 Introductory Seminar on Actuarial Science****1 s.h.**

Introduction to actuarial science; U.S. actuarial organizations and actuarial qualification process; program requirements and tips for academic success; career center, actuarial club, and internships; actuarial career; ethics; communication; introduction to actuarial computing. Requirements: actuarial science interest major and first-year standing.

- ACTS:3080 Mathematics of Finance I** 3 s.h.  
Mathematics of compound interest, annuities certain, amortization schedules, yield rates, sinking funds, and bonds. Requirements: calculus II or graduate standing.
- ACTS:3110 Actuarial Exam P Preparation** 1 s.h.  
Preparation for the Society of Actuaries exam P. Corequisites: STAT:3100 or STAT:4100 or STAT:5100.
- ACTS:3210 Actuarial Exam FM Preparation** 1 s.h.  
Preparation for the Society of Actuaries exam FM. Corequisites: ACTS:3080, if not taken as a prerequisite.
- ACTS:4010 Actuarial Exam IFM Preparation** 1 s.h.  
Preparation for the Society of Actuaries exam IFM. Requirements: multivariate calculus, linear algebra, and statistics. Recommendations: prior or concurrent enrollment in FIN:3300 or ACTS:4380.
- ACTS:4110 Actuarial Exam LTAM Preparation** 1 s.h.  
Preparation for the Society of Actuaries exam LTAM. Corequisites: ACTS:4280, if not taken as a prerequisite.
- ACTS:4130 Quantitative Methods for Actuaries** 3 s.h.  
Survival distributions, life tables, life insurance, life annuities, and premiums. Offered fall semesters. Prerequisites: STAT:3100 with a minimum grade of B- and ACTS:3080 with a minimum grade of C+. Corequisites: STAT:4100 or STAT:5100. Requirements: multivariate calculus and linear algebra.
- ACTS:4150 Fundamentals of Short-Term Actuarial Mathematics** 3 s.h.  
Severity, frequency, aggregate loss, estimation, credibility theory, pricing, and reserving for short-term insurance coverages; option pricing. Offered spring semesters. Prerequisites: STAT:4100 with a minimum grade of C+ or STAT:5100 with a minimum grade of C+. Corequisites: STAT:4101 or STAT:5101.
- ACTS:4160 Topics in Actuarial Science** arr.  
Selected topics in actuarial science, financial mathematics, and quantitative risk management.
- ACTS:4180 Life Contingencies I** 3 s.h.  
Reserves, multi-life models, multiple-decrement models, and Markov chains. Offered spring semesters. Prerequisites: ACTS:3080 with a minimum grade of C+ and ACTS:4130 with a minimum grade of C+ and (STAT:4100 with a minimum grade of C+ or STAT:5100 with a minimum grade of C+).
- ACTS:4280 Life Contingencies II** 3 s.h.  
Multistate models, pension mathematics, emerging costs for traditional and equity-linked insurance, profit testing, profit measures, and embedded options. Offered fall semesters. Prerequisites: ACTS:4180 with a minimum grade of C+.
- ACTS:4380 Mathematics of Finance II** 3 s.h.  
Derivatives markets, forwards, options, pricing models, and actuarial applications. Prerequisites: ACTS:3080 with a minimum grade of C+. Requirements: mathematical statistics, multivariate calculus, and linear algebra.
- ACTS:4990 Readings in Actuarial Science** arr.
- ACTS:6160 Topics in Actuarial Science** arr.  
Selected topics in actuarial science, financial mathematics, and quantitative risk management.
- ACTS:6200 Predictive Analytics** 3 s.h.  
Linear mixed models; generalized linear mixed models; generalized additive models; applications of these models using associated R packages. Prerequisites: STAT:4560. Corequisites: STAT:4561. Requirements: comfort working with R software environment. Same as DATA:6200.
- ACTS:6480 Loss Distributions** 3 s.h.  
Severity, frequency, and aggregate models and their modifications; risk measures; construction of empirical models. Offered spring semesters. Prerequisites: STAT:4101 or STAT:5101. Corequisites: ACTS:6580.
- ACTS:6580 Credibility and Survival Analysis** 3 s.h.  
Construction and selection of parametric models, credibility, and simulation. Offered spring semesters. Prerequisites: STAT:4101 or STAT:5101. Corequisites: ACTS:6480.
- ACTS:6990 Readings in Actuarial Science** arr.  
Supervised reading and research in actuarial science, financial mathematics, or quantitative risk management.
- ACTS:7730 Advanced Topics in Actuarial Science/ Financial Mathematics** arr.  
Selected advanced topics in actuarial science, financial mathematics and quantitative risk management.
- ## Data Science Courses
- DATA:3120 Probability and Statistics** 4 s.h.  
Models, discrete and continuous random variables and their distributions, estimation of parameters, testing statistical hypotheses. Prerequisites: MATH:1560 or MATH:1860. Same as IGPI:3120, STAT:3120.
- DATA:4750 Probabilistic Statistical Learning** 3 s.h.  
Essential machine learning and statistics ideas that are critical in analyzing modern complex and large data; supervised learning topics include linear models, deep neural networks, and nonparametric models; essential topics include nonlinear dimension reduction, clustering, and recommender systems. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:2700 or MATH:2550) and (STAT:2010 or STAT:2020 or STAT:4200) and STAT:4540.
- DATA:4880 Data Science Creative Component** 1 s.h.  
Readings, group discussions, and short-term projects in area of data science; emphasis on communication of ideas learned in student's data science coursework, data ethics, and potential bias in algorithms.
- DATA:4890 Data Science Practicum** 2 s.h.  
On- or off-campus internship or group-based consulting project that provides experience in a real-world setting; application of knowledge and techniques learned in coursework; practice in communicating results to others.
- DATA:5890 M.S. Data Science Practicum** 2 s.h.  
On- or off-campus internship or group-based consulting project that provides experience in a real-world setting; application of knowledge and techniques learned in coursework and practice communicating results to others.
- DATA:6200 Predictive Analytics** 3 s.h.  
Linear mixed models; generalized linear mixed models; generalized additive models; applications of these models using associated R packages. Prerequisites: STAT:4560. Corequisites: STAT:4561. Requirements: comfort working with R software environment. Same as ACTS:6200.
- DATA:7350 High-Dimensional Probability for Data Science** 3 s.h.  
Nonasymptotic probability with a view towards applications in data science; concentration inequalities for functions of independent variables, martingale inequalities, entropy method, random matrices, matrix inequalities, suprema of random processes, and sparse recovery. Prerequisites: STAT:5101. Requirements: linear algebra course and familiarity with R or Python.

# Statistics, B.S.

## Learning Outcomes

Students will:

- be able to distinguish between observational studies and designed experiments and understand the issues related to the data collection method, including sampling bias, sampling error, sample size determination, statistical power, association versus causation, and the design and analysis of randomized experiments;
- use critical thinking skills to translate substantive questions into well-defined statistical problems and choose appropriate statistical methods and graphical summaries for a given problem;
- use computer software to manage data, carry out exploratory data analyses and computer simulations, produce numerical and graphical summaries of data, and apply basic statistical methodology;
- be able to clearly communicate study results to non-statisticians, and write accurate and meaningful reports that describe the statistical analyses and summarize important findings; and
- understand the mathematical tools underlying statistical methods, including distribution theory, uncertainty quantification via probability, estimation theory, and the probabilistic basis of formal statistical inference.

## Requirements

The Bachelor of Science with a major in statistics requires a minimum of 120 s.h., including at least 47 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students who earn the major in statistics may not earn the major in data science.

Students complete 10 core courses that provide essential instruction in statistical methods, applications, and theory. In addition, they concentrate on an area of interest by completing four or five courses in one of the major's three emphasis tracks: statistics in business, industry, government, and research; statistical computing and data science; or mathematical statistics.

The B.S. with a major in statistics requires the following coursework.

Code	Title	Hours
Core Courses		35
Emphasis Track Courses		12-16
<b>Total Hours</b>		<b>47-51</b>

## Core Courses

All students complete the following 10 core courses. The department recommends that well-prepared students who elect the mathematical statistics track take STAT:4100/IGPI:4100 Mathematical Statistics I and STAT:4101/IGPI:4101 Mathematical Statistics II in place of STAT:3100/IGPI:3100 Introduction to Mathematical Statistics I and STAT:3101/IGPI:3101 Introduction to Mathematical Statistics II to satisfy the core requirement in statistics.

Code	Title	Hours
<b>Computer Science</b>		
This course:		
CS:1210	Computer Science I: Fundamentals	4
<b>Mathematics</b>		
All of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
<b>Statistics</b>		
All of these:		
STAT:2010	Statistical Methods and Computing	3
STAT:3100/ IGPI:3100	Introduction to Mathematical Statistics I	3
STAT:3101/ IGPI:3101	Introduction to Mathematical Statistics II	3
STAT:3200/ IGPI:3200/ISE:3760	Applied Linear Regression	3
STAT:3210	Experimental Design and Analysis	3

## Emphasis Tracks

Students choose one of the following tracks and must complete four or five courses in that track.

### Statistics in Business, Industry, Government and Research Track

The statistics in business, industry, government, and research track emphasizes statistical applications and data analysis. It is appropriate for students interested in careers as applied statisticians.

Code	Title	Hours
This course:		
STAT:5810/ BIOS:5310/ IGPI:5310	Research Data Management	3
Three of these:		
STAT:3620/ CEE:3142/ISE:3600	Quality Control	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6550/ BIOS:6310/ IGPI:6310	Introductory Longitudinal Data Analysis	3
STAT:6560	Applied Time Series Analysis	3

BIOS:5130/ IGPI:5130	Applied Categorical Data Analysis	3
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## Statistical Computing and Data Science Track

The statistical computing and data science track emphasizes statistical applications and requires additional coursework in computing. It prepares students for statistical work that requires computing expertise for data management, analysis, and reporting.

Code	Title	Hours
All of these:		
STAT:5810/ BIOS:5310/ IGPI:5310	Research Data Management	3
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
Two of these:		
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:4740/ CS:4740/IGPI:4740/ MATH:4740	Large Data Analysis	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6550/ BIOS:6310/ IGPI:6310	Introductory Longitudinal Data Analysis	3
STAT:6560	Applied Time Series Analysis	3
CS:3700/ MATH:3800	Introduction to Numerical Methods	3

## Mathematical Statistics Track

The mathematical statistics track provides a solid foundation in statistical theory and applications. It requires additional coursework in mathematics and is good preparation for graduate study in statistics.

Students who use STAT:4100/IGPI:4100 Mathematical Statistics I and STAT:4101/IGPI:4101 Mathematical Statistics II to satisfy the core requirements may not use those courses to satisfy the track requirement.

Code	Title	Hours
This course:		
MATH:3770	Fundamental Properties of Spaces and Functions I	4
9 s.h. from these:		
STAT:4100- STAT:4101	Mathematical Statistics I-II (same as IGPI:4100-IGPI:4101)	6

STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
STAT:4560	Statistics for Risk Modeling I	3
STAT:5120	Mathematical Methods for Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6300- STAT:6301	Probability and Stochastic Processes I-II	6
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6560	Applied Time Series Analysis	3

## Combined Programs

### B.S./M.S. in Statistics

The combined Bachelor of Science/Master of Science in statistics is for eligible students who seek to complete both the B.S. and the M.S. at the University of Iowa in five years. Students in the combined program must complete all requirements for each degree. A traditional M.S. in statistics requires completion of 32 s.h. of graduate-level coursework. The B.S./M.S. program permits students to count 12 s.h. of credit (four courses) toward the requirements for both degrees. To complete the M.S., an additional 20 s.h. of coursework is required. The four courses that count toward both degrees must be taken during the fourth year of undergraduate study, after admission to the combined program, and must satisfy degree requirements of both the B.S. and the M.S. in statistics.

### B.S./M.P.H. (Biostatistics Subprogram)

Students majoring in statistics who are interested in earning a Master of Public Health degree with a biostatistics subprogram may apply to the combined B.S./M.P.H. program offered by the College of Liberal Arts and Sciences and the College of Public Health. The program permits students to count 15 s.h. of credit toward the requirements for both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. For information about the public health program, see the Master of Public Health, M.P.H. [p. 2078] (biostatistics subprogram) section of the Catalog.

### B.S./M.S. in Biostatistics

The combined B.S. in statistics/M.S. in biostatistics enables Bachelor of Science students majoring in statistics to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and the M.S. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Public Health; see the M.S. in biostatistics [p. 2096] in the Catalog.

## Honors

### Honors in the Major

Students majoring in statistics have the opportunity to graduate with honors in the major. Departmental honors

students must maintain a g.p.a. of at least 3.67 in their major and a cumulative University of Iowa g.p.a. of at least 3.33.

To graduate with honors in the statistics major, students must complete an honors project or a suitable alternative. Statistics honors students should consult with the statistics undergraduate advisor.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the statistics major.

### Career Advancement

Statistics and probability are vital to many fields, so the demand for well-trained statisticians is strong. Statisticians work in medicine, engineering, law, public policy making, marketing, manufacturing, engineering, agriculture, varied social and natural sciences, and numerous other areas.

When students graduate, they will be prepared to fill entry-level positions as statisticians or go on to graduate school. An advisor assists students in locating internship opportunities as well as the best-fitting graduate programs.

To learn more about job opportunities, see ASA JobWeb on the American Statistical Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

## Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Much of the coursework in statistics is sequential, so students must begin requirements for the major as soon as possible. Individual study plans must be made carefully. Students who first enroll for a spring semester must consult their advisor to confirm a four-year plan.

Courses must be taken in sequence, so students must begin work early.

**Before the fifth semester begins:** at least four courses in the major, including MATH:1850 Calculus I, MATH:1860 Calculus II, and STAT:2010 Statistical Methods and Computing.

**Before the seventh semester begins:** seven or eight courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** nine or ten courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Statistics, B.S.

- Statistics in Business, Industry, Government and Research Track [p. 1142]
- Statistical Computing and Data Science Track [p. 1143]
- Mathematical Statistics Track [p. 1144]

### Statistics in Business, Industry, Government and Research Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:1210	Computer Science I: Fundamentals <sup>b</sup>	4
MATH:1850	Calculus I <sup>c</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>17-19</b>
<b>Spring</b>		
STAT:2010	Statistical Methods and Computing	3
MATH:1860	Calculus II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
	<b>Hours</b>	<b>17-19</b>
<b>Second Year</b>		
<b>Fall</b>		
STAT:3100	Introduction to Mathematical Statistics I <sup>f</sup>	3
STAT:3200	Applied Linear Regression	3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
	<b>Hours</b>	<b>14-15</b>
<b>Spring</b>		
STAT:3101	Introduction to Mathematical Statistics II <sup>g</sup>	3
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
	<b>Hours</b>	<b>14-15</b>

**Third Year****Fall**

STAT:5810	Research Data Management <sup>h</sup>	3
MATH:2850	Calculus III	4
GE CLAS Core: International and Global Issues <sup>e</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
Elective course <sup>i</sup>		3

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**Hours** **16**

**Spring**

STAT:3210	Experimental Design and Analysis <sup>g</sup>	3
Major: upper-level statistics course <sup>h</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>i</sup>		3

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**Hours** **15**

**Fourth Year****Fall**

Major: upper-level statistics course <sup>h</sup>		3
Elective course <sup>i</sup>		3
Elective course <sup>i</sup>		3
Elective course <sup>i</sup>		3
Elective course <sup>i</sup>		3

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**Hours** **15**

**Spring**

Major: upper-level statistics course <sup>h</sup>		3
GE CLAS Core: Values and Culture <sup>e</sup>		3
Elective course <sup>i</sup>		3
Elective course <sup>i</sup>		3
Elective course <sup>i</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

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**Hours** **15**

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**Total Hours** **123-129**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in this course requires completion of a placement exam.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

g Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

h Students must complete STAT:5810 and 9 s.h. from approved courses for the Statistics in Business, Industry, Government and Research emphasis track.

i Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Statistical Computing and Data Science Track**

Course	Title	Hours
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**Academic Career****Any Semester**

GE CLAS Core: Sustainability <sup>a</sup>		<b>0</b>
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**First Year****Fall**

CS:1210	Computer Science I: Fundamentals <sup>b</sup>	4
MATH:1850	Calculus I <sup>c</sup>	4
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2

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**Hours** **17-19**

**Spring**

STAT:2010	Statistical Methods and Computing	3
MATH:1860	Calculus II	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	

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**Hours** **17-19**

GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5

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**Hours** **17-19**

**Second Year****Fall**

STAT:3200	Applied Linear Regression	3
CS:2210	Discrete Structures <sup>f</sup>	3
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5

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**Hours** **16-17**

**Spring**

CS:2230	Computer Science II: Data Structures <sup>f</sup>	4
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5

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**Hours** **16-17**

**Third Year****Fall**

STAT:3100	Introduction to Mathematical Statistics I <sup>g</sup>	3
MATH:2850	Calculus III	4
GE CLAS Core: International and Global Issues <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>h</sup>		3
<b>Hours</b>		<b>16</b>

**Spring**

STAT:3101	Introduction to Mathematical Statistics II <sup>i</sup>	3
STAT:3210	Experimental Design and Analysis <sup>i</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		3
<b>Hours</b>		<b>15</b>

**Fourth Year****Fall**

STAT:5810	Research Data Management <sup>f</sup>	3
Major: upper-level statistics course <sup>f</sup>		3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

Major: upper-level statistics course <sup>f</sup>		3
GE CLAS Core: Values and Culture <sup>e</sup>		3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>127-133</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in this course requires completion of a placement exam.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students must complete five courses for the Statistical Computing and Data Science emphasis track.

g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

i Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Mathematical Statistics Track**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		0
<b>Hours</b>		<b>0</b>

**First Year****Fall**

CS:1210	Computer Science I: Fundamentals <sup>b</sup>	4
MATH:1850	Calculus I <sup>c</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17-19</b>

**Spring**

STAT:2010	Statistical Methods and Computing	3
MATH:1860	Calculus II	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
<b>Hours</b>		<b>17-19</b>

**Second Year****Fall**

STAT:3100	Introduction to Mathematical Statistics I <sup>f</sup>	3
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

**Spring**

STAT:3101	Introduction to Mathematical Statistics II <sup>g</sup>	3
STAT:3200	Applied Linear Regression	3
MATH:2850	Calculus III	4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>



**Third Year****Fall**

MATH:3770	Fundamental Properties of Spaces and Functions I <sup>h</sup>	4
Major: upper-level statistics course <sup>h, i</sup>		3
GE CLAS Core: International and Global Issues <sup>e</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16</b>

**Spring**

STAT:3210	Experimental Design and Analysis <sup>g</sup>	3
GE CLAS Core: Natural Sciences without Lab <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>15</b>

**Fourth Year****Fall**

Major: upper-level statistics course <sup>h, i</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>e</sup>		4
GE CLAS Core: Values and Culture <sup>e</sup>		3
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3
<b>Hours</b>		<b>16</b>

**Spring**

Major: upper-level statistics course <sup>h, i</sup>		3
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3
Elective course <sup>j</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>124-130</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in this course requires completion of a placement exam.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

g Typically this course is offered in spring semesters only.

Check MyUI for course availability since offerings are subject to change.

h Students must complete MATH:3770 and 9 s.h. from approved courses for the Mathematical Statistics emphasis track.

i Students who use STAT:4100 and STAT:4101 to satisfy the core requirements may not use those courses to satisfy the track requirement. Typically STAT:4100 is offered in fall semesters only and STAT:4101 is offered in spring only. Check MyUI for course availability since offerings are subject to change.

j Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Actuarial Science, B.S.

Due to the demanding nature of the actuarial science major and the difficulty of the professional examinations, the department maintains a selective admission program for actuarial science. Students must apply and be admitted to the major.

Students interested in becoming actuaries should declare an interest in actuarial science as their major when they enter the University of Iowa. Ordinarily, students apply for admission to the actuarial science major in the fall semester of their sophomore year, after they have taken MATH:3770 Fundamental Properties of Spaces and Functions I or MATH:2850 Calculus III, and STAT:3100 Introduction to Mathematical Statistics I. Students should apply no later than the end of the spring semester of their junior year.

Students admitted to the actuarial science major usually have completed at least 40 s.h. at the University or at another postsecondary institution, including a three- or four-course calculus sequence, a course in linear algebra, and a calculus-based course in probability and statistics. The admission decision is based on a student's performance in these courses and other courses relevant to success in the major. ACT or SAT scores are considered in evaluating transfer students. Factors such as work ethic, enthusiasm, and commitment also may be considered. Students who do well in the prerequisite math courses tend to be the most successful in actuarial science.

For application forms and more information about selective admission, contact the Department of Statistics and Actuarial Science.

## Learning Outcomes

Students will:

- be able to bring to bear actuarial, financial, mathematical, and statistical techniques to model and analyze risks, particularly in the context of insurance and pension;
- have the knowledge and analytical ability to pass the initial professional actuarial examinations given by the Society of Actuaries and Casualty Actuarial Society, and develop the skills needed for successful self-study of the advanced professional examinations;
- be skillful in using and developing computer software to solve actuarial problems;
- be able to clearly communicate results from an actuarial analysis to all stakeholders, and write effective reports that describe the analysis and summarize important findings; and
- possess a basic understanding of insurance and business operations.

## Requirements

The Bachelor of Science with a major in actuarial science requires a minimum of 120 s.h., including 51 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The program prepares students for careers as actuaries. It also helps them learn material that is included in professional

examinations administered by professional organizations such as the Society of Actuaries and the Casualty Actuarial Society.

Students take a variety of actuarial science courses. They prepare for business aspects of the actuarial profession by studying accounting, law, finance, insurance, and economics. They also complete courses that enhance important communication skills, such as writing and speaking, as part of their GE CLAS Core requirements.

## Courses Required for the Major

The B.S. with a major in actuarial science requires the following coursework. Permission to substitute coursework taken at another institution for required courses at the University of Iowa is decided case by case; students should contact the department.

Code	Title	Hours
<b>Computer Science</b>		
This course:		
CS:1210	Computer Science I: Fundamentals	4
<b>Mathematics</b>		
All of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4
<b>Statistics and Actuarial Science</b>		
All of these:		
ACTS:3080	Mathematics of Finance I	3
ACTS:4130	Quantitative Methods for Actuaries	3
ACTS:4150	Fundamentals of Short-Term Actuarial Mathematics	3
ACTS:4180	Life Contingencies I	3
ACTS:4280	Life Contingencies II	3
STAT:3100/ IGPI:3100	Introduction to Mathematical Statistics I	3
STAT:3101/ IGPI:3101	Introduction to Mathematical Statistics II	3
STAT:4100/ IGPI:4100	Mathematical Statistics I	3
STAT:4101/ IGPI:4101	Mathematical Statistics II	3

In exceptional cases, the advisor may grant permission to waive STAT:3100/IGPI:3100 Introduction to Mathematical Statistics I and/or STAT:3101/IGPI:3101 Introduction to Mathematical Statistics II.

Students may choose to complete STAT:4560 Statistics for Risk Modeling I and STAT:4561 Statistics for Risk Modeling II (both courses) instead of ACTS:4280 Life Contingencies II, except honors students, who must complete all three courses.

## Honors

### Honors in the Major

Students majoring in actuarial science have the opportunity to graduate with honors in the major. They must maintain a

UI cumulative g.p.a. of at least 3.33, a g.p.a. of at least 3.40 in all departmental courses, and complete the following five courses in addition to all courses required for the major.

Code	Title	Hours
ACTS:6200	Predictive Analytics	3
FIN:3300	Corporate Finance	3
MATH:3600	Introduction to Ordinary Differential Equations	3
STAT:4560	Statistics for Risk Modeling I	3
STAT:4561	Statistics for Risk Modeling II	3

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the actuarial science major.

### Career Advancement

Most actuaries are employed by insurance companies or employee benefits consulting firms. They have responsibilities related to all phases of product development and maintenance for their companies. Individual employers who need guidance in establishing employee insurance and retirement programs also hire actuarial science graduates. A growing number of actuaries work in asset/liability management, some in investment firms, and others in insurance companies.

Actuaries have always been in high demand and earn good salaries. Most Iowa graduates find work as actuaries, but some become financial managers and teachers. They take positions in locations all across the country, often in large metropolitan areas.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

Much of the coursework is sequential, so students must begin requirements for the major as soon as possible. Individual study plans must be made carefully. Students who first enroll for a spring semester must consult their advisor to confirm a four-year plan.

**Before the third semester begins:** MATH:1860 Calculus II and MATH:2700 Introduction to Linear Algebra.

**Before the fifth semester begins:** MATH:2850 Calculus III, MATH:3770 Fundamental Properties of Spaces and Functions I, STAT:3100/IGPI:3100 Introduction to Mathematical Statistics I, STAT:3101/IGPI:3101 Introduction to Mathematical Statistics II, and ACTS:3080 Mathematics of Finance I.

#### Before the seventh semester begins:

STAT:4101/IGPI:4101 Mathematical Statistics II, ACTS:4130 Quantitative Methods for Actuaries, ACTS:4150 Fundamentals of Short-Term Actuarial Mathematics, ACTS:4180 Life Contingencies I, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** ACTS:4280 Life Contingencies II.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Actuarial Science, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Actuarial Science BS program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:1210	Computer Science I: Fundamentals <sup>c</sup>	4
MATH:1850	Calculus I <sup>d</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
CSI:1600	Success at Iowa	1
Attend the Actuarial Science, Insurance and Risk Management Job Fair during the fall semester to apply for summer internships.		
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
MATH:1860	Calculus II	4
MATH:2700	Introduction to Linear Algebra	4
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
MATH:2850	Calculus III	4
STAT:3100	Introduction to Mathematical Statistics I <sup>g</sup>	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Natural Sciences without Lab <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5

Admission Application: apply to the Actuarial Science BS major<sup>n</sup>

Attend the Actuarial Science, Insurance and Risk Management Job Fair during the fall semester to apply for summer internships.

		<b>Hours</b>	<b>17-19</b>
<b>Spring</b>			
ACTS:3080	Mathematics of Finance I	3	
MATH:3770	Fundamental Properties of Spaces and Functions I	4	
STAT:3101	Introduction to Mathematical Statistics II <sup>i</sup>	3	
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>e</sup>		4 - 5	

		<b>Hours</b>	<b>14-15</b>
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### Third Year

#### Any Semester

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the Actuarial Science BS program.

		<b>Hours</b>	<b>0</b>
<b>Fall</b>			
ACTS:4130	Quantitative Methods for Actuaries <sup>g, j</sup>	3	
STAT:4100	Mathematical Statistics I <sup>g</sup>	3	
GE CLAS Core: Natural Sciences with Lab <sup>f</sup>		4	
GE CLAS Core: Social Sciences <sup>f</sup>		3	
Elective course <sup>k</sup>		3	

Attend the Actuarial Science, Insurance and Risk Management Job Fair during the fall semester to apply for summer internships.

		<b>Hours</b>	<b>16</b>
<b>Spring</b>			
ACTS:4150	Fundamentals of Short-Term Actuarial Mathematics <sup>i, j</sup>	3	
ACTS:4180	Life Contingencies I <sup>i, j</sup>	3	
STAT:4101	Mathematical Statistics II <sup>i</sup>	3	
GE CLAS Core: Historical Perspectives <sup>f</sup>		3	
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>		3	

		<b>Hours</b>	<b>15</b>
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### Fourth Year

#### Fall

ACTS:4280	Life Contingencies II <sup>g, j, l</sup>	3	
STAT:4560	Statistics for Risk Modeling I <sup>k, m</sup>	3	
GE CLAS Core: International and Global Issues <sup>f</sup>		3	
Elective course <sup>k</sup>		3	
Elective course <sup>k</sup>		3	

Attend the Actuarial Science, Insurance and Risk Management Job Fair during the fall semester.

		<b>Hours</b>	<b>15</b>
<b>Spring</b>			
ACTS:6200	Predictive Analytics <sup>k, m</sup>	3	
STAT:4561	Statistics for Risk Modeling II <sup>k, m</sup>	3	
GE CLAS Core: Values and Culture <sup>f</sup>		3	
Elective course <sup>k</sup>		3	
Elective course <sup>k</sup>		3	

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>n</sup>

<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>123-129</b>

- a The Academic Advising Center advises Actuarial Science Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than one and a half years to complete.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Enrollment in this course requires completion of a placement exam.
- d Enrollment in math courses requires completion of a placement exam.
- e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- h Ordinarily, students apply for admission to the actuarial science major in the fall semester of their sophomore year, after they have taken MATH:3770 or MATH:2850, and STAT:3100. Students should apply no later than the end of the spring semester of their junior year. For further details and application instructions, see your advisor and the Department of Statistics and Actuarial Science website.
- i Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- j Restricted to Actuarial Science Majors. For further details and application instructions, see your advisor and the Department of Statistics and Actuarial Science website.
- k Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- l Students may choose to complete STAT:4560 and STAT:4561 (both courses) instead of ACTS:4280, except honors students, who must complete all three courses.
- m This course is a recommended elective, not a requirement. Students may choose another elective. Prerequisites may apply.
- n Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Statistics, Minor

## Requirements

The undergraduate minor in statistics requires a minimum of 15 s.h. in statistics courses taken at the University of Iowa. At least 12 s.h. must be taken in courses numbered 3000 or above (selected from the lists below). Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

The minor in statistics requires a minimum of 15 s.h. of coursework, as follows.

Code	Title	Hours
One of these:		
STAT:2010	Statistical Methods and Computing	3
STAT:2020	Probability and Statistics for the Engineering and Physical Sciences	3
STAT:4200/ IGPI:4200	Statistical Methods and Computing	3
One of these:		
STAT:3200/ IGPI:3200/ISE:3760	Applied Linear Regression	3
STAT:4560	Statistics for Risk Modeling I	3
A maximum of one of these:		
STAT:3100/ IGPI:3100	Introduction to Mathematical Statistics I	3
STAT:3120/ DATA:3120/ IGPI:3120	Probability and Statistics	4
STAT:4100/ IGPI:4100	Mathematical Statistics I	3
A maximum of one of these:		
STAT:3101/ IGPI:3101	Introduction to Mathematical Statistics II	3
STAT:4101/ IGPI:4101	Mathematical Statistics II	3
A maximum of three of these:		
STAT:1015	Introduction to Data Science	3
STAT:3210	Experimental Design and Analysis	3
STAT:3620/ CEE:3142/ISE:3600	Quality Control	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:5810/ BIOS:5310/ IGPI:5310	Research Data Management	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3

STAT:6550/ BIOS:6310/ IGPI:6310	Introductory Longitudinal Data Analysis	3
STAT:6560	Applied Time Series Analysis	3
BIOS:5130/ IGPI:5130	Applied Categorical Data Analysis	3

# Statistics, M.S.

## Learning Outcomes

Graduates will be able to:

- understand the mathematical and statistical theory that underlies commonly used statistical methods;
- choose appropriate statistical methods for data analysis;
- correctly and effectively implement descriptive and inferential statistical methods;
- identify and criticize inappropriate use of statistics;
- consult with non-statisticians to help collect and analyze data; and
- acquire effective communication skills for disseminating statistical findings.

## Requirements

The Master of Science program in statistics requires 32 s.h. of graduate credit. It includes a solid foundation in statistical computing, statistical modeling, experimental design, and mathematical statistics plus electives in statistical methods and/or theory. Students have the opportunity to concentrate on theory or applications or a combination of the two.

In addition to required coursework, students must pass a two-part graduate final examination and complete the M.S. creative component.

Students must maintain a g.p.a. of at least 3.00 in all work toward the degree and in additional relevant coursework. Students must take a computer programming proficiency test during the first semester of study; those who display inadequate programming skills are assigned activities to build their proficiency.

The M.S. with a major in statistics requires the following work.

## Statistics Courses

Code	Title	Hours
All of these:		
STAT:5090	ALPHA Seminar	1
STAT:5100	Statistical Inference I	3
STAT:5101	Statistical Inference II	3
STAT:5200/ IGPI:5199	Applied Statistics I	4
STAT:5201	Applied Statistics II	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6300	Probability and Stochastic Processes I	3
STAT:6990	Readings in Statistics (two consecutive enrollments)	2
At least 7 s.h. from these:		
DATA:4750	Probabilistic Statistical Learning	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3

STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:5120	Mathematical Methods for Statistics	3
STAT:6301	Probability and Stochastic Processes II	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6547/ PSQF:6247	Nonparametric Statistical Methods	3
STAT:6560	Applied Time Series Analysis	3
STAT:6970	Topics in Statistics	3
A Ph.D.-level course numbered 7000 or above, including seminar courses		1-3

Students planning to enter the doctoral program may wish to include STAT:5120 Mathematical Methods for Statistics in their course selections, since it is part of the required Ph.D. core.

## Final Examination

The final examination consists of two parts: one covers the topics presented in STAT:5100 Statistical Inference I and STAT:5101 Statistical Inference II; the other part covers the topics presented in STAT:5200/IGPI:5199 Applied Statistics I, STAT:5201 Applied Statistics II, and STAT:5400/IGPI:5400 Computing in Statistics. Each part includes a few problems that test readiness for the Ph.D. program.

Final examinations are offered the week before classes begin in August. Study guides are available in the department office. Students who do not succeed the first time they take the exam may repeat it once, with the possibility to retake it the week before classes begin in January.

Students must complete all requirements and be granted the Master of Science degree within one calendar year of passing the M.S. final examination; those who do not meet this deadline are required to take the exam again.

Students entering the Ph.D. program, who will choose either biostatistics, probability/mathematical statistics, or data science as their concentration area, and who already have taken the equivalent of the first-year courses, may take the M.S. final examination in statistics before beginning further studies.

## Creative Component

Students also must complete a creative component that is related to their application and career interests. Students wishing to qualify for the Ph.D. program are encouraged to write a research-oriented creative component. The creative component entails writing an 8-15 page report on a suitable topic, under an advisor's supervision (with two consecutive 1 s.h. enrollments in STAT:6990 Readings in Statistics, normally during the fall and spring semesters of the second year). A draft of the paper should be completed by the end of the first enrollment in STAT:6990, and polished by early- to mid-semester in the second enrollment. The paper is then presented orally in a public seminar. A faculty committee, in consultation with the creative component advisor, evaluates the work and the presentation, and assigns a grade of satisfactory or unsatisfactory.

For students wishing to qualify for the Ph.D. program, the creative component represents one piece of the body of work used to determine Ph.D. qualification. The creative component must be satisfactorily completed within one calendar year

of passing the M.S. final examination; failure to meet this deadline requires reexamination of the student.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

Statistics and probability are vital to many fields, so the demand for well-trained statisticians is strong. Statisticians work in medicine, engineering, law, public policy making, marketing, manufacturing, engineering, agriculture, varied social and natural sciences, and numerous other areas.

The M.S. program prepares students for careers as professional statisticians or for entry into a Ph.D. program. To learn more about job opportunities, see ASA JobWeb on the American Statistical Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Statistics, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
32 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
STAT:5090	ALPHA Seminar	1
STAT:5100	Statistical Inference I	3
STAT:5200	Applied Statistics I	4
STAT:5400	Computing in Statistics	3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
STAT:5101	Statistical Inference II	3
STAT:5201	Applied Statistics II	3
Statistics elective <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Written Final Exam <sup>c</sup>		
Creative Component <sup>d, e</sup>		
STAT:6300	Probability and Stochastic Processes I	3
STAT:6990	Readings in Statistics <sup>f</sup>	1

Statistics elective <sup>b</sup>	3	
<b>Hours</b>		
<b>7</b>		
<b>Spring</b>		
Present Creative Component <sup>g</sup>		
STAT:6220	Statistical Consulting	3
STAT:6990	Readings in Statistics <sup>f</sup>	1
Statistics elective <sup>b</sup>	1	
Final Exam <sup>h</sup>		
<b>Hours</b>		
<b>5</b>		
<b>Total Hours</b>		
<b>32</b>		

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Must complete at least 7 s.h. of additional statistics coursework; students planning to enroll in the PhD program are encouraged to take STAT:5120. See the General Catalog for list of approved courses.
- c The two-part written final examination is offered the week before classes begin in August; it covers the material presented in STAT:5100, STAT:5101, STAT:5200, STAT:5201, and STAT:5400. Students who do not succeed on their first attempt may repeat it once, with the possibility to retake it the week before classes begin in January.
- d Students must complete a creative component that is related to their application and career interests. It entails writing an 8-15 page report on a suitable topic, under an advisor's supervision with two consecutive 1 s.h. enrollments in STAT:6990, normally during the fall and spring semesters of the second year. Students wishing to qualify for the PhD program are encouraged to write a research-oriented paper.
- e Satisfactorily complete the creative component requirement draft by the end of the semester.
- f Two consecutive enrollments required.
- g The creative component requirement must be completed and presented by mid-spring; the paper is then presented orally in a public seminar.
- h Successful completion of all degree requirements including the two-part written examination and creative component.

# Actuarial Science, M.S.

## Learning Outcomes

Graduates will:

- be able to bring to bear actuarial, financial, mathematical, and statistical techniques to model and analyze risks, particularly in the context of insurance and pension;
- have the knowledge and analytical ability to pass the initial professional actuarial examinations given by the Society of Actuaries and Casualty Actuarial Society, and develop the skills needed for successful self-study of the advanced professional examinations;
- be skillful in using and developing computer software to solve actuarial problems;
- be able to clearly communicate results from an actuarial analysis to all stakeholders, and write effective reports that describe the analysis and summarize important findings; and
- possess a basic understanding of insurance and business operations.

## Requirements

The Master of Science program in actuarial science requires 36 s.h. of graduate credit. The program prepares students for actuarial careers by emphasizing the theory that underlies risk processes and the application of this theory to practical problems of insurance pricing and management. It also helps them learn the material that is tested on professional examinations administered by professional organizations such as the Society of Actuaries and the Casualty Actuarial Society.

Students complete required courses and a final examination.

The M.S. with a major in actuarial science requires the following coursework.

Code	Title	Hours
One of these sequences:		
STAT:4100- STAT:4101	Mathematical Statistics I-II (same as IGPI:4100-IGPI:4101)	6
STAT:5100- STAT:5101	Statistical Inference I-II (for well-prepared students)	6
All of these:		
ACTS:3080	Mathematics of Finance I	3
ACTS:4130	Quantitative Methods for Actuaries	3
ACTS:4150	Fundamentals of Short-Term Actuarial Mathematics	3
ACTS:4180	Life Contingencies I	3
ACTS:4280	Life Contingencies II	3
ACTS:6200	Predictive Analytics	3
STAT:4560	Statistics for Risk Modeling I	3
STAT:4561	Statistics for Risk Modeling II	3
STAT:6300	Probability and Stochastic Processes I	3
A course approved by the advisor		3

## Final Examination

The final examination is offered in the spring semester of the second year of study. Students who do not succeed on their first attempt may retake the exam once.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

Most actuaries are employed by insurance companies or employee benefits consulting firms. They have responsibilities related to all phases of product development and maintenance for their companies. Individual employers who need guidance in establishing employee insurance and retirement programs also hire actuarial science graduates. A growing number of actuaries work in asset/liability management, some in investment firms, and others in insurance companies.

Actuaries have always been in high demand and earn good salaries. Most Iowa graduates find work as actuaries, but some become financial managers and teachers. They take positions in locations all across the country, often in large metropolitan areas.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Actuarial Science, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
36 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ACTS:3080	Mathematics of Finance I	3
ACTS:4130	Quantitative Methods for Actuaries	3
STAT:4100 or STAT:5100	Mathematical Statistics I <sup>b</sup> or Statistical Inference I	3
		<b>9</b>
<b>Spring</b>		
ACTS:4150	Fundamentals of Short-Term Actuarial Mathematics	3
ACTS:4180	Life Contingencies I	3
STAT:5101 or STAT:4101	Statistical Inference II <sup>b</sup> or Mathematical Statistics II	3
		<b>9</b>



**Second Year****Fall**

ACTS:4280	Life Contingencies II	3
STAT:4560	Statistics for Risk Modeling I	3
STAT:6300	Probability and Stochastic Processes I	3
<b>Hours</b>		<b>9</b>

**Spring**

Final Exam <sup>c, d</sup>		
ACTS:6200	Predictive Analytics	3
STAT:4561	Statistics for Risk Modeling II	3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>36</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Students must complete one of the following sequences: either STAT:4100 and STAT:4101, or STAT:5100 and STAT:5101.

c The final examination is offered in the spring semester of the second year of study. Students who do not succeed on their first attempt may retake the exam once.

d Students must also satisfactorily complete all degree requirements.

e Requires faculty advisor approval.

# Statistics, Ph.D.

## Learning Outcomes

Graduates will be able to:

- have a solid understanding of the mathematical and statistical theory that underlies statistical methods;
- conduct literature reviews to summarize the state of the art for specific theoretical and applied topics;
- formulate, implement, and assess appropriate statistical models for analyzing data;
- identify limitations of existing methods and independently develop and assess novel methods (e.g., for analyzing new types of data);
- appreciate the issues of uncertainty, reproducibility, and computability in data analysis;
- collaborate with non-statisticians to help collect and analyze data; and
- acquire effective communication skills for disseminating statistical findings.

## Requirements

The Doctor of Philosophy program in statistics requires a minimum of 76 s.h. of graduate credit, including work completed for the M.S. degree.

The Graduate College requires a minimum g.p.a. of 3.00 to graduate with a Ph.D. degree; however, the Department of Statistics and Actuarial Science requires a higher g.p.a. of at least 3.40 to earn the Ph.D. in statistics. This includes all courses used to meet degree requirements plus additional courses that are relevant to a student's program.

Ph.D. students complete required coursework, including four courses in one of four concentration areas: actuarial science/financial mathematics, biostatistics, data science, or probability/mathematical statistics (see "Concentration Areas" below for area descriptions and course lists). They may take coursework or seminars in other departments to relate an area of specialization to other fields of knowledge, to acquire the ability to use electronic digital computing equipment, or to learn non-English language skills necessary for reading scientific journals and communicating with scholars in other languages.

## Ph.D. Qualifying Procedure

Students enter the Ph.D. program in one of two tracks.

### Statistics

After successfully passing both the M.S. final examination in statistics and the creative component (in exceptional cases, a student may petition to go through the Ph.D. qualifying procedure early), a student who will choose either biostatistics, data science, or probability/mathematical statistics as the selected concentration area, can request, by notifying the director of graduate studies, to go through the Ph.D. qualifying procedure. Upon this request, the faculty evaluate the student's body of work and assess the student's potential for research. The body of work will include the M.S. final examination in statistics, the creative component, and coursework. This evaluation and assessment results in one of three decisions—the student is officially admitted into the Ph.D. program; the student must reapply to go through the Ph.D. qualifying procedure after accumulating a larger body

of work for evaluation; or the student is not admitted into the Ph.D. program.

### Actuarial Science

After successfully passing the M.S. final examination in actuarial science (in exceptional cases, a student may petition to go through the Ph.D. qualifying procedure early), a student who will choose actuarial science/financial mathematics as the selected concentration area, can request, by notifying the director of graduate studies, to go through the Ph.D. qualifying procedure. Upon this request, the faculty evaluate the student's body of work and assess the student's potential for research. The body of work will include the M.S. final examination in actuarial science, professional examinations passed, and course work. This evaluation and assessment results in one of two decisions—the student is officially admitted into the Ph.D. program in the actuarial science/financial mathematics concentration area, or the student is not admitted into the Ph.D. program.

Students complete the program by passing the Ph.D. final (comprehensive) examination and writing and defending a dissertation. Students usually complete the program three years after earning the M.S. degree.

A plan of study that does not conform to the requirements described below but is of high quality may be approved by the director of graduate studies.

The Ph.D. with a major in statistics requires the following coursework.

## Required Coursework

### Actuarial Science/Financial Mathematics Concentration Area

Actuarial science/financial mathematics emphasizes the theory of actuarial science, finance, and risk management. It is excellent preparation for academic positions in universities that offer actuarial science programs and for positions in the insurance, pension, and financial industries.

Code	Title	Hours
One of these sequences:		
STAT:4100- STAT:4101	Mathematical Statistics I-II (same as IGPI:4100-IGPI:4101)	6
STAT:5100- STAT:5101	Statistical Inference I-II (for well-prepared students)	6
All of these from the M.S. in actuarial science program:		
ACTS:4130	Quantitative Methods for Actuaries	3
ACTS:4180	Life Contingencies I	3
ACTS:4280	Life Contingencies II	3
STAT:6300	Probability and Stochastic Processes I	3
And all of these:		
DATA:7350	High-Dimensional Probability for Data Science	3
STAT:5120	Mathematical Methods for Statistics	3
STAT:7100	Advanced Inference I	3
STAT:7101	Advanced Inference II	3
STAT:7200	Linear Models	4
STAT:7300	Foundations of Probability I	3

STAT:7400/ IGPI:7400	Computer Intensive Statistics	3
STAT:7500/ BAIS:7500	Statistical Machine Learning	3
STAT:7990	Reading Research	19
Seminars chosen from STAT:7190, STAT:7290, and STAT:7390		
At least four of these, with at least one numbered 7000 or above:		
ACTS:6200	Predictive Analytics	3
ACTS:7730	Advanced Topics in Actuarial Science/Financial Mathematics	3
STAT:4560	Statistics for Risk Modeling I	3
STAT:4561	Statistics for Risk Modeling II	3
STAT:6301	Probability and Stochastic Processes II	3
STAT:7301	Foundations of Probability II	3
STAT:7560	Time Series Analysis	3
FIN:7110	Finance Theory I	3
FIN:7130	Finance Theory II	3

## Biostatistics Concentration Area

Biostatistics emphasizes exposure to various biostatistical methods, such as survival analysis, categorical data analysis, and longitudinal data analysis. It prepares students for consulting and other positions in industry.

Code	Title	Hours
All of these from the M.S. in statistics program:		
STAT:5090	ALPHA Seminar	1
STAT:5100	Statistical Inference I	3
STAT:5101	Statistical Inference II	3
STAT:5200/ IGPI:5199	Applied Statistics I	4
STAT:5201	Applied Statistics II	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6300	Probability and Stochastic Processes I	3
STAT:6990	Readings in Statistics (two consecutive enrollments)	2
And all of these:		
STAT:5120	Mathematical Methods for Statistics	3
STAT:7100	Advanced Inference I	3
STAT:7101	Advanced Inference II	3
STAT:7200	Linear Models	4
STAT:7300	Foundations of Probability I	3
STAT:7400/ IGPI:7400	Computer Intensive Statistics	3
STAT:7990	Reading Research	18
Seminars chosen from STAT:7190, STAT:7290, and STAT:7390		
At least four of these, with at least one numbered 7000 or above:		
DATA:7350	High-Dimensional Probability for Data Science	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3

STAT:7510/ BIOS:7410	Analysis of Categorical Data	3
STAT:7570/ BIOS:7210/ IGPI:7210	Survival Data Analysis	3
BIOS:6650/ IGPI:6650	Causal Inference	3
BIOS:6720	Statistical Machine Learning for Biomedical and Public Health Data	3
BIOS:7240	High-Dimensional Data Analysis	3
BIOS:7310/ IGPI:7310	Longitudinal Data Analysis	3

## Data Science Concentration Area

The data science track emphasizes the theory, methodology, and application of techniques for working with and learning from data. This concentration area prepares students to develop new methods for visualizing and modeling data, managing reproducible data analysis workflows, and collaborating with scientists and other data stakeholders. It is excellent preparation for students interested in academic, industrial, or government positions that involve data visualization, modeling, and analysis.

Code	Title	Hours
All of these from the M.S. in statistics program:		
STAT:5090	ALPHA Seminar	1
STAT:5100	Statistical Inference I	3
STAT:5101	Statistical Inference II	3
STAT:5200/ IGPI:5199	Applied Statistics I	4
STAT:5201	Applied Statistics II	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6300	Probability and Stochastic Processes I	3
STAT:6990	Readings in Statistics (two consecutive enrollments)	2
And all of these:		
DATA:7350	High-Dimensional Probability for Data Science	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3
STAT:5120	Mathematical Methods for Statistics	3
STAT:7100	Advanced Inference I	3
STAT:7200	Linear Models	4
STAT:7400/ IGPI:7400	Computer Intensive Statistics	3
STAT:7500/ BAIS:7500	Statistical Machine Learning	3
STAT:7990	Reading Research	18
Seminars chosen from STAT:7190, STAT:7290, and STAT:7390		
At least two of these, with at least one numbered 7000 or above:		

DATA:4750	Probabilistic Statistical Learning	3
STAT:6530/ IGPI:6530	Environmental and Spatial Statistics	3
STAT:6560	Applied Time Series Analysis	3
STAT:6970	Topics in Statistics	3
STAT:7101	Advanced Inference II	3
STAT:7300	Foundations of Probability I	3
STAT:7510/ BIOS:7410	Analysis of Categorical Data	3
STAT:7520	Bayesian Analysis	3
STAT:7560	Time Series Analysis	3

## Probability/Mathematical Statistics Concentration Area

Probability/mathematical statistics emphasizes a broad, solid foundation in techniques and underpinnings of mathematical statistics. Its focus on breadth and depth is intended to produce well-rounded, knowledgeable scholars. It is excellent preparation for academic positions in mathematical statistics and industrial or government positions that require broadly trained statisticians with a strong understanding of statistical theory.

Code	Title	Hours
All of these from the M.S. in statistics program:		
STAT:5090	ALPHA Seminar	1
STAT:5100	Statistical Inference I	3
STAT:5101	Statistical Inference II	3
STAT:5200/ IGPI:5199	Applied Statistics I	4
STAT:5201	Applied Statistics II	3
STAT:5400/ IGPI:5400	Computing in Statistics	3
STAT:6220	Statistical Consulting	3
STAT:6300	Probability and Stochastic Processes I	3
STAT:6990	Readings in Statistics (two consecutive enrollments)	2
And all of these:		
STAT:5120	Mathematical Methods for Statistics	3
STAT:7100	Advanced Inference I	3
STAT:7101	Advanced Inference II	3
STAT:7200	Linear Models	4
STAT:7300	Foundations of Probability I	3
STAT:7400/ IGPI:7400	Computer Intensive Statistics	3
STAT:7990	Reading Research	18
Seminars chosen from STAT:7190, STAT:7290, and STAT:7390		
At least four of these, with at least one numbered 7000 or above:		
DATA:7350	High-Dimensional Probability for Data Science	3
STAT:6301	Probability and Stochastic Processes II	3
STAT:7301	Foundations of Probability II	3
STAT:7500/ BAIS:7500	Statistical Machine Learning	3
STAT:7520	Bayesian Analysis	3

STAT:7560	Time Series Analysis	3
BIOS:6650/ IGPI:6650	Causal Inference	3
BIOS:7240	High-Dimensional Data Analysis	3

## Final Examination

Students typically take the Ph.D. final (comprehensive) examination at the beginning of the third year of graduate study, during the week before fall classes begin. Students who do not succeed the first time they take the exam may repeat it once. Ordinarily, this second opportunity to pass the exam will occur one year later, during the week before fall classes begin. However, a student who performs well on one area of the exam but not the other may, in consultation with their advisor and the director of graduate studies, petition the department to move up their second opportunity to the week before the next spring semester's classes begin. The department's decision on whether to grant this petition will take into account any extenuating circumstances.

The comprehensive examination consists of a written core examination and an oral examination in two of the following four areas:

- statistical inference (topics in STAT:5100 Statistical Inference I, STAT:5101 Statistical Inference II, and STAT:7100 Advanced Inference I);
- linear models (topics in STAT:7200 Linear Models);
- probability (topics in STAT:6300 Probability and Stochastic Processes I and STAT:7300 Foundations of Probability I); and
- statistical computing (topics in STAT:5400/IGPI:5400 Computing in Statistics and STAT:7400/IGPI:7400 Computer Intensive Statistics).

Students in the actuarial science/financial mathematics concentration area have the option of taking only one of the four examinations listed above and an actuarial science/financial mathematics examination designed by their advisor and approved by the director of graduate studies.

## Committee

Upon passing the Ph.D. final examination, the candidate chooses a committee of at least four members, which is approved by the advisor. At least three of the faculty members must be University of Iowa tenure-track faculty members. At least two of the faculty members must be from the major department (defined as faculty members who hold any appointment in the major department), and University of Iowa tenure-track faculty members.

The department may request the Graduate College dean's permission to replace one of the four committee members with a recognized scholar of professorial rank from another academic institution.

## Prospectus

Within 18 months of passing the Ph.D. final exam, the candidate should present a written and oral prospectus to the committee. The prospectus describes the problems the student is considering for the thesis, relevant background material, ideas for solving the problems, and any preliminary results. Failure to successfully complete the prospectus within 24 months of passing the Ph.D. final exam will jeopardize the continuation of a student's financial support.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Funds are available to help support outstanding Ph.D. applicants. Fellowships, teaching assistantships, and research assistantships provide an attractive stipend plus tuition at the resident rate and tuition scholarships for students who are appointed at least one-quarter time. In most cases, full tuition waivers are granted.

Students who wish to be considered for financial assistance for their third year in the program should request to go through the Ph.D. qualifying process no later than the spring semester of their second year.

## Career Advancement

Statistics and probability are vital to many fields, so the demand for well-trained statisticians is strong. Statisticians work in medicine, engineering, law, public policy making, marketing, manufacturing, engineering, agriculture, varied social and natural sciences, and numerous other areas.

The program prepares students for careers in research, applications, and teaching. To learn more about job opportunities, see ASA JobWeb on the American Statistical Association website.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Statistics, Ph.D.

#### Data Science Concentration

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
76 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
STAT:5090	ALPHA Seminar	1
STAT:5100	Statistical Inference I	3
STAT:5200	Applied Statistics I	4
STAT:5400	Computing in Statistics	3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
STAT:5101	Statistical Inference II	3

STAT:5120	Mathematical Methods for Statistics	3
STAT:5201	Applied Statistics II	3
<b>Hours</b>		<b>9</b>

#### Second Year

##### Fall

Written Exam <sup>b</sup>

Creative Component <sup>c, d</sup>

STAT:6300	Probability and Stochastic Processes I	3
STAT:6990	Readings in Statistics <sup>e</sup>	1
STAT:7100	Advanced Inference I	3
STAT:7200	Linear Models	4
<b>Hours</b>		<b>11</b>

##### Spring

Present Creative Component <sup>f</sup>

STAT:4580	Data Visualization and Data Technologies	3
STAT:6220	Statistical Consulting	3
STAT:6990	Readings in Statistics <sup>e</sup>	1
STAT:7400	Computer Intensive Statistics	3
<b>Hours</b>		<b>10</b>

#### Third Year

##### Any Semester

Identify dissertation advisor, dissertation topic, and dissertation committee

<b>Hours</b>		<b>0</b>
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##### Fall

Comprehensive Exam <sup>g</sup>

STAT:4540	Statistical Learning	3
STAT:7990	Reading Research <sup>h</sup>	4
Concentration Area course <sup>i</sup>		3
<b>Hours</b>		<b>10</b>

##### Spring

DATA:7350	High-Dimensional Probability for Data Science	3
STAT:7390 or STAT:7290 or STAT:7190	Seminar: Probability or Seminar: Applied Statistics or Seminar: Mathematical Statistics	2
STAT:7500	Statistical Machine Learning	3
STAT:7990	Reading Research <sup>h</sup>	2
<b>Hours</b>		<b>10</b>

#### Fourth Year

##### Fall

STAT:7990	Reading Research <sup>h</sup>	3
Concentration Area course <sup>i</sup>		3
<b>Hours</b>		<b>6</b>

##### Spring

Prospectus Defense <sup>j</sup>

STAT:7990	Reading Research <sup>h</sup>	3
<b>Hours</b>		<b>3</b>

#### Fifth Year

##### Fall

STAT:7990	Reading Research <sup>h</sup>	3
<b>Hours</b>		<b>3</b>

**Spring**

STAT:7990	Reading Research <sup>h</sup>	3
Final Exam <sup>k</sup>		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>76</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Written two-part exam to fulfill the master's final exam requirement; taken prior to start of second year fall semester classes.
- c Satisfactorily complete the creative component requirement draft by the end of the semester.
- d Students must complete a creative component that is related to their application and career interests. It entails writing an 8-15 page report on a suitable topic, under an advisor's supervision with two consecutive 1 s.h. enrollments in STAT:6990, normally during the fall and spring semesters of the second year.
- e Two consecutive enrollments are required.
- f The creative component requirement must be completed and presented by mid-spring; the paper is then presented orally in a public seminar.
- g Typically completed at the beginning of the third year, the comprehensive examination consists of both written and oral components in two of the following four areas: statistical inference, linear models, probability, and statistical computing. See the General Catalog and the department website for specifics.
- h Students must complete at least 18 s.h. of Reading Research credit.
- i Students must complete a minimum of two courses (6 s.h.) with at least one numbered 7000 or above; see the General Catalog for list of approved courses. Work with faculty advisor to determine appropriate coursework and sequence.
- j Within 18 months of passing the comprehensive exam, students typically present a written and oral prospectus to their PhD committee. See the General Catalog and department website for specifics.
- k Dissertation defense.

# Theatre Arts

## Coordinator, Division of Performing Arts

- Roland Racevskis

## Chair, Department of Theatre Arts

- Mary Beth Easley

**Undergraduate major:** theatre arts (B.A.)

**Undergraduate minor:** theatre arts

**Undergraduate certificate:** social justice and the performing arts

**Graduate degree:** M.F.A. in theatre arts

**Faculty:** <https://theatre.uiowa.edu/people>

**Website:** <https://theatre.uiowa.edu/>

The Department of Theatre Arts offers academic programs for undergraduate and graduate students. It also stages live performances throughout the academic year and during the summer. The department also administers the Certificate in Public Digital Arts [p. 1010] and the Certificate in Social Justice and the Performing Arts [p. 1174].

The department is one of the academic units in the Division of Performing Arts [p. 393]. Students have the opportunity to earn a major in theatre arts and a second major in one of the other units within the division—dance or music.

The department also educates students who plan to enter other fields in which understanding of the arts and experience with theatre skills are useful. Some earn a major in theatre arts, sometimes with a second major in another discipline. Others earn a minor or take theatre classes as nonmajors. For information, view the minor in theatre arts [p. 1173] in the Catalog or see "Courses for Nonmajors" below.

Several of the department's courses are approved for GE CLAS Core; look for courses with the prefix THTR in the GE CLAS Core [p. 20] section of the Catalog.

## Courses for Nonmajors

Most theatre arts courses are open to all students, regardless of their majors, and are appropriate for nonmajors interested in theatre. The following courses are designed specifically for nonmajors.

Code	Title	Hours
THTR:1140	Basic Acting	3
THTR:1141	Basic Acting II	3
THTR:1400	Theatre and Society: Ancients and Moderns	3
THTR:1401	Theatre and Society: Romantics and Rebels	3
THTR:1410	Musical Theatre History	3
THTR:1411	Comedy and Society	3
THTR:1412	The Arts in Performance	3
THTR:2120	Movement: Special Topics	2-3
THTR:2301	Playwriting I	3
THTR:2320	Playwriting in a Global World	3
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3
THTR:2601	Theatre for Community Engagement	3

THTR:2605	Monsters, Victims, and Villains: Changing Perceptions	3
THTR:2610	Acting for Success	3
THTR:2620	Improvisation for Engineers, Scientists, and the Curious	3
THTR:3210	Makeup Design for the Stage	3
THTR:3301	Playwriting II	3
THTR:3510	Introduction to Arts Management	3
THTR:3615	Action! Engage! Art! Creative Placemaking for the Public Good	3

## Productions and Auditions

The Department of Theatre Arts presents around 25-30 public productions each year. These include a mainstage series of five plays, a festival of new works, and other productions, most of them new plays written by students.

Special attention is given to the process of developing new works and to the collaborative process that involves writers, directors, designers, dramaturgs, stage managers, and actors. Graduate and undergraduate students, faculty, and visiting guest artists work together on large and small projects throughout the year.

## Auditions for Theatre Arts Productions

Auditions for theatre arts productions are open to everyone. For academic considerations, priority is given to theatre arts majors first, and then all other University of Iowa students and members of the local community. There are many excellent roles available throughout the year and many nonmajors and actors from the surrounding community are cast each season. Occasionally, professional guest actors are employed.

General auditions are held at the beginning of the fall semester. Additional general auditions usually are scheduled in early November and in March. Information about auditions is available on the Department of Theatre Arts website. Notices of auditions are posted on the department's online call board.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Theatre Arts (Bachelor of Arts) [p. 1167]

#### Minor

- Minor in Theatre Arts [p. 1173]

#### Certificate

- Certificate in Social Justice and the Performing Arts [p. 1174]

### Graduate Program of Study

#### Major

- Master of Fine Arts in Theatre Arts [p. 1177]

## Facilities

The University of Iowa has one of the finest educational theatre complexes in the country. The Theatre Building offers four theatres and up-to-date facilities for classroom, laboratory, shop, and performance work.

The E.C. Mabie Theatre, a continental-style, 457-seat proscenium playhouse, is one of the finest theatres of its type in the United States. The David Thayer Theatre is a "black box" production space; its flexible seating units accommodate from 140 to 225 people and allow modification of space and audience relationships. The Alan MacVey Theatre, which seats 137, is an open-stage theatre dedicated primarily to the production of new and experimental works.

In addition to classrooms for acting and directing, several spaces are designed for teaching particular aspects of dramatic studies. The Cosmo Catalano Acting Studio is for study of movement and motion by acting students. It also serves as an intimate theatre for readings. The Arnie Gillette Design Studio serves as classroom and studio workshop for design students.

To support its production schedule and to provide students with an appropriate range of experience, the department maintains shops for building, painting, maintaining, and storing scenery, costumes, and properties. Using these shops, students learn to work in metal, plastics, canvas, and wood.

## Courses

### Theatre Arts Courses

**THTR:1000 First-Year Seminar** 1 s.h.  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**THTR:1120 Basic Acting for Language Learners** 3 s.h.  
Development of theatrical creativity to enhance English language skills through acting games, monologues, and scene work; exercises in concentration, relaxation, communication, imagination, observation, sensory awareness.

**THTR:1140 Basic Acting** 3 s.h.  
Concentration, relaxation, imagination, observation, communication, sensory awareness; development of theatrical creativity through objectives, obstacles, action, conflict, spontaneity; development of a scene from scripts. Requirements: non-theatre arts major. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.

**THTR:1141 Basic Acting II** 3 s.h.  
Continuation of THTR:1140; emphasis on development of scenes. Prerequisites: THTR:1140. Requirements: non-theatre arts major.

**THTR:1400 Theatre and Society: Ancients and Moderns** 3 s.h.  
Representative plays as performed in social contexts of ancient Egypt; classical Greece, Rome, India, and Japan; and medieval and early modern Europe. Duplicates THTR:2410. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

**THTR:1401 Theatre and Society: Romantics and Rebels** 3 s.h.  
Representative plays as performed in social contexts of revolutionary and modern Europe and postwar United States. Duplicates THTR:2411. GE: Historical Perspectives; Literary, Visual, and Performing Arts.

**THTR:1410 Musical Theatre History** 3 s.h.  
American musical theatre's form, function, evolution; major composers (Berlin, Gershwin, Rodgers and Hammerstein, Sondheim), lesser-known and contemporary writers; roots of the rock musical, future of musical theatre, how musicals reflect their own eras and cultural attitudes of their times; readings, recordings, videos. Ability to read music not required.

**THTR:1411 Comedy and Society** 3 s.h.  
How comedy reflects, comments upon, and intersects with western culture, society, and identity; roots of western comedy, satire, censorship; stand-up comedians, improv and sketch troupes, satirists; race, gender and sexuality, class perception; how portrayals of African Americans in popular culture evolved from 19th century to present; videos, readings, live performances. GE: Values and Culture.

**THTR:1412 The Arts in Performance** 3 s.h.  
GE: Literary, Visual, and Performing Arts; Values and Culture. Same as DANC:1412, DPA:1412.

**THTR:1834 Modes of Film and Video Production** 4 s.h.  
Introduction to filmmaking; how to shoot and edit short works of cinematic art; exposure to various working methods including nonfiction, fiction, and experimental modes of video production. Prerequisites: CINE:1601 with a minimum grade of C. Corequisites: for CINE:1834—CINE:1601, if not taken as a prerequisite. GE: Engineering Be Creative. Same as CINE:1834.

**THTR:2120 Movement: Special Topics** 2-3 s.h.  
Specialized study in movement techniques and movement styles for body conditioning; development of yoga techniques; varied topics.

**THTR:2140 Acting I** 3 s.h.  
Development of creativity, imagination, and openness through exercises to engage mind, body, and voice in theatrical play and scene work. Requirements: theatre arts major, or theatre arts minor and THTR:1140.

**THTR:2170 Acting for Musical Theatre** 3 s.h.  
Students focus on acting technique for musical theatre; within the framework of song, students learn to work truthfully with a partner, find the action of the piece, mine a piece of music for acting clues from the composer, and connect authentically while being larger than life. Prerequisites: THTR:1140 or THTR:2140. Requirements: any one of the courses listed as prerequisites, or one semester of applied lessons in vocal performance.

**THTR:2175 Musical Theatre Performance: Special Topics** 3 s.h.  
Specialized, practical study in a specific area related to development of musical theatre knowledge and performance skills; topics vary. Corequisites: THTR:2140. Requirements: audition.

**THTR:2215 Theatre Technology** 3 s.h.  
Theatrical production; technology and backstage operations including sound, projections, lighting, scenery, costumes, stage management. GE: Engineering Be Creative.



- THTR:2220 Production Lab** 1-3 s.h.  
Practical experience in physical construction and operation of live theatre; theatre department productions provide lab experiences for applied learning in technical theatre and run crew opportunities in scenery, costumes, lighting, sound, and stage management. GE: Engineering Be Creative.
- THTR:2301 Playwriting I** 3 s.h.  
Elements of playwriting; emphasis on analysis and discussion of original student writing. GE: Engineering Be Creative; Literary, Visual, and Performing Arts.
- THTR:2320 Playwriting in a Global World** 3 s.h.  
Students read and analyze the works of a diverse range of American and international playwrights and documentarians; fundamental skills of reading, hearing, imagining, and writing for local and global stages; emphasis on a broad range of voices, styles, and stories. GE: Diversity and Inclusion.
- THTR:2402 Script Analysis** 3 s.h.  
Basic skills in critical reading and close analysis of dramatic texts, with focus on dramatic structure, challenges of putting texts into production.
- THTR:2405 Staging Americans: U.S. Cultures Through Theatre and Performance** 3 s.h.  
Role of American theatre as a complex tapestry of race, gender, sexuality, and disability; examination of plays and performance outside primarily white-male canon; contemporary social practice and cultural politics in local and national contexts. GE: Diversity and Inclusion.
- THTR:2410 History of Theatre and Drama I** 3 s.h.  
Major developments in Anglo-European, Indian, Asian, and African theatre and drama, 3000 B.C.E. to C.E. 1700; sociopolitical, economic, and cultural circumstances of original productions. Offered spring semesters. GE: Historical Perspectives; Literary, Visual, and Performing Arts.
- THTR:2411 History of Theatre and Drama II** 3 s.h.  
Continuation of THTR:2410; 1700 to 1960; revolutionary and modern European theatre and culturally diverse postwar U.S. theatre. Offered fall semesters. GE: Historical Perspectives; Literary, Visual, and Performing Arts.
- THTR:2601 Theatre for Community Engagement** 3 s.h.  
Creation of a theatre performance piece with the local community; introduction to applied theatre; preparation to facilitate workshops with community partners; students explore the historical context for applied theatre, play various warm-up and content-generating games, and learn how to facilitate these games and exercises themselves; culminates in a collective performance piece that students work to create as a team. GE: Diversity and Inclusion.
- THTR:2605 Monsters, Victims, and Villains: Changing Perceptions** 3 s.h.  
Introduction to implementation of performance opportunities for special populations (defined as those with cognitive or physical disability) and underrepresented populations; students gain skills necessary to create radical opportunities for and implementation of performances including individuals with disabilities in theatre, dance, and music; students from different backgrounds experience collaborative artistic excellence while redefining audience expectations; historic background for perceptions of disability. GE: Diversity and Inclusion. Same as EDTL:2963.
- THTR:2610 Acting for Success** 3 s.h.  
How skills learned by actors in the theatre world can be applied to presentations and interactions in business, education, and beyond; how to connect with others on a personal level; ability to stand out as a team player and a leader; acting techniques traditionally used in theatre to open up communication dynamics; how to display an authentic self in everyday situations. Corequisites: RHET:1030 or RHET:1040 or RHET:1060. GE: Engineering Be Creative. Same as RHET:2610.
- THTR:2620 Improvisation for Engineers, Scientists, and the Curious** 3 s.h.  
Use of theatrical exercises and improvisation techniques to help students develop their imaginations, stimulate creativity, and approach practical projects from a fresh point of view; emphasis on working in teams and using improvisational techniques to solve problems. GE: Engineering Be Creative.
- THTR:2720 Concepts in Contemporary Art Practice** 3 s.h.  
Interdisciplinary investigation of materials and concepts in relation to time-based media, performance, video, installation; individual and collaborative projects. Prerequisites: INTM:2710. Same as INTM:2720.
- THTR:2800 Digital Arts: An Introduction** 3 s.h.  
Introduction to potential of integrating art with technology to provide a foundation of skills and concepts through hands-on experimentation; lectures and demonstrations introduce key concepts and ideas as well as the history of digital arts; students develop skills that form a foundation for future investigation through labs; work may include using an Arduino, programming, and developing an interface to control a software project; final project is shared with the public in some way; critical discourse in the form of writing assignments allows for reflection and evaluation. GE: Engineering Be Creative. Same as ARTS:2800, CINE:2800, CS:2800, DANC:2800, DIGA:2800, MUS:2800.
- THTR:2880 Installations and Interactive Performance** 3 s.h.  
Introduction to aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human computer interaction, and engineering; foundations of creating interactive experiences that use digital photos, video, text, real-world objects, sensor data, live bodies moving in space, Kinect 2 sensors, cameras, and multiple video outputs (e.g., projectors, LED displays); use of Isadora, an interactive, node-based programming software, to create immersive mediated performances, interactive installations, embodied user-based experiences, and user-manipulated virtual environments. GE: Engineering Be Creative. Same as DANC:2880, DIGA:2880.
- THTR:2890 Producing and Directing Digital Video** 3 s.h.  
Introduction to basic concepts, theories, and practical applications of digital video production for multiple distribution streams, with focus on aesthetic and technical principles; development of proficiency in contemporary approaches to digital media production by understanding the production pipeline from ideation to preproduction, production, postproduction, and through to distribution. GE: Engineering Be Creative. Same as DANC:2890, DIGA:2890, INTM:2890.
- THTR:3110 Voice for the Actor** 3 s.h.  
Progressive development of voice for theatre; physical awareness, breath, freeing and amplifying sound, range and resonance, articulation; application of voice work through classical and contemporary theatre texts.

- THTR:3120 Theatre Movement** 3 s.h.  
The body as a tool for dramatic expression; basic principles and practices of stage movement; approaches to physical technique.
- THTR:3140 Acting II** 3 s.h.  
Extension of work begun in THTR:2140; scene study, with focus on contemporary realism and development of collaborative dynamic. Prerequisites: THTR:1141 or THTR:2140.
- THTR:3151 Voice for the Actor II** 3 s.h.  
Further development of voice for theatre with emphasis on acquisition of accents and dialects. Prerequisites: THTR:3110.
- THTR:3160 Movement Styles** 3 s.h.  
Intensive study of a selected movement style (e.g., mask, clown, commedia dell'arte). Prerequisites: THTR:3120.
- THTR:3165 Stage Combat** 3 s.h.  
Fundamental principles of stage combat in a specialized area of study—unarmed combat, rapier and dagger techniques, and hand-to-hand and knife techniques.
- THTR:3180 Media Studies** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3180.
- THTR:3202 Graphic Design for the Entertainment Industry** 2-3 s.h.  
Series of projects focusing on developing graphic design skill sets and using the Adobe Creative Suite and other programs. GE: Engineering Be Creative.
- THTR:3205 Concepts in Drawing** 3-4 s.h.  
Intermediate-level topics; observation, theory, media, form, content; emphasis on personal direction. Prerequisites: DRAW:2310. Same as DRAW:3310.
- THTR:3208 Mask and Puppet Crafts** 3 s.h.  
Mask and puppet design; paper mache, plaster gauze, thermal plastics, and soft sculpture techniques. GE: Engineering Be Creative.
- THTR:3210 Makeup Design for the Stage** 3 s.h.  
GE: Engineering Be Creative. Same as DPA:3210.
- THTR:3211 Period Styles** 3 s.h.  
Survey of design and motifs spanning history of western civilization through development of interior and exterior architecture, furniture, decorative themes, fashion, and fine art.
- THTR:3215 Sewing Techniques for Theatre Costuming** 3 s.h.  
Students learn and improve sewing skills for theatre costuming; lab oriented with focus primarily based on a variety of sample sewing techniques; collaboration and individual work; final project consists of a costume sample from a chosen show and reflects student's skill and experience.
- THTR:3223 Introduction to Lighting Technology** 3 s.h.  
Training for a career as a touring or resident stage electrician in the entertainment industry; plot organization/shop orders, digital fixtures, power distribution, personal management, console configuration/control, and electrical troubleshooting/maintenance.
- THTR:3225 Makeup Design: Special Topics** 3 s.h.  
Advanced techniques in stage makeup design and application through analysis of forms, research, and hands-on projects.
- THTR:3230 Scene Design I** 3 s.h.  
Development of theatre scenery; how to research, conceptualize, and express ideas in 3D models, simple sketches, and drafting. GE: Engineering Be Creative. Same as ARTS:3230.
- THTR:3240 Costume Design I** 3 s.h.  
Introduction to theatre costumes; how to conceptualize and express ideas through rendering and 3D mannequin projects; may be taken after THTR:4240. GE: Engineering Be Creative.
- THTR:3250 Lighting Design I** 3 s.h.  
How to research, conceptualize, and express ideas through light plots, other design paperwork, and theatre lighting design projects. GE: Engineering Be Creative.
- THTR:3260 Sound Design for the Theatre** 3 s.h.  
Introduction to digital sound recording and live sound reinforcement techniques for a variety of entertainment venues (theatre, dance, concerts, industrial projects); creation of soundscapes using Pro Tools software; implementation of designs through the use of QLab playback systems and digital mixing consoles; documentation of sound design for theoretical and realized productions. GE: Engineering Be Creative.
- THTR:3270 Entertainment Design** 3 s.h.  
Introduction to entertainment design and technology; primary focus on contemporary approaches to design and delivery of content in entertainment industry; assignment of practical projects using media servers, projection, LED arrays, video editing software, and moving light technologies. GE: Engineering Be Creative.
- THTR:3276 Medieval Drama** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as ENGL:3276.
- THTR:3277 English Renaissance Drama** 3 s.h.  
English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Medieval and Early Modern Literature and Culture. PERIOD: Early Literatures Through 17th Century. Same as ENGL:3277.
- THTR:3301 Playwriting II** 3 s.h.  
Application of fundamental skills learned in THTR:2301 to more advanced study of dramatic structure and style; reading of plays, weekly writing assignments; focus on writing one-act play. Prerequisites: THTR:2301.
- THTR:3310 Undergraduate Playwriting Workshop** 1-3 s.h.  
Workshop discussion of original full-length plays, collaborative creation of new plays, work with guest artists. Prerequisites: THTR:2301 and THTR:3301.
- THTR:3315 Standup Comedy Practicum** 3 s.h.  
Writing and performing standup comedy; emphasis less on creating a comic persona and more on pulling from and articulating personal truth; analysis of contemporary comedians and joke structure; performing original work for multiple audiences in classroom and out in community.
- THTR:3320 Writing for Film** 3 s.h.  
Rigorous writing for film; focus on feature-length screenplay; for students with experience in dramatic writing, fiction, or screenwriting. Requirements: completion of at least 60 s.h. or graduate standing.

- THTR:3325 Iowa Writers' Room** 3 s.h.  
 Experiential learning in television writing field; first-hand experience as part of a traditional television writers' room—selecting material and show topics, pitching ideas, collaboratively breaking story, and writing and workshopping scripts for a limited series television show of student's choosing; includes instruction and class visits by acclaimed industry insiders. Same as WRIT:3325.
- THTR:3401 Topics in Dramatic Literature** 3 s.h.  
 Topics in dramatic literature, including specific authors, periods, and movements; sample topics include Ibsen and Strindberg, Chekov, Brecht and the Brechtian, and avant-garde theatre.
- THTR:3402 Shakespeare the Dramatist** 3 s.h.  
 Exploration of a number of Shakespeare's greatest works; close textual analysis supplemented with historical, theoretical, theatrical, and philosophical considerations; special attention given to Shakespeare's dramatic method and relation of his dramaturgy to profession of theater-making.
- THTR:3421 Performing Autobiography** 3 s.h.  
 Advanced seminar and workshop; immersive readings in genre of contemporary autobiographical work, scholarship and criticism, and performance texts and videos as established artists have developed them; students write and perform their own original pieces stemming from personal experiences and interests. Recommendations: RHET:1030. Same as GWSS:3421.
- THTR:3430 Women on Stage** 3 s.h.  
 Examination of how and why women in the United States have expressed themselves through theatre and performance from 1776 to present; students study plays as performed events in specific times and places for specific audiences through works by African American, Asian American, European American, Latina, Native American, and lesbian/queer writers; what the theater—as a public, embodied art form—offers female writers; how stakes differ for women of diverse backgrounds in using this often suspect and uniquely powerful medium in particular historical moments; how changing definitions of gender and sexuality come into play; prior background in theater not required. Same as AMST:3430, GWSS:3430.
- THTR:3440 American Drama Since 1900** 3 s.h.  
 American playwrights and plays after 1900. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: 20th/21st-Century Literature. Same as ENGL:3440.
- THTR:3462 African American Drama** 3 s.h.  
 English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: American Literature and Culture. PERIOD: Varies by semester. English and Creative Writing majors may apply this course to the Multiethnic American Literature and Culture requirement. Same as AFAM:3462, ENGL:3462.
- THTR:3501 Stage Management I** 3 s.h.  
 Duties and procedures of stage management; focus on development of production from preparatory work through performance; role of stage manager in collaboration.
- THTR:3510 Introduction to Arts Management** 3 s.h.  
 Nonprofit performing arts management and administrative principles; practical applications, trends in the field; focus on arts organizations and their key administrative positions. Same as DPA:3510, INTD:3510.
- THTR:3530 Musical Theatre Workshop** 2 s.h.  
 Development of musical theatre performance skills through participation; students learn how to project intentions, attitudes, and personality traits of characters they portray; fundamentals of stagecraft, acting, movement, relaxation, and concentration; accurate musical coaching, including clear diction and solidly built dramatic musical interpretation. Same as MUS:3530.
- THTR:3610 Drama in the Classroom** 3 s.h.  
 Theories of community, culture, identity in relation to language arts teaching and learning; emphasis on incorporating multiple literacies, both oral and print, into language arts curricula; action research involving oral literacy. Same as EDTL:3180.
- THTR:3615 Action! Engage! Art! Creative Placemaking for the Public Good** 3 s.h.  
 Best practices for community projects; students in any discipline partner with artists to make change in the world; topics and activities include how to collaborate with creative partners and be a strong partner, develop ethical community partnerships, cultural competency, how to work for sustainable goals, team leadership skills, prepare social justice skills portfolios, investigate established projects, and develop individual or team projects for future semesters and beyond.
- THTR:3630 Special Topics in Theatre Arts** 3 s.h.  
 Specialized study in a specific aspect of theatre arts of interest to actors, directors, playwrights, dramaturgs, designers, and stage managers.
- THTR:3850 Introduction to Laban Movement Studies** 2-3 s.h.  
 Introduction to Bartenieff Fundamentals (BF) and Laban Movement Analysis (LMA) as methods of organizing and integrating movement to support artistic goals and expanding expressive range; BF teaches body awareness, breath support, developmental patterns, ergonomically efficient alignment, balancing of muscular strength and stretch, and coordination; LMA teaches vocabulary of expressive movement and nonverbal communication, including effort (use of energy/dynamics for expression, stamina, stress relief) and shape (how posture and gesture communicate); quality of movement that supports individual goals in artistic expression, sound production, and wellness. Same as DANC:3850, DPA:3850, MUS:3850.
- THTR:3875 Topics in Digital Performing Arts** 3 s.h.  
 Advanced techniques in performing with established and new technologies including live cameras in performance, controlling digital avatars, motion capture, virtual and augmented reality, and more. Same as DANC:3875.
- THTR:3876 Video for Performance** 3 s.h.  
 Introduction to aesthetics and practical applications of digital media and video design for live performance including content creation, system design, and content optimization for media servers; students create digital video and animations and integrate them into live performance and entertainment events via projections, media servers, and digital displays using QLab Media Server and Adobe Creative Cloud (e.g., Illustrator, Photoshop, Premiere Pro, Audition, After Effects); for those with an interest in designing, creating, and displaying digital media for theatre, dance, concerts, corporate events, gallery installations, VJ sets, and architectural projections. Prerequisites: THTR:2890 or THTR:5890 or CINE:1834. GE: Engineering Be Creative. Same as CINE:3876, DANC:3876, DIGA:3876, INTM:3876.

**THTR:3895 Performance, Art, and New Technologies in Society** 3 s.h.

Students pitch projects and work in interdisciplinary groups to create original live performances and installations based on major technological innovations that have deeply impacted society and live performance in late 20th and early 21st centuries; daily hands-on making; examination of theoretical texts and performances that address impact of technology on human condition to contextualize students' own art/technology projects; exploration and adaptation of technologies/aesthetics for live performance and art including telepresence and liveness, artificial intelligence and big data, augmented and virtual reality. Prerequisites: MUS:2800 or THTR:2880 or CS:1110 or CS:1210 or SCLP:4835. Same as DANC:3895, DIGA:3895.

**THTR:4144 Acting: Special Topics** 3 s.h.

Specialized study in a specific aspect or theory of acting.

**THTR:4180 Directing I** 3 s.h.

Basic elements of stage direction; exercises in composition, emphasis, movement, rhythm, directorial analysis; director's role in production process; short scenes, projects, papers. Prerequisites: THTR:2140 and (THTR:2402 or CINE:1601).

**THTR:4230 Scene Design II** 3 s.h.

Design and execution of increasingly complex projects in a variety of formats, including perspective sketching, detailed drafting, and color models. Prerequisites: THTR:3230.

**THTR:4240 Costume Design II** 3 s.h.

Conceptual and analysis skills in costuming; fashion history and dress related to individual, cultural, and artistic expression. May be taken before THTR:3240.

**THTR:4250 Lighting Design II** 3 s.h.

Development of advanced lighting artistry; preparation for mainstage lighting assignments through a series of hands-on projects and practicals; emphasis on process of design, communicating design concept, acclimating to University of Iowa venues, advanced moving light programming, 3D modeling, previsualization techniques, and organizing plot and paperwork in accordance with professional lighting practices. Prerequisites: THTR:3250.

**THTR:4270 Scenic Art** 3 s.h.

Basic techniques in scenic art for the theatre; classical scene painting, color theory, drawing, using nontraditional tools and materials, foam carving, and finishes. Offered every other year. GE: Engineering Be Creative. Same as ARTS:4270.

**THTR:4290 Design: Special Topics** 1-3 s.h.

Specialized study in a specific aspect or theory of theatrical design.

**THTR:4420 Dramatic Theory** 3 s.h.

Theoretical questions of interest to dramatists and philosophers in western and nonwestern traditions; metaphysics of play; theories of character, psyche, self; narrative and nonnarrative dramatic forms. Prerequisites: THTR:2402 and THTR:2410 and THTR:2411.

**THTR:4510 Arts Leadership Seminar** 3 s.h.

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Prerequisites: THTR:3510 or ENTR:2000. Same as DPA:4510, ENTR:4510, INTD:4510.

**THTR:4605 Undergrad Career Preparation** 1-3 s.h.

Business aspects of the actor's career; entrepreneurial tools for the professional world; topics include agents, managers, taxes, fees, résumés, head shots, unions, similarities and differences between the three major markets (New York, Chicago, Los Angeles), and particular needs for television, film, and theatre.

**THTR:4630 London Performance Study** 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:4172.

**THTR:4691 Projects in Theatre** arr.**THTR:4692 Honors Theatre Arts** arr.

Development and production of a new work for film or television by writers, directors, actors.

**THTR:4693 Independent Study** arr.**THTR:4695 Performance Practicum** 1-2 s.h.

Perform as an actor or serve as an assistant stage manager in a production of at least an hour's length, rehearsed for at least four weeks, directed by a faculty member or guest artist or graduate student, and produced by the Department of Theatre Arts.

**THTR:5110 Acting for Graduate Non-Actors** 3 s.h.

Examination of the practice and language of acting as developed by Constantin Stanislavski and Sanford Meisner. Requirements: admission to M.F.A. in theatre arts.

**THTR:5200 Graduate Design Seminar** arr.

Graduate design in set, lighting, and costume design; teamwork; meetings with design faculty in specific disciplines; short-term projects in the theatre department; long-term projects, including summer design work, internships, and other professional opportunities during the three-year program and beyond. Prerequisites: THTR:4230 or THTR:4240 or THTR:4250.

**THTR:5230 Scene Design III** 3 s.h.

Complex assignments; documentation skills, scenic design preparation. Prerequisites: THTR:3230 and THTR:4230.

**THTR:5240 Costume Design III** 3 s.h.

Advanced projects in costume design and portfolio development. Prerequisites: THTR:4240.

**THTR:5250 Lighting Design III** 3 s.h.

Advanced projects in venues such as dance, opera, industrials; preparation of lighting designs for production. Prerequisites: THTR:4250.

**THTR:5300 The Collaborative Process** 3 s.h.

Development of new plays, collaboratively created works.

**THTR:5410 Dramaturgy** 3 s.h.

Overview of history, theory, and practice of dramaturgy and dramaturg in Europe and the United States including relationship to dramatic criticism, dramaturgical research, analysis and conceptualization of texts for production, audience outreach, and new play development; may focus intensively on one of these topics and workshop creative work related to the topic.

- THTR:5420 Dramaturgy Practicum** arr. 3 s.h.  
Supervision of ongoing dramaturgical work in Department of Theatre Arts and the Playwrights Workshop; workshopping elements of dramaturgical work (e.g., script reports, program essays, lobby displays); examination of special topics including history of dramaturgy, dramatic criticism, dramaturgical writing (documenting the production process), dramaturgy and dramatic theory. Requirements: admission to M.F.A. dramaturgy program.
- THTR:5500 Stage Management: Special Topics** 3 s.h.  
Topics in stage management, arts production, and their professional practice. Requirements: admission to M.F.A. stage management program.
- THTR:5510 Production Management** 3 s.h.  
Organization and supervision of theatre productions; resources, procedures for successfully mounting a theatre production or season; personnel, equipment, facility and budget management, scheduling, communication. Requirements: stage management M.F.A. enrollment.
- THTR:5600 Orientation to Graduate Studies** 1-2 s.h.  
Introduction to the department's six graduate programs, production program, facilities, and UI library system; raises issues that will be considered throughout students' graduate careers; exploration of creative process and application of critical thinking to that process; for first-year theatre arts M.F.A. students. Requirements: admission to M.F.A. in theatre arts.
- THTR:5610 Collaborative Performance** 3-4 s.h.  
Collaborative process with advanced dance artists and creative, design, and technical practitioners from varied disciplines that culminates in a devised performance for the general public; emphasis on sharing and investigating ideas, artistic intent, personal vision, and practical application. Same as DANC:5550, DPA:5550.
- THTR:5880 Installations and Interactive Performance** 3 s.h.  
Introduction to creating interactive experiences with technology; aesthetics, techniques, and practical possibilities of fusing together theatre, dance, music/sound, art, design, cinema, gaming, human-computer interaction, and engineering through use of Isadora, an interactive, node-based programming software; students create immersive performances, interactive installations, embodied user experiences, and user-manipulated virtual environments. Same as DANC:5880.
- THTR:5890 Producing and Directing Digital Video** 3 s.h.  
Introduction to basic concepts, theories, and practical applications of digital video production for multiple distribution streams with focus on aesthetic and technical principles; development of proficiency in contemporary approaches to digital media production by understanding the production pipeline from ideation to preproduction, production, postproduction, and through to distribution. Same as DANC:5890.
- THTR:6140 Advanced Acting** 3 s.h.  
Preprofessional training; may include psychophysical training in impulse, openness and the "mask," individual and group dynamics, improvisation, repetition, characterization and scene work, Shakespeare and style, on-camera, development of professional work habits and skills, audition and interview. Requirements: admission to M.F.A. acting program.
- THTR:6150 Vocal Technique** 3 s.h.  
Skills training; voice and speech for the actor, phonetics, dialects, sound exploration, contemporary and classical text analysis. Requirements: admission to M.F.A. acting program.
- THTR:6160 Movement Technique** 3 s.h.  
Fundamental principles and practices required for physical acting technique; basic stage movement, stage combat, mime technique, Lecoq-based improvisation; a new works project. Requirements: admission to M.F.A. acting program.
- THTR:6170 Graduate Acting: Special Topics** 3 s.h.  
Specialized study in one aspect or theory of acting. Requirements: admission to M.F.A. acting program.
- THTR:6180 Director's Seminar** 1-3 s.h.  
Preprofessional training in stage direction; the art and craft of directing; research, practical experience; development of new pieces; approaches to a variety of theatrical materials through concept, type, style. Requirements: admission to M.F.A. program.
- THTR:6300 Guest Seminar** arr.  
Playwriting workshops and script conferences led by visiting professional playwrights, directors, and dramaturgs. Requirements: admission to M.F.A. playwriting program.
- THTR:6310 Special Topics in Playwriting** 3 s.h.  
Special topics of interest to M.F.A. playwrights and dramaturgs including fundamentals for experts, designing audience experiences, structural approaches to playwriting, and writing for film; also may focus on dramatic genres (e.g., docudrama, history play).
- THTR:6400 Classical to Romantic Theatre** 3 s.h.  
Representative plays from the Classical to the Romantic periods—in historical context of their original productions, contemporary production potential. Requirements: admission to M.F.A. theatre arts program.
- THTR:6401 Modern Drama** 3 s.h.  
Questions of dramatic form and content examined in-depth through close readings of modern plays.
- THTR:6402 Postmodern Theatre** 3 s.h.  
Diverse traditions of theatre and drama since the 1960s considered in relation to the modernist avant-garde and the cultural phenomenon of postmodernism.
- THTR:6500 Stage Management Seminar** 1-2 s.h.  
Practice and techniques of stage management. Requirements: admission to M.F.A. stage management program.
- THTR:6605 Graduate Career Preparation** 1-3 s.h.  
Preparation for professional showcase produced in student's final year; business aspects of the actor's career; entrepreneurial tools for the professional world; topics include agents, managers, taxes, fees, résumés, head shots, unions, similarities and differences between three major markets (New York, Chicago, and Los Angeles), and particular needs for television, film, and theatre. Requirements: admission to M.F.A. acting program.
- THTR:6691 Projects in Theatre Advanced** arr.  
Create a special project under the mentorship of a faculty member; projects may include performing in a main stage production, writing, directing, or designing a play performed in the department, developing a research project that intersects production.
- THTR:7300 Playwrights Workshop** 1,3 s.h.  
Development of works by Iowa Playwrights Workshop members. Requirements: admission to M.F.A. playwriting or dramaturgy program.

**THTR:7601 M.F.A. Thesis****0-3 s.h.**

Work related to M.F.A. thesis projects in theatre arts.

# Theatre Arts, B.A.

The undergraduate program in theatre arts is based on the philosophy that the best way to develop future artists is to expose them to rigorous professional practice within the framework of a liberal arts and sciences education.

Department of Theatre Arts students take workshop courses in acting, directing, design, technical theatre, stage management, and playwriting and complement them with classes in dramatic literature, history, and criticism. Students also are encouraged to explore a range of courses throughout the University. Around 25 public productions are staged each year, providing additional opportunities to learn the theatre craft and to develop a personal artistic vision.

## Student Auditions for Theatre Arts Productions

Theatre arts majors are encouraged to audition for the department's productions in general auditions at the beginning of the fall semester. Students normally present a three-minute audition consisting of two contrasting pieces. From this audition, callback lists are posted for fall productions. Additional general auditions normally are scheduled in early November and in March.

Students in other majors are welcome to audition for the department's productions, as are community members (see "Productions and Auditions" in the Department of Theatre Arts [p. 1159] section of the Catalog). For academic considerations, theatre arts majors are given first consideration for roles.

Materials and information about the general auditions are available from the Department of Theatre Arts. Notices of auditions for all subsequent productions are posted on the department's online call board.

## Learning Outcomes

All theatre students have special interests they want to pursue—acting, writing, design, and more. To make this possible, the department offers beginning and advanced courses in every theatrical area.

No matter which theatre arts area chosen, the overall experience as a theatre student will give each major the ability to:

- apply knowledge of theatre's role in society throughout history to creative and/or scholarly work,
- explore and apply understanding of a dramatic script to creative and/or scholarly work,
- collaborate with others to produce a play,
- talk about and assess a student's work and the work of others,
- articulate an emerging artistic vision that starts to inform a student's work and thinking about the arts, and
- write well about theatre.

## Requirements

The Bachelor of Arts with a major in theatre arts requires a minimum of 120 s.h., including at least 36 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. Students can add a focus area to their

theatre arts degree—music theatre. See "Music Theatre Track" below.

The curriculum for the theatre arts major constitutes the basic experience for all undergraduate theatre arts students. Registration in some courses for the major requires special permission. Contact the Department of Theatre Arts for details.

Students who transfer to the University from other accredited two- or four-year institutions must demonstrate that they have successfully completed coursework equivalent to the basic requirements of the Department of Theatre Arts and the University of Iowa before they may take advanced-level electives. If a student completes the courses listed for the approved 2 Plus 2 Plan theatre arts program at Kirkwood Community College, Iowa Central Community College, or Indian Hills Community College in Iowa, those courses are automatically counted toward requirements for the theatre arts major at the University of Iowa. Consult the department's director of undergraduate studies for more information.

In planning coursework, especially electives, students should be guided by the College of Liberal Arts and Sciences maximum hours rule: students earning a B.A. may apply a maximum of 56 s.h. earned in one department to the minimum 120 s.h. required for graduation, whether or not the coursework is accepted toward requirements for the major; students who earn more than 56 s.h. from one department may use the additional semester hours to satisfy requirements for the major (if the department accepts them), and the grades they earn become part of their grade-point average; but they cannot apply the additional semester hours to the minimum 120 s.h. required for graduation.

Students majoring in theatre arts may count a maximum of 20 s.h. earned in Department of Theatre Arts elective courses (prefix THTR) toward their Bachelor of Arts degree. Theatre arts elective credit beyond 20 s.h. is listed on their transcript but does not count toward the 120 s.h. required for graduation.

Students must complete a course's prerequisites before registering for the course. They normally complete the following required courses within their first four semesters in the major.

Code	Title	Hours
THTR:2140	Acting I	3
THTR:2402	Script Analysis	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3

Students who complete THTR:1400 Theatre and Society: Ancients and Moderns or THTR:1401 Theatre and Society: Romantics and Rebels before declaring a major in theatre arts must consult the undergraduate director before they may register for THTR:2410 History of Theatre and Drama I or THTR:2411 History of Theatre and Drama II.

The B.A. with a major in theatre arts requires the following coursework.

Code	Title	Hours
	Theatre Foundation Courses	15
	Design Course	3
	Dramatic Literature Course	3
	Production Lab	3

Theatre Arts Electives	12
<b>Total Hours</b>	<b>36</b>

## Theatre Foundation

Code	Title	Hours
All of these:		
THTR:2140	Acting I	3
THTR:2215	Theatre Technology	3
THTR:2402	Script Analysis	3
THTR:2410	History of Theatre and Drama I	3
THTR:2411	History of Theatre and Drama II	3

## Design

Code	Title	Hours
One of these:		
THTR:3230	Scene Design I	3
THTR:3240	Costume Design I	3
THTR:3250	Lighting Design I	3
THTR:3260	Sound Design for the Theatre	3
THTR:4240	Costume Design II	3

## Dramatic Literature

Code	Title	Hours
One of these:		
THTR:1410	Musical Theatre History	3
THTR:2320	Playwriting in a Global World	3
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3
THTR:3401	Topics in Dramatic Literature	3
THTR:3402	Shakespeare the Dramatist	3
THTR:3421	Performing Autobiography	3
THTR:4420	Dramatic Theory	3
THTR:4630	London Performance Study	3

## Production Lab

Students must earn a total of 3 s.h. in the required production lab course, THTR:2220. The course requires students to work backstage on a department production. All students must serve as a crew member on at least one production (normally earning 1 s.h. per production). They have options to earn 2 s.h. for serving as a crew chief or taking on other advanced responsibilities.

With the instructor's approval, students who enroll in the elective production course (THTR:3501) also may enroll in the required production lab course THTR:2220 during the same semester or session and may complete an additional project, earning 1 s.h. for THTR:2220 in addition to the credit they earn for the elective course. Students may earn a maximum of 1 s.h. of required production course credit for THTR:2220 this way.

## Required Production Lab

Code	Title	Hours
This course:		
THTR:2220	Production Lab	3

## Elective Production Course

Code	Title	Hours
THTR:3501	Stage Management I	3

## Theatre Arts Electives

Theatre arts students must earn a total of 12 s.h. in theatre arts elective coursework or a total of 9 s.h. if they select the music theatre track. Students may not use a course to fulfill more than one requirement for the major, so in selecting the additional elective coursework, they may not choose a course they have already used to fulfill another requirement. Three of the four elective courses must be numbered 3000 or above; the other course may be from any level. A minimum of two courses must be selected from one of the following areas— Acting, Directing, and Music Theatre; Design; Playwriting, Dramatic Literature, and Dramaturgy; or Stage Management, Arts Management, and Technical Theatre.

## Acting, Directing, and Music Theatre

Code	Title	Hours
THTR:2170	Acting for Musical Theatre (unless music theatre track student selects this course as musical theatre foundation course)	3
THTR:2175	Musical Theatre Performance: Special Topics (unless music theatre track student selects this course as musical theatre foundation course)	3
THTR:2880	Installations and Interactive Performance	3
THTR:2890	Producing and Directing Digital Video	3
THTR:3110	Voice for the Actor	3
THTR:3120	Theatre Movement	3
THTR:3140	Acting II	3
THTR:3151	Voice for the Actor II	3
THTR:3160	Movement Styles	3
THTR:3165	Stage Combat	3
THTR:3315	Standup Comedy Practicum	3
THTR:3421	Performing Autobiography	3
THTR:3530	Musical Theatre Workshop	2
THTR:3615	Action! Engage! Art! Creative Placemaking for the Public Good	3
THTR:3630	Special Topics in Theatre Arts	3
THTR:3876	Video for Performance	3
THTR:3895	Performance, Art, and New Technologies in Society	3
THTR:4144	Acting: Special Topics	3
THTR:4180	Directing I	3



## Design

Code	Title	Hours
THTR:2880	Installations and Interactive Performance	3
THTR:2890	Producing and Directing Digital Video	3
THTR:3202	Graphic Design for the Entertainment Industry	2-3
THTR:3208	Mask and Puppet Crafts	3
THTR:3211	Period Styles	3
THTR:3230	Scene Design I	3
THTR:3240	Costume Design I	3
THTR:3250	Lighting Design I	3
THTR:3260	Sound Design for the Theatre	3
THTR:3270	Entertainment Design	3
THTR:3876	Video for Performance	3
THTR:3895	Performance, Art, and New Technologies in Society	3
THTR:4230	Scene Design II	3
THTR:4240	Costume Design II	3
THTR:4250	Lighting Design II	3
THTR:4270	Scenic Art	3

## Playwriting, Dramatic Literature, and Dramaturgy

Code	Title	Hours
THTR:3301	Playwriting II	3
THTR:3310	Undergraduate Playwriting Workshop	3
THTR:3315	Standup Comedy Practicum	3
THTR:3320	Writing for Film	3
THTR:3401	Topics in Dramatic Literature	3
THTR:3402	Shakespeare the Dramatist	3
THTR:3421	Performing Autobiography	3
THTR:3430	Women on Stage	3
THTR:3630	Special Topics in Theatre Arts	3
THTR:4420	Dramatic Theory	3
THTR:5420	Dramaturgy Practicum	3

## Stage Management, Arts Management, and Technical Theatre

Code	Title	Hours
THTR:2880	Installations and Interactive Performance	3
THTR:2890	Producing and Directing Digital Video	3
THTR:3223	Introduction to Lighting Technology	3
THTR:3501	Stage Management I	3
THTR:3510	Introduction to Arts Management	3
THTR:3615	Action! Engage! Art! Creative Placemaking for the Public Good	3
THTR:3876	Video for Performance	3

THTR:3895	Performance, Art, and New Technologies in Society	3
THTR:5500	Stage Management: Special Topics	3
THTR:5510	Production Management	3

## Music Theatre Track

Students have the option of adding a focus to their study plan by completing a specialized track in music theatre. This optional track provides a gateway for students to develop and enhance the basic performance skills necessary for a music theatre performer to be successful. Students are not required to audition to enter the track, but auditions are required to enroll in music theatre performance courses. The track requires a minimum of 51 s.h. of coursework. Each student's program of study will culminate in a final presentation, to be determined in consultation with the track advisor. To enroll in the music theatre track, contact the music theatre track advisor in the Department of Theatre Arts.

The B.A. with a major in theatre arts with the music theatre track requires the following coursework.

Code	Title	Hours
Theatre Foundation Courses		15
Design Course		3
Dramatic Literature Course		3
Production Lab		3
Theatre Arts Electives		9
Musical Theatre Foundation Courses		5-6
Dance Courses		8
Music Courses		5
<b>Total Hours</b>		<b>51-52</b>

## Theatre Courses

Students may opt to use some of their coursework to satisfy requirements for the theatre arts major.

### Dramatic Literature Requirement

Code	Title	Hours
This course:		
THTR:1410	Musical Theatre History	3

### Theatre Arts Electives

Code	Title	Hours
All of these:		
THTR:3110	Voice for the Actor	3
THTR:3120	Theatre Movement	3
THTR:3140	Acting II	3

### Musical Theatre Foundation Courses

Code	Title	Hours
Two of these:		
THTR:2170	Acting for Musical Theatre	3
THTR:2175	Musical Theatre Performance: Special Topics	3
MUS:3530	Musical Theatre Workshop	2

### Dance Courses

Code	Title	Hours
Two of these:		
DANC:1020	Beginning Jazz	2

DANC:1120	Continuing Jazz	2
DANC:2020	Intermediate Jazz	2
Two of these:		
DANC:1020	Beginning Jazz	2
DANC:1030	Beginning Ballet	2
DANC:1040	Beginning Modern Dance	2
DANC:1120	Continuing Jazz	2
DANC:1130	Continuing Ballet	2
DANC:1140	Continuing Modern Dance	2
DANC:2020	Intermediate Jazz	2
DANC:2030	Majors Intermediate Ballet	3
DANC:2040	Majors Intermediate Contemporary Movement Practices	3
DANC:3030	Major Ballet I	3
DANC:3040	Major Contemporary Movement Practices I	3
DANC:3530	Major Ballet II	2
DANC:3540	Major Contemporary Movement Practices II	2
DANC:4030	Major Ballet III	2
DANC:4040	Major Contemporary Movement Practices III	2

## Music Courses

Code	Title	Hours
This course (either section 1 or section 26):		
MUS:1020	Performance Instruction for Nonmajors (when topic is voice; taken four times for 1 s.h. each)	4
One of these:		
MUS:1001	Group Piano I: Non-Music Majors	1
MUS:1002	Group Piano II: Non-Music Majors	1

## Honors

### Honors in the Major

Students majoring in theatre arts have the opportunity to graduate with honors in the major. Students who wish to graduate with honors should declare their intention to the department's honors advisor. To graduate with honors in the major, students must maintain a minimum University of Iowa g.p.a. of 3.33; a g.p.a. of at least 3.50 in the major; complete at least 6 s.h. of work in Department of Theatre Arts honors courses, of which 3 s.h. must be a course numbered 3000 level or above; and complete THTR:4692 Honors Theatre Arts.

Students who elect to give a creative presentation or performance must have senior standing and must complete at least one honors course before their proposed project may be approved. They must apply to the director of theatre for approval of their project by April 1 of the year before the project is to be scheduled (projects are not guaranteed a production slot). They also must enroll in THTR:4692 Honors Theatre Arts during the semester in which they complete their presentation or performance.

For more information about theatre arts honors requirements, contact the honors advisor in the Department of Theatre Arts.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the theatre arts major.

## Career Advancement

The National Association of Colleges and Employers listed the top skills employers look for in college graduates. They include communication skills, strong work ethic, teamwork skills, initiative, interpersonal skills, problem-solving skills, analytical skills, and flexibility/adaptability. Theatre is an excellent way to learn these skills. As a theatre major, students learn to think critically, read carefully, write well, and present themselves in front of others—skills vital for many careers.

Theatre graduates find work as actors, directors, designers, critics, stage managers, writers, producers, and agents. Some work in film and television, some decide to teach, and some combine scholarship with production or performance with teaching. Others go into business or law.

After graduating, many students move to a metropolitan area to find work. In theatre, there are no guarantees. Success takes talent, patience, hard work, and a bit of luck, yet most graduates who want to work in this exciting profession find a way to do so.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the fifth semester begins:** three courses in the major chosen from THTR:2140 Acting I, THTR:2215 Theatre Technology, THTR:2402 Script Analysis, THTR:2410 History of Theatre and Drama I, and THTR:2411 History of Theatre and Drama II.

**Before the seventh semester begins:** three more courses in the major, two semesters of production credit, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two more courses in the major and one more semester of production credit.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Iowa Degree in Three

University of Iowa majors who are strongly motivated can graduate with a degree in three years under the Iowa Degree in Three. The program is available to students who can complete more semester hours each term than they would on the Four-Year Graduation Plan.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

Students are allowed to bring Advanced Placement (AP), College Level Examination Program (CLEP), or transfer credit upon admission to reduce the number of semester hours required for their degree. They should consult their advisor about the program.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Theatre Arts, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
THTR:2402	Script Analysis	3
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: Diversity and Inclusion <sup>b</sup>		3
GE CLAS Core: Social Sciences <sup>b</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
THTR:2140	Acting I	3
THTR:2410	History of Theatre and Drama I <sup>c, d</sup>	3
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: Natural Sciences with Lab <sup>b</sup>		4
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
THTR:2220	Production Lab <sup>f</sup>	1
THTR:2411	History of Theatre and Drama II <sup>c, d</sup>	3
Major: theatre arts design course		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
THTR:2215	Theatre Technology	3
THTR:2220	Production Lab <sup>f</sup>	1
GE CLAS Core: International and Global Issues <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		3

Elective course <sup>e</sup>	2
<b>Hours</b>	<b>16-17</b>

### Third Year

#### Fall

THTR:2220	Production Lab <sup>f</sup>	1
Major: advanced theatre arts elective course <sup>h</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>b</sup>		3
GE CLAS Core: Values and Culture <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		2

<b>Hours</b>	<b>16-17</b>
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#### Spring

Major: theatre arts dramatic literature course	3
Major: advanced theatre arts elective course <sup>h</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>	4 - 5
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3

<b>Hours</b>	<b>16-17</b>
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### Fourth Year

#### Fall

Major: advanced theatre arts elective course <sup>h</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3

<b>Hours</b>	<b>15</b>
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#### Spring

Major: advanced theatre arts elective course <sup>h</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

<b>Hours</b>	<b>15</b>
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<b>Total Hours</b>	<b>123-129</b>
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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

c Students who complete THTR:1400 or THTR:1401 before declaring a major in theatre arts must consult the undergraduate director before they may register for THTR:2410 or THTR:2411.

d Fulfills a major requirement and may fulfill a GE requirement.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Students must earn a total of 3 s.h. in THTR:2220.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS

Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h Students must earn a total of 12 s.h. in theatre arts elective coursework. Students may not use a course to fulfill more than one requirement for the major. Three of the four elective courses must be numbered 3000 or above; the other course may be from any level. A minimum of two courses must be selected from one of the following areas: Acting, Directing, and Music Theatre; Design; Playwriting, Dramatic Literature, and Dramaturgy; or Stage Management, Arts Management, and Technical Theatre.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Theatre Arts, Minor

## Requirements

The undergraduate minor in theatre arts requires 15 s.h. in theatre arts coursework, including 12 s.h. in courses numbered 2000 or above taken at the University of Iowa. Students may count THTR:1141 Basic Acting II as one of the courses included in the 12 s.h. total mentioned above. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. Students must complete all prerequisites for the courses they choose for the minor.

All theatre arts courses are available to students who minor in theatre. Students who wish to take THTR:2140 Acting I must request permission from the Department of Theatre Arts office. Minors who are interested in acting also may take THTR:1140 Basic Acting and THTR:1141 Basic Acting II, and then may ask for permission to enroll in THTR:3140 Acting II.

Contact the Department of Theatre Arts for more information about how to meet the requirements for the minor.

# Social Justice and the Performing Arts, Certificate

Students who earn the Certificate in Social Justice and the Performing Arts learn methods and practices to expand the parameters of their academic and arts disciplines to include diverse ways of thinking, creative problem solving, and practical applications for social justice-focused arts projects and scholarship in the United States and transnationally. The certificate is designed to foster interdisciplinarity between students from across the university, whether they are in the arts or not.

Students access and hone human-centered skills in empathy, compassion, and social responsibility, and gain a sense of belonging, equity, and inclusion as they approach their work and partner with others. They examine who the work will impact, determining who benefits, and how they can make ethical choices as they develop or collaborate on community-based creative projects. With a combination of performing arts and social justice courses and projects, certificate students will be better prepared to take on a wider range of career opportunities in and beyond performing arts organizations after graduation.

The certificate helps students to align their discipline studies more closely with their interests and their desire to be of service to their communities, to work in community with one another, and to collaborate with the wider community of Iowa City and beyond as they become fully engaged citizens of the global community.

The Departments of Dance [p. 357], Theatre Arts [p. 1159], and Gender, Women's and Sexuality Studies [p. 536], and the School of Music [p. 858] collaborate to offer the certificate. The Department of Theatre Arts administers the certificate.

## Learning Outcomes

The certificate provides the following competencies.

- Increased knowledge about selected history of social movements, how those movements emerged, and the impacts those movements had on policy, populations, the environment, the arts, and culture.
- The ability to explore through coursework how the intersections of geography, race, class, gender, sexuality, health, economics, and history create networks of privilege and oppression across the globe, and to reflect on situations they encounter in art and community engagement work.
- The ability to explore the application of the role of performing arts in community and society throughout history and in established creative community engagement, social justice-based projects, and/or scholarly work, and how that focus can be applied to interdisciplinary social justice work.
- The ability to read, write, listen, and act through social justice coursework in order to understand how conditions are created for change on the local, regional, and national level historically, ethically, politically, and personally.
- The articulation of a vision that starts to inform their work, future project planning, and thinking about the arts and community that includes their ability to creatively conceptualize and articulate their personal

goals while balancing the needs of community partners in a performance, social, and global context in relation to existing philosophies and theories, and to apply their vision to creative or scholarly engagement work.

## Requirements

The undergraduate Certificate in Social Justice and the Performing Arts requires a minimum of 21 s.h. of coursework, including at least 18 s.h. earned at the University of Iowa or in approved study abroad courses. Students must maintain a g.p.a. of at least 2.00 in coursework for the certificate. Coursework in the certificate may not be taken pass/nonpass.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Students complete two foundation courses, one creative practice and skill-building course, three background courses, and one capstone course. They must meet with the certificate director or an area of study advisor every semester to discuss their course selections and plan for the capstone course.

Students who wish to count a course not listed in the certificate program of study, including study abroad courses, may submit a request for approval to the certificate director. Any course must address social justice themes.

Some of the courses have prerequisites; students must complete all of a course's prerequisites before they may register for a course. Some of these courses also have specific restrictions, such as courses being open only to certain majors.

The Certificate in Social Justice and the Performing Arts requires the following coursework.

## Foundation Courses

Code	Title	Hours
Both of these:		
THTR:3615	Action! Engage! Art! Creative Placemaking for the Public Good	3
SJUS:1001	Introduction to Social Justice	3

## Creative Practice and Skill Building

Performing arts students must take a course outside their major or minor area of study to build partnerships across disciplines.

Code	Title	Hours
One of these:		
THTR:1411	Comedy and Society	3
THTR:3421	Performing Autobiography	3
THTR:3630	Special Topics in Theatre Arts (when topic is devised theatre project: social justice and collaborative performance or the musical as vehicle for social change)	3
THTR:3895	Performance, Art, and New Technologies in Society	3

THTR:6310	Special Topics in Playwriting (when topic is site specific performances and playwriting)	3
DANC:1150	Brazilian Culture and Carnival	3
DANC:1412	The Arts in Performance	3
DANC:3600	Art, Feminist Practice, and Social Justice	3
EDTL:2670	Peacebuilding, Singing, and Writing in a Prison Choir	3
MUS:2800	Digital Arts: An Introduction	3

## Background Courses

Performing arts students may take only one background course in their major or minor area of study. All students select 9 s.h. (three courses) from the following emphasis areas.

### The Environment and Ecological Justice

Code	Title	Hours
THTR:6310	Special Topics in Playwriting (when topic is climate and theatre)	3
AFAM:4770	Environmental Justice	3
ANTH:3103	Environment and Culture	3
GEOG:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
HIST:3263	American Ruins	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3
SJUS:1046	Environmental Politics in India	3

### Gender, Women's, and Sexuality Studies

Code	Title	Hours
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3
THTR:3430	Women on Stage	3
GWSS:3280	Women and Power in U.S. History Through the Civil War	3
GWSS:3282	Women and Power in U.S. History Since the Civil War	3
GWSS:3600	Art, Feminist Practice, and Social Justice	3
MUS:4320	Music and Gender	3
MUS:4360	Jazz Matters	3
SJUS:2500	Love, War, Activism: Stories About Women from Across the World	3

## Global and Transnational Studies

Code	Title	Hours
THTR:2320	Playwriting in a Global World	3
THTR:6310	Special Topics in Playwriting (when topic is cross-cultural collaboration: theatre and peace keeping, or theatre in conflict zones, or theatre and activism)	3
DANC:2060	Dance and Society in Global Contexts	3
DANC:2085	Introduction to African Caribbean Dance Practices	3
GWSS:2650	Global Reproduction	3
HRTS:3906	Global Crises and Human Rights	3
MUS:1310	World Music	3
SJUS:3250	Literature and Social Justice	3

### Race and Ethnicity in the U.S.

Code	Title	Hours
THTR:2405	Staging Americans: U.S. Cultures Through Theatre and Performance	3
AFAM:1241	The Soundtrack of Black America	3
AFAM:3053	The Civil Rights Movement	3
AFAM:3600	Digitizing Blackness	3
COMM:2054	Movements, Protest, Resistance	3
DANC:2065	Performing Power/ Performing Protest: The Body, Identity, and the Image	3
HIST:3232	History of American Inequality	3
HIST:4260	The Sixties in America	3
MUS:1009	Jazz Cultures in America and Abroad (section 100)	3
MUS:1303	Roots, Rock, and Rap: A History of Popular Music	3
MUS:4350	Advanced Jazz History	3
SJUS:2294	Indigenous Art Activism and Social Justice	3
SJUS:3250	Literature and Social Justice	3
SJUS:3415	Latina/o/x Protest, Movement, Resistance	3

## Capstone Course

Students submit a capstone project plan in the semester before they enroll in the capstone course.

Code	Title	Hours
One of these:		
THTR:4691	Projects in Theatre	3-4
THTR:4692	Honors Theatre Arts	3-4
DANC:4990	Independent Study	3-4
DANC:4998	B.F.A. Senior Project in Dance	3-4
DANC:4999	Honors Project in Dance	3-4

GWSS:3900	Research for Public Engagement	3
MUS:3990	Special Studies	3-4
MUS:4995	Honors in Music	3-4



# Theatre Arts, M.F.A.

## Learning Outcomes

### Acting Subprogram

Graduates must demonstrate:

- the ability to employ a broad range of acting knowledge and skills in the creation and presentation of roles;
- the ability to perform in plays and roles of various types, and from various periods;
- the acquisition of advanced understanding and capabilities in voice and speech, movement, and play analysis;
- a working knowledge of historical, critical, and theoretical content and the ways they inform playwriting and dramatic writing, the creation of roles, and other aspects of production;
- the ability to utilize digital media as a creative platform for self-promotion and in live performance;
- a working knowledge of skill sets and business-related tools to manage a professional acting career; and
- the ability to collaborate at a professional level with actors, directors, designers, playwrights, dramaturgs, and stage managers in the processes of production.

### Design Subprogram

Graduates must demonstrate:

- development of new work and new artists through a creative, collaborative process; and advanced abilities in the unification of all design elements used in professional production through effective collaboration with diverse groups of artists and technicians with a range of life experiences and perspectives;
- thorough knowledge of health and safety practices associated with theatre production;
- with respect for the great global traditions, push the boundaries of theatre, using sophisticated tools and technologies; exhibit advanced knowledge in and the ability to integrate the following into production design: history of décor/fashion and cultural modes; skills drawing, color theory, lighting; analog and digital facility in 2D and 3D design in tactile, lighting and audio arts; and aesthetic, theoretical, and/or technical approaches to create compelling stories and experiences that incorporate new technologies and digital art-making practices in live performance, interactive art installations, and user-based live events;
- creative and technical ability to develop the design of a production from concept to finished product, and produce full design packages for at least two realized productions;
- provide space for diversity and foster social responsibility and change through a working knowledge of script analysis, which includes the ways that historical, critical, cultural, and theoretical perspectives and content inform playwrights, actors, stage managers, directors, and designers; and
- the ability to work with theatre professionals in their processes of production.

### Directing Subprogram

Graduates must demonstrate advanced professional competence in directing including, but not limited to:

- the ability to integrate advanced understanding and capabilities in play analysis, performance, and design in creating the concept of a production;
- the ability to develop and guide fully mounted productions of a wide variety of performance style and plays from statement of concept through public performance;
- a broad knowledge of dramatic literature and/or theatre history, including a demonstrated ability to undertake inquiry, investigation, or research associated with various aspects of performance and production;
- the ability to work with collaborators (actors/performers, playwrights/dramaturgs and designers) in the processes of production, including the ability to conduct rehearsals effectively;
- an understanding of basic design principles and of aural and visual comprehension in the theatre and other dramatic media;
- an understanding of all the theatre arts and crafts at a sufficient level of knowledge to communicate with other artists and producers and to make informed critical judgments in all areas of the theatre;
- a basic understanding of the aesthetic, theoretical, and/or technical approaches to create compelling stories and experiences that incorporate new technologies and digital artmaking practices in live performance, interactive art installations, and user-based live events;
- the ability to develop and direct various forms of new work that engages diverse writers with multiple life experiences and perspectives; and
- direct at least two full-length, public productions, one of which must receive full technical support.

### Dramaturgy Subprogram

Graduates must demonstrate:

- a broad knowledge of the various elements of theatrical production;
- a broad knowledge of theatre history, theory, criticism, and performance studies;
- awareness of current issues and developments in the fields of theatre, playwriting, and dramaturgy;
- advanced skills in the practice of production dramaturgy, including dramaturgical research and writing, and script analysis;
- advanced skills in the practice of new play dramaturgy, including awareness of the creative and dramaturgical potential of digital media in the making of new work; and
- advanced competence in theatrical collaboration, including evidence of collaborating successfully with playwrights, directors, actors, designers, and stage managers in the development and production of new work; an understanding of professional ethics and practice; and awareness of issues of diversity, equity, and inclusion as they relate to collaboration.

### Playwriting Subprogram

Graduates must demonstrate advanced professional competence in playwriting and dramatic writing including, but not limited to:

- advanced technical skills in dramatic construction;
- the ability to employ and integrate a broad range of knowledge and skills in the various elements of theatrical production;

- the acquisition of advanced understanding and abilities to use theories and methods of script analysis, criticism, and dramaturgy in the development of theatrical and dramatic works;
- the ability to develop a work from concept to finished product and working knowledge of theatre history and theory, as well as of the creative and dramaturgical potential of digital media, and various ways each may influence the creative process;
- an original full-length or equivalent work for their M.F.A. thesis; and
- advanced competence in theatrical collaboration, including evidence of collaborating successfully with directors, dramaturgs, actors, designers, and stage managers in the development and production of new work; an understanding of professional ethics and practice; and awareness of issues of diversity, equity, and inclusion as they relate to collaboration.

## Stage Management Subprogram

Graduates must demonstrate:

- advanced knowledge of all production elements and the ways they can be combined and integrated, including digital media;
- advanced ability to coordinate multiple aspects of production both in rehearsal and in performance, including digital media;
- an understanding of stage management for a broad range of genres including drama, musical theatre, dance, opera, concerts, industrials, and special events;
- the ability to collaborate with actors, designers, directors, musical directors, dramaturgs, choreographers, and special events planners (all other artists) in their processes of creation, performance, and planning; and provide space for diversity and foster social responsibility and change; and
- an understanding of union rules and legal issues relevant to the field.

## Requirements

The Master of Fine Arts program in theatre arts requires a minimum of 61 s.h. of graduate credit, plus additional courses and production requirements depending on the student's specialty area of concentration. Students normally must complete six semesters in residence (internships may be substituted).

The graduate program is dedicated to creative development of theatre artists. Graduates have a solid background in major performance theories, dramatic literature, and practices of the past and present as well as in the craft of their chosen specialties.

Special attention is given to understanding the role and importance of live theatre in society. Interactions among the various theatre disciplines are emphasized, both in classes and through the department's extensive production program. Particular emphasis is placed on the development of new works for the theatre.

Students must make normal progress toward completion of the degree requirements to remain in the program: they must maintain a g.p.a. of at least 2.75 overall and 3.00 in all coursework within the primary area of concentration, they must receive no letter grade in the primary area below B-minus and no grade of U (unsatisfactory) in the primary area,

and they must build a record of substantial creative work of high quality. Students who fail to make normal progress are placed on academic probation and given one additional semester to demonstrate their qualifications for earning the degree.

Contact the Department of Theatre Arts for specific information on any of the M.F.A. specialty areas.

## Admission

Students who demonstrate exceptional ability in acting, directing, dramaturgy, playwriting, design, or stage management may apply for admission to the program of study and production leading to the M.F.A. degree. Admission is based on an interview, audition, and/or a portfolio of relevant work, the undergraduate record or other proof of artistic accomplishment, and letters of recommendation.

Submission of playscripts is the most important element in gaining admission to the Playwrights Workshop.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

The graduate program in theatre develops not only talent but discipline, self-confidence, and personal vision. Through their work in courses and productions, through teaching and production assistantships, and through the intensive, individual mentoring they receive from faculty, graduate students prepare themselves to contribute to the nation's culture. They can then enter the profession, joining hundreds of other University of Iowa graduates who have made their mark in theatre, film, television, and the entertainment industry.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Theatre Arts, M.F.A.

- Acting Subprogram [p. 1178]
- Design Subprogram [p. 1179]
- Directing Subprogram [p. 1180]
- Dramaturgy Subprogram [p. 1181]
- Playwriting Subprogram [p. 1182]
- Stage Management Subprogram [p. 1183]

### Acting Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Minimum of 72 s.h. of graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>

Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>

MFA actors are required to audition for all mainstage productions presented by the department and to perform as cast. Every student is required to perform a minimum of one role each semester.

		<b>Hours</b>	<b>0</b>
<b>First Year</b>			
<b>Fall</b>			
THTR:2890	Producing and Directing Digital Video	3	
THTR:5600	Orientation to Graduate Studies	1	
THTR:6140	Advanced Acting	3	
THTR:6150	Vocal Technique	3	
THTR:6160	Movement Technique	3	
		<b>Hours</b>	<b>13</b>
<b>Spring</b>			
THTR:3202	Graphic Design for the Entertainment Industry	2	
THTR:6140	Advanced Acting	3	
THTR:6150	Vocal Technique	3	
THTR:6160	Movement Technique	3	
Theatrical Analysis course <sup>d</sup>		3	
		<b>Hours</b>	<b>14</b>
<b>Second Year</b>			
<b>Any Semester</b>			
MFA Comprehensive Evaluation <sup>e</sup>		<b>Hours</b>	<b>0</b>
<b>Fall</b>			
THTR:6140	Advanced Acting	3	
THTR:6150	Vocal Technique	3	
THTR:6160	Movement Technique	3	
THTR:6170	Graduate Acting: Special Topics	3	
		<b>Hours</b>	<b>12</b>
<b>Spring</b>			
THTR:6140	Advanced Acting	3	
THTR:6150	Vocal Technique	3	
THTR:6160	Movement Technique	3	
THTR:6605	Graduate Career Preparation	1	
Theatrical Analysis course <sup>d</sup>		3	
		<b>Hours</b>	<b>13</b>
<b>Third Year</b>			
<b>Fall</b>			
THTR:4695	Performance Practicum	2	
THTR:6140	Advanced Acting	3	
THTR:6160	Movement Technique	3	
THTR:6605	Graduate Career Preparation	3	
		<b>Hours</b>	<b>11</b>
<b>Spring</b>			
THTR:6150	Vocal Technique	3	
THTR:7601	M.F.A. Thesis <sup>f</sup>	3	
Theatrical Analysis course <sup>d</sup>		3	
Final Exam <sup>g</sup>		<b>Hours</b>	<b>9</b>
		<b>Hours</b>	<b>72</b>

a Maximum of 82 s.h. may be counted toward the degree.

b Students must complete specific requirements in the University of Iowa Graduate College after program

admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA. Must maintain GPA in all coursework within the primary area of concentration and receive no letter grade below B-minus or a U (unsatisfactory) in the primary area.

d Complete at least 9 s.h. for requirement; see the department website for specifics. Work with faculty advisor to determine appropriate coursework and sequence.

e Usually completed at the end of the second year. Students need to complete a special assignment designed by each program and meet with their Graduate Committee for a comprehensive evaluation (comps) of work to date. This evaluation will determine whether the student will continue their work into the third year and proceed to do a thesis.

f Consists of two components: 1) a written analysis of the actor's personal creative process, and an annotated resume of roles performed at Iowa; 2) the actor's professional online presence that is developed, strengthened, and maintained during their tenure at Iowa.

g Successful completion of all requirements.

## Design Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Minimum of 73 s.h. of graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Foundational elective <sup>d</sup>		6
		<b>Hours</b>
		<b>6</b>
<b>Fall</b>		
THTR:5200	Graduate Design Seminar <sup>e</sup>	1
THTR:5600	Orientation to Graduate Studies	1
THTR:6691	Projects in Theatre Advanced <sup>f</sup>	1
Design I course <sup>g</sup>		3
Design I course <sup>g</sup>		3
		<b>Hours</b>
		<b>9</b>
<b>Spring</b>		
THTR:5200	Graduate Design Seminar <sup>e</sup>	1
THTR:6691	Projects in Theatre Advanced <sup>f</sup>	1
Design II course <sup>h</sup>		3
Design II course <sup>h</sup>		3
Theatrical Analysis course <sup>i</sup>		3
		<b>Hours</b>
		<b>11</b>
<b>Second Year</b>		
<b>Any Semester</b>		
MFA Comprehensive Evaluation <sup>j</sup>		<b>Hours</b>
Foundational electives <sup>d</sup>		<b>6</b>

Additional electives <sup>k</sup>	6
<b>Hours</b>	<b>12</b>
<b>Fall</b>	
THTR:5200 Graduate Design Seminar <sup>e</sup>	1
THTR:6691 Projects in Theatre Advanced <sup>f</sup>	1
Design III course <sup>l</sup>	3
<b>Hours</b>	<b>5</b>
<b>Spring</b>	
THTR:5200 Graduate Design Seminar <sup>e</sup>	1
THTR:6691 Projects in Theatre Advanced <sup>f</sup>	1
Theatrical Analysis course <sup>i</sup>	3
<b>Hours</b>	<b>5</b>
<b>Third Year</b>	
<b>Any Semester</b>	
Foundational electives <sup>d</sup>	6
Additional electives <sup>k</sup>	6
<b>Hours</b>	<b>12</b>
<b>Fall</b>	
THTR:5200 Graduate Design Seminar <sup>e</sup>	1
THTR:6691 Projects in Theatre Advanced <sup>f</sup>	1
Design III course <sup>l</sup>	3
<b>Hours</b>	<b>5</b>
<b>Spring</b>	
THTR:5200 Graduate Design Seminar <sup>e</sup>	1
THTR:6691 Projects in Theatre Advanced <sup>f</sup>	1
Theatrical Analysis course <sup>i</sup>	3
THTR:7601 M.F.A. Thesis <sup>m</sup>	3
Final Exam <sup>n</sup>	
<b>Hours</b>	<b>8</b>
<b>Total Hours</b>	<b>73</b>

- a Maximum of 82 s.h. may be counted toward the degree. Students need to be enrolled for at least 9 s.h., but no more than 15 s.h., each semester.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA. Must maintain GPA in all coursework within the primary area of concentration and receive no letter grade below B-minus or a U (unsatisfactory) in the primary area.
- d 18 s.h. total required; work with academic advisor to determine appropriate coursework and sequence. Note: THTR:3211 and THTR:4270 are both typically offered only once every three years.
- e Take for six semesters, 1 s.h. each time.
- f Work with faculty advisor to determine appropriate assignments and semester hours; maximum of 5 s.h. in one semester.
- g Complete at least two courses from THTR:3230, THTR:3240, THTR:3250.
- h Complete at least two courses from THTR:4230, THTR:4240, THTR:4250; second course taken counts as a foundational elective.

- i Complete at least 9 s.h. for requirement; see the General Catalog and department website for specifics. Work with faculty advisor to determine appropriate coursework and sequence.
- j Usually completed at the end of the second year. Students need to complete a special assignment designed by each program and meet with their Graduate Committee for a comprehensive evaluation (comps) of work to date. This evaluation will determine whether the student will continue their work into the third year and proceed to do a thesis.
- k 12 s.h. total required; work with faculty advisor to determine appropriate coursework and sequence.
- l Complete at least two courses from THTR:5230, THTR:5240, THTR:5250; second course taken counts as a foundational elective.
- m Consists of two parts: 1) a searchable digital portfolio that is housed in the Iowa Research Online, and a summary document (pdf); and 2) the thesis defense, which is a formal portfolio.
- n Successful completion of all requirements.

### Directing Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Minimum of 69 s.h. of graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
Students are required to direct at least one play or workshop every semester, including a spring production in Iowa's New Play Festival.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
THTR:3230	Scene Design I	3
THTR:5410	Dramaturgy	3
THTR:5600	Orientation to Graduate Studies	1
THTR:6180	Director's Seminar <sup>d</sup>	3
THTR:7300	Playwrights Workshop	3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
THTR:2880	Installations and Interactive Performance	3
THTR:5110	Acting for Graduate Non-Actors	3
THTR:6180	Director's Seminar <sup>d</sup>	3
THTR:7300	Playwrights Workshop	1
Theatrical Analysis course <sup>e</sup>		3
<b>Hours</b>		<b>13</b>
<b>Second Year</b>		
<b>Any Semester</b>		
MFA Comprehensive Evaluation <sup>f</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
THTR:6180	Director's Seminar <sup>d</sup>	3
THTR:7300	Playwrights Workshop	1
Design course <sup>g</sup>		3
Movement course <sup>g</sup>		3

Elective course <sup>h</sup>	3
<b>Hours</b>	<b>13</b>
<b>Spring</b>	
THTR:6180 Director's Seminar <sup>d</sup>	3
THTR:7300 Playwrights Workshop <sup>i,j</sup>	1
Theatrical Analysis course <sup>e</sup>	3
Elective course <sup>h</sup>	3
<b>Hours</b>	<b>10</b>
<b>Third Year</b>	
<b>Fall</b>	
THTR:6150 Vocal Technique	3
THTR:6180 Director's Seminar <sup>d</sup>	3
THTR:7300 Playwrights Workshop	1
THTR:7601 M.F.A. Thesis <sup>i,j</sup>	3
<b>Hours</b>	<b>10</b>
<b>Spring</b>	
THTR:6180 Director's Seminar <sup>d</sup>	3
THTR:7300 Playwrights Workshop	1
THTR:7601 M.F.A. Thesis	3
Theatrical Analysis course <sup>e</sup>	3
Final Exam <sup>k</sup>	
<b>Hours</b>	<b>10</b>
<b>Total Hours</b>	<b>69</b>

a Maximum of 82 s.h. may be counted toward the degree.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA. Must maintain GPA in all coursework within the primary area of concentration and receive no letter grade below B-minus or a U (unsatisfactory) in the primary area.

d Topic sequence is Applied Kinetics & Analytic Techniques; Directing Modern/Experimental Drama; Devising; Re-interpretation of Classic Plays; Production and Career Prep; Directing Film and Digital Media.

e Complete at least 9 s.h. for requirement; see the General Catalog and department website for specifics. Work with faculty advisor to determine appropriate coursework and sequence.

f Usually completed at the end of the second year. Students need to complete a special assignment designed by each program and meet with their Graduate Committee for a comprehensive evaluation (comps) of work to date. This evaluation will determine whether the student will continue their work into the third year and proceed to do a thesis.

g Work with faculty advisor to determine appropriate coursework.

h One elective is typically taken, but students may opt to take two electives this semester; choose from design, digital arts, entrepreneurship, literature or dance courses. Work with faculty advisor to determine appropriate coursework.

i The thesis typically consists of a full-length work presented by the department and a written document; includes analysis and preparation materials. The production and the written document form the basis for the student's final evaluation.

j THTR: 7601 can be taken during either fall or spring of the third year. In the semester when registered for THTR:7601, students may register for one additional course. In the semester not registered for THTR:7601, one elective is typically taken, but students may opt to take two courses this semester.

k Successful completion of all requirements.

## Dramaturgy Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Minimum of 64 s.h. of graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
THTR:3401	Topics in Dramatic Literature	3
THTR:5420	Dramaturgy Practicum	2
THTR:5600	Orientation to Graduate Studies	1
THTR:7300	Playwrights Workshop	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
THTR:4420	Dramatic Theory	3
THTR:5420	Dramaturgy Practicum	2
THTR:7300	Playwrights Workshop	3
Theatrical Analysis course <sup>d</sup>		3
<b>Hours</b>		<b>11</b>
<b>Second Year</b>		
<b>Any Semester</b>		
MFA Comprehensive Evaluation <sup>e</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
THTR:3401	Topics in Dramatic Literature	3
THTR:5410	Dramaturgy	3
THTR:5420	Dramaturgy Practicum	2
THTR:7300	Playwrights Workshop	3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
THTR:3401	Topics in Dramatic Literature	3
THTR:5420	Dramaturgy Practicum	2
THTR:7300	Playwrights Workshop	3
Theatrical Analysis course <sup>d</sup>		3
<b>Hours</b>		<b>11</b>
<b>Third Year</b>		
<b>Fall</b>		
THTR:5420	Dramaturgy Practicum	2
THTR:6310	Special Topics in Playwriting	3
THTR:7300	Playwrights Workshop	3
Foundational elective <sup>f</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
THTR:5420	Dramaturgy Practicum	2

THTR:7300	Playwrights Workshop	3
THTR:7601	M.F.A. Thesis <sup>g</sup>	3
Theatrical Analysis course <sup>d</sup>		3
Final Exam <sup>h</sup>		
<b>Hours</b>		<b>11</b>
<b>Total Hours</b>		<b>64</b>

- a Maximum of 82 s.h. may be counted toward the degree. Students need to be enrolled for at least 9 s.h., but no more than 15 s.h., each semester.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA. Must maintain GPA in all coursework within the primary area of concentration and receive no letter grade below B-minus or a U (unsatisfactory) in the primary area.
- d Complete at least 9 s.h. for requirement; see the General Catalog and department website for specifics. Work with faculty advisor to determine appropriate coursework and sequence.
- e Usually completed at the end of the second year. Students need to complete a special assignment designed by each program and meet with their Graduate Committee for a comprehensive evaluation (comps) of work to date. This evaluation will determine whether the student will continue their work into the third year and proceed to do a thesis.
- f Select a course in collaboration, directing, or other creative area; work with faculty advisor to determine appropriate graduate level coursework.
- g Should consist of a significant piece of dramaturgical research that, with subsequent revision and editing, would be publishable in a journal of dramaturgy, history, theory, or criticism.
- h Successful completion of all degree requirements.

## Playwriting Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Minimum of 64 s.h. of graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
THTR:5600	Orientation to Graduate Studies	1
THTR:6310	Special Topics in Playwriting	3
THTR:7300	Playwrights Workshop	3
Dramatic Literature course <sup>d</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
THTR:6300	Guest Seminar <sup>e</sup>	3

THTR:6310	Special Topics in Playwriting	3
THTR:7300	Playwrights Workshop	3
Theatrical Analysis course <sup>f</sup>		3
<b>Hours</b>		<b>12</b>

## Second Year

### Any Semester

MFA Comprehensive Evaluation<sup>g</sup>

<b>Hours</b>		<b>0</b>
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### Fall

THTR:6310	Special Topics in Playwriting	3
THTR:7300	Playwrights Workshop	3
Dramatic Literature course <sup>d</sup>		3

<b>Hours</b>		<b>9</b>
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### Spring

THTR:6300	Guest Seminar <sup>e</sup>	3
THTR:6310	Special Topics in Playwriting	3
THTR:7300	Playwrights Workshop	3
Theatrical Analysis course <sup>f</sup>		3

<b>Hours</b>		<b>12</b>
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## Third Year

### Fall

THTR:6310	Special Topics in Playwriting	3
THTR:7300	Playwrights Workshop	3
Foundational elective <sup>h</sup>		3

<b>Hours</b>		<b>9</b>
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### Spring

THTR:6310	Special Topics in Playwriting	3
THTR:7300	Playwrights Workshop	3
THTR:7601	M.F.A. Thesis <sup>i</sup>	3
Theatrical Analysis course <sup>f</sup>		3

Final Exam <sup>j</sup>		
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<b>Hours</b>		<b>12</b>
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<b>Total Hours</b>		<b>64</b>
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- a Maximum of 82 s.h. may be counted toward the degree. Students need to be enrolled for at least 9 s.h., but no more than 15 s.h., each semester.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA. Must maintain GPA in all coursework within the primary area of concentration and receive no letter grade below B-minus or a U (unsatisfactory) in the primary area.
- d Choose from THTR:3401 or other dramatic literature course.
- e Work with faculty advisor to determine appropriate graduate level coursework.
- f Complete at least 9 s.h. for requirement; see the General Catalog and department website for specifics. Work with faculty advisor to determine appropriate coursework and sequence.
- g Usually completed at the end of the second year. Students need to complete a special assignment designed by each program and meet with their Graduate Committee for a comprehensive evaluation (comps) of work to date. This

evaluation will determine whether the student will continue their work into the third year and proceed to do a thesis.

- h Select a course in directing, dramaturgy or collaboration; work with faculty advisor to determine appropriate graduate level coursework.
- i Consists of a full-length play, along with a short (4-6 pages) Introduction placing the work in the context of the students' work in THTR:7300. The thesis play must represent substantial creative work undertaken in the third year of enrollment, and may consist of a play newly written in the third year or a major revision of a play that has been read and/or produced in the first two years.
- j Successful completion of all requirements.

## Stage Management Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Minimum of 69 s.h. of graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Students must maintain a Graduate College program GPA of 3.00 or higher. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
THTR:5600	Orientation to Graduate Studies	1
THTR:5500	Stage Management: Special Topics <sup>d</sup>	3
THTR:6500	Stage Management Seminar	2
THTR:6691	Projects in Theatre Advanced	1
Design course <sup>e</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
THTR:4180	Directing <sup>l</sup>	3
THTR:5510	Production Management <sup>f</sup>	3
THTR:6500	Stage Management Seminar	2
THTR:6691	Projects in Theatre Advanced	1
Theatrical Analysis course <sup>g</sup>		3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Any Semester</b>		
MFA Comprehensive Evaluation <sup>h</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
THTR:4510	Arts Leadership Seminar	3
THTR:5500	Stage Management: Special Topics <sup>d</sup>	3
THTR:6500	Stage Management Seminar	2
THTR:6691	Projects in Theatre Advanced	2
Focus Area elective <sup>i</sup>		3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
THTR:6500	Stage Management Seminar	2
THTR:6691	Projects in Theatre Advanced	1
Design course <sup>e</sup>		3
Focus Area elective <sup>i</sup>		3

Theatrical Analysis course <sup>g</sup>		3
<b>Hours</b>		<b>12</b>
<b>Third Year</b>		
<b>Fall</b>		
THTR:5500	Stage Management: Special Topics <sup>d</sup>	3
THTR:6500	Stage Management Seminar	2
THTR:6691	Projects in Theatre Advanced	2
THTR:7601	M.F.A. Thesis <sup>j</sup>	1
Focus Area elective <sup>i</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
THTR:6500	Stage Management Seminar	2
THTR:6691	Projects in Theatre Advanced	1
THTR:7601	M.F.A. Thesis <sup>j</sup>	2
Acting course <sup>k</sup>		3
Theatrical Analysis course <sup>g</sup>		3
Final Exam <sup>l</sup>		
<b>Hours</b>		<b>11</b>
<b>Total Hours</b>		<b>69</b>

a Maximum of 82 s.h. may be counted toward the degree. Students need to be enrolled for at least 9 s.h., but no more than 15 s.h., each semester.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA. Must maintain GPA in all coursework within the primary area of concentration and receive no letter grade below B-minus or a U (unsatisfactory) in the primary area.

d Course topics typically offered on a three-year rotation.

e Work with faculty advisor to determine appropriate coursework.

f For stage managers; work with faculty advisor to determine appropriate coursework.

g Complete at least 9 s.h. for requirement; see the General Catalog and department website for specifics. Work with faculty advisor to determine appropriate coursework and sequence.

h Usually completed at the end of the second year. Students need to complete a special assignment designed by each program and meet with their Graduate Committee for a comprehensive evaluation (comps) of work to date. This evaluation will determine whether the student will continue their work into the third year and proceed to do a thesis.

i Complete at least 9 s.h. of Individualized Path electives; work with faculty advisor to determine appropriate coursework and sequence.

j May consist of either a major production or a research project.

k Select an acting course for non-graduate actors; work with faculty advisor to determine appropriate coursework.

l Successful completion of all requirements.

# Translation

## Director, World Languages, Literatures and Cultures

- Jill N. Beckman (Linguistics)

## Director, Translation

- Aron R. Aji (World Languages, Literatures and Cultures)

**Undergraduate major:** translation (B.A.)

**Undergraduate minor:** translation for global literacy

**Graduate degree:** M.F.A. in literary translation

**Graduate certificate:** literary translation

**Faculty:** <https://translation.uiowa.edu/people>

**Website:** <https://translation.uiowa.edu/>

Literally every form of global exchange—from material goods and natural resources to knowledge, values, ideologies, and cultures—depends on translation across languages. Aided by the range of human migration, globalization has led to rich syntheses between and among cultures, languages, and sensibilities. Borders between countries have become tenuous in relation to transnational, multicultural, and multilingual realities.

The undergraduate major in translation enables students to become learned users of translation and critically reflective participants in the global circulation of information, people, and cultures. The undergraduate minor in translation for global literacy introduces students to the exploration of translation both as a practical application and as a tool for global literacy. The graduate Certificate in Literary Translation offers students the opportunity to develop stronger competencies in translation as a method of scholarly inquiry and pedagogy, and the advantage of the ongoing synergy between creative writing and literary translation. The M.F.A. in literary translation program focuses on creating works that can convey the distinctness of the original languages and the immediacy of contemporary languages.

These programs of study are administered by the Division of World Languages, Literatures and Cultures [p. 395].

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Translation (Bachelor of Arts) [p. 1187]

#### Minor

- Minor in Translation for Global Literacy [p. 1191]

### Graduate Programs of Study

#### Major

- Master of Fine Arts in Literary Translation [p. 1193]

#### Certificate

- Certificate in Literary Translation [p. 1195]

## Facilities

The Center for Language and Culture Learning provides a wide variety of facilities and services to the Division of World Languages, Literatures and Cultures (DWLLC), including a 24-computer Instructional Technology Center (ITC) and five All-In-One Studios/small group study rooms equipped with video production and editing software, a Computer Assisted Language Learning Lab with 25 computers integrated with Sanako software for language practice, a SignAll lab for American Sign Language learning and practice, and virtual reality hardware and development space.

The center provides spaces for quiet study as well as for group meetings. Departments, programs, and student organizations are welcome to host conversation hours, film nights, study groups, workshops, and more. The center supports a robust peer tutoring program in many of the languages taught in DWLLC, with both in-person and online availability, as well as Directed Independent Language Study, through which faculty, staff, or students can be paired with a tutor to learn a language not taught in the DWLLC.

## Courses

### Translation Courses

#### TRNS:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first-semester standing.

#### TRNS:1240 World Literature in Translation I 3 s.h.

Reading and analysis of major literary texts from writing's origins to 1700 in the Mediterranean, Asia, and Africa; interrelationship of literature and history. Taught in English. GE: Literary, Visual, and Performing Arts. Same as CL:1240, CLSA:1040.

#### TRNS:1241 World Literature: 1700 to Present 3 s.h.

Reading and analysis of major literary texts from 18th century to present in chronological sequence; emphasis on interrelationship of literature and history. Requirements: completion of GE CLAS Core Rhetoric. GE: Literary, Visual, and Performing Arts. Same as CL:1241.

#### TRNS:2000 Translation and Global Society 3 s.h.

Contexts and functions of translation in the age of globalization; how translations are produced, received, and utilized in various contexts; effects of globalization on ethics, aesthetics, and politics of translation; how we understand cultures when they are received or transmitted through translation; effects of these exchanges on the English language. GE: Diversity and Inclusion.

#### TRNS:2001 Global Science Fiction 3 s.h.

Science fiction from around the world; spanning poetry, fiction, drama, film, television, comics, mobile phone games, and music; produced on six continents. Taught in English. GE: Diversity and Inclusion. Same as ASIA:2001, FREN:2010, RUSS:2001, SPAN:2001, WLLC:2001.



**TRNS:2248 The Invention of Writing: From Cuneiform to Computers** 3 s.h.

Invention of writing as one of the most momentous events in the history of human civilizations; how the use of written sign systems, notations, maps, graphs, encryptions, and most recently, computer programs have consequences that reach deeply into all aspects of people's lives; how writing fascinates and delights, fosters reflexive thinking and facilitates development of complex societies, and gives rise to institutions of social power and control; students explore the invention of writing and its consequences in broad international and interdisciplinary context. Taught in English. Same as ANTH:2248, ASIA:2248, CL:2248, CLSA:2048, COMM:2248, GRMN:2248, HIST:2148, IS:2248, LING:2248, WLLC:2248.

**TRNS:2473 Cinderella** 3 s.h.

Comparative analysis of Cinderella stories from around the world including Asia, Europe, Africa, South America; readings, discussion, workshops, and writing; consideration of visual and material presentation of Cinderella stories in physical books. Taught in English. Same as FREN:2473, WLLC:2473.

**TRNS:2578 Translation in the Humanities: Modes and Approaches** 3 s.h.

Introduction to translation in several humanistic modes including philosophy, poetry, fiction, biography, memoir, history, oral history, popular science, literary correspondence, public essays, and the retranslation of classical works; overview of translation history and theory; ethical, practical, technological, and commercial approaches to translation; language background or prior exposure to translation not required.

**TRNS:3001 Reading for Translation: Text Analysis** 3 s.h.

Required skills and vocabulary to identify and discuss elements of literary texts; formal and genre distinctions, historical and theoretical approaches to analyzing literature, and comparative methods.

**TRNS:3122 Tolstoy and Dostoevsky** 3-4 s.h.

Tolstoy's *War and Peace* and *Anna Karenina*; Dostoevsky's *Crime and Punishment*, *The Demons*, and short stories. Taught in English. Same as RUSS:3122, WLLC:3122.

**TRNS:3179 Undergraduate Translation Workshop** 3 s.h.

Translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Same as CLSA:3979, ENGL:3850.

**TRNS:3189 Undergraduate Translation Workshop II** 3 s.h.

Continued training through translation exercises, discussion of translation works in progress; alternative strategies for translation projects. Prerequisites: TRNS:3179.

**TRNS:3191 International Literature Today** 1,3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3595, IWP:3191, WLLC:3191.

**TRNS:3200 Literary Translation from German** 3 s.h.

Workshop and seminar on translating from German to English; emphasis on literary translations and studying existing translations; special issues of German as a source language for translation into English. Taught in English and German. Requirements: prior completion of two German courses at the 3000 level or above. Same as GRMN:3200.

**TRNS:3201 Workshop in Japanese Literary Translation** 3 s.h.

Workshop in translation from Japanese to English, with emphasis on literary translation; issues in theory and practice of translation; special features of Japanese as a source language for translation. Taught in Japanese. Corequisites: JPNS:3001, if not taken as a prerequisite. Same as JPNS:3201.

**TRNS:3202 Workshop in Chinese Literary Translation** 3 s.h.

Translation from Chinese to English with emphasis on literary translation; issues in theory and practice of translation; special features of Chinese as a source language for translation. Prerequisites: CHIN:3102. Same as CHIN:3201.

**TRNS:3203 Russian Literature in Translation 1860-1917** 3 s.h.

Survey of major works, figures, and trends of 19th- and early 20th-century Russian literature; age of the Russian novel; works of Turgenev (*Fathers and Sons*), Tolstoy (*Confession*), Dostoevsky (*The Idiot*, *The Brothers Karamazov*), and Chekhov (plays). Taught in English. Same as HIST:3492, RUSS:3202, WLLC:3202.

**TRNS:3205 Literary Translation Workshop in Ancient Greek and Latin** 3 s.h.

Translation from Greek/Latin to English with emphasis on literary translation; issues in theory and practice of translation in the discipline; special features of ancient languages as a source language for translation. Taught in English. Same as CLSG:3200, CLSL:3200.

**TRNS:3208 Classical Chinese Literature Through Translation** 3 s.h.

Reading of English translations of classical Chinese literature; discussion of special features of classical Chinese as a source language for translation; issues in translation practice and theory with focus on trends in translation of Classical Chinese literary works to English. Taught in English. Recommendations: completion of required ESL courses. Same as ASIA:3208, WLLC:3208.

**TRNS:3232 French Literary Translation Workshop** 3 s.h.

Workshop in literary translation from French to English; practical, ethical, and theoretical questions about translation; focus on specific complication of French-English language pair; mapping style, genre, and literary influences of French authors for purpose of translation. Taught in French. Requirements: prior or concurrent enrollment in FREN:3060 or FREN:3300. Same as FREN:3232.

**TRNS:3491 Translation Internship** 1-3 s.h.

Translation internship. Requirements: permission of the program coordinator of the undergraduate minor in translation for global literacy in consultation with the student's advisor.

**TRNS:3498 Translate Iowa Project** arr.

Internship with the Translate Iowa Project. Taught in English. Requirements: TRNS:2000 or TRNS:3179 or TRNS:3202 or ENGL:3724 or JPNS:3201 or SPAN:3030 or SPAN:3050 or SPAN:4980. Same as ARAB:3498.

**TRNS:3700 Topics in Global Cinema** 3 s.h.

Identification of new models and methods to investigate cinema's relationship to current global issues beyond traditional scholarly focus in Western Europe and the United States; exploration of an emerging field, moving away from the paradigm of national cinema and bringing together shared theoretical frameworks while acknowledging different historical and cultural contexts. Taught in English. Same as ASIA:3700, JPNS:3700, WLLC:3700.

- TRNS:4040 Topics in Translation** 3-4 s.h.  
Examination of special issues related to craft, context, and practice of translation.
- TRNS:4050 Independent Study** 1-3 s.h.  
Focused study on topic of student's choosing under direction of faculty member. Requirements: permission of the student's academic advisor or the program coordinator of the undergraduate minor in translation for global literacy.
- TRNS:4131 Critical Reading** 3 s.h.  
Analysis of different types of texts—theoretical, cultural, political, philosophical, literary, poetic—and exploration of varying ways to frame and read them. Same as WLLC:4131.
- TRNS:4470 Translating Style** 3 s.h.  
How do translators carry style over from one language and cultural milieu to another? To what extent does style structure storytelling? Exploration of these questions through a variety of readings by modern and contemporary stylists who either write in English or translate into English; special attention to what stylistic devices are at work and what their implications are for narration, characterization, and world building.
- TRNS:4480 Literature and Translation** 3 s.h.  
Translation in the broadest sense; originality, authority, authorship, accuracy, ownership, audience; issues problematizing differences between medium and message.
- TRNS:4500 Undergraduate Capstone Project** 0-3 s.h.  
Culmination of undergraduate minor in translation for global literacy; translation manuscript or a scholarly/research thesis on topics relevant to scope of minor. Requirements: approval of the program coordinator of the undergraduate minor in translation for global literacy; consent of a faculty member willing to serve as director of the capstone project.
- TRNS:4660 Transcultural Texts and Translations** 3 s.h.  
Exploration of transcultural texts and films that have contributed to reshape the Italian cultural landscape; analysis and discussion of topics including migration and diaspora, belonging and exclusion, memory and nostalgia, prejudices and other obstacles to integration, use of language as a means of rejection and connection, struggles of new generations, hybrid identities, and imagined transformations that foster constructive interactions between cultures, histories, and languages; reflection and engagement in the practice of translation as a way of honing linguistic and cultural competency. Taught in Italian. Recommendations: at least one course taught in Italian at the 2000 level or above. Same as ITAL:4660.
- TRNS:4800 Seminar in Comparative Literature** 3 s.h.  
Focus on comparative, interdisciplinary, theoretical, and/or inter-arts topic; topics vary; required for comparative literature major. Taught in English. Same as CL:4800, GRMN:4800, GWSS:4800, WLLC:4801.
- TRNS:5210 International Translation Workshop** 1,3 s.h.  
International writers pair with University of Iowa translators to write new works of poetry and fiction in English; second-language fluency not required for international writers. Same as IWP:5205.
- TRNS:5491 Translation Internship** arr.
- TRNS:5500 Advanced Translation Practice** 1-3 s.h.  
Substantial translation project guided by a faculty advisor; readings and assignments designed to help translator with particular tasks and challenges presented by the project; translation and critical/reflective writing. Prerequisites: TRNS:6459 and TRNS:7460. Requirements: advanced-level translator in literary translation M.F.A. program.
- TRNS:5999 Publishing, Prizes, and Prestige** 3 s.h.  
Introduction to contemporary world literature and its producers, circulation, and gatekeepers; students award the annual Translator's Choice Award for a literary translation published in the previous calendar year. Taught in English.
- TRNS:6000 The Craft and Contexts of Translation** 1,3 s.h.  
Focus on craft and contexts of translation practice; provides students with information and experience regarding the profession and practice of translation; readings, reflective writing, and participation at guest events that focus on topics and practices relevant to the craft and professional contexts of translation.
- TRNS:6050 Independent Study** arr.
- TRNS:6400 Thesis** arr.  
Translation thesis with critical introduction.
- TRNS:6444 Thesis Workshop** 3 s.h.  
Intensive multi-language workshop; focus on M.F.A. thesis manuscript and critical paratext; translations from various languages into English. Prerequisites: TRNS:7460. Requirements: second-year standing in M.F.A. literary translation.
- TRNS:6459 Issues in Translation** 3 s.h.  
Contemporary and historical theories.
- TRNS:6555 Translator-in-Residence Workshop** 3 s.h.  
Translation workshop facilitated by the translator-in-residence; focus on review and revision of student manuscripts; readings on technique and theories, translation practice, and manuscript review.
- TRNS:7460 Translation Workshop** 3 s.h.  
Requirements: at least one foreign language. Same as IWP:7460.

# Translation, B.A.

Translation is a crucial dimension of global society. Today's extensive exchange of material and nonmaterial cultures across national borders has made interconnectedness a defining feature of globalization. Translation has become at once the object, the conduit, and the method by which global culture gets generated, exchanged, and experienced. To brave this vast geography of interconnectedness requires a special reserve of knowledge and skills (i.e., global literacy) to support intercultural understanding and communication, critical inquiry and creativity, an ethics of trust and empathy, and global engagement and collaboration.

Undergraduate courses in translation equip students with proficiency in the complex, multifarious context in which texts are produced and processed. Critical reflection on and engaged practice of translation present unparalleled opportunities for undergraduate academic inquiry.

Students who major in translation become learned users of translation and critically reflective participants in the global circulation of information, people, and cultures. They graduate ready to fill the growing demand for trained translators to serve as language mediators in global sectors such as business, communication, and diplomacy.

## Learning Outcomes

Students will:

- develop critical global literacies necessary for purposeful and productive participation in global professional and cultural environments;
- learn research methods to enhance creativity;
- develop foundational knowledge and practice of translation, in its various modes and contexts, necessary for graduate study in specialized translation programs;
- attain preprofessional competencies toward building a career as professional translators and language mediators; and
- gain awareness of the business and industrial dimensions of translation through networking and building communities.

## Requirements

The Bachelor of Arts with a major in translation requires a minimum of 120 s.h., including 33 s.h. of work for the major. A minimum of 21 s.h. for the major must be earned at the University of Iowa. Coursework in the major may not be taken pass/nonpass. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students are encouraged to declare the major after satisfying fourth-level proficiency or more advanced language study. Most students who successfully complete the major will need at least 6 s.h. of additional coursework beyond fourth-level proficiency in language study.

Students may count a maximum of 9 s.h. of coursework from another major, minor, or certificate toward the translation major. Students who earn a B.A. in translation may not earn a minor in translation for global literacy.

The major in translation prepares students to translate from another language into English or vice versa in a

variety of fields such as literary, legal, medical, or technical translation. All students should tailor their plan of study to their experience and objectives. Students interested in the major should meet with a faculty member associated with the major program as soon as possible to develop an individualized plan of study.

Courses listed in two or more categories may only be used toward one requirement.

The B.A. with a major in translation requires the following coursework.

Code	Title	Hours
Gateway and Foundation Courses		12
Workshops		6
Seminar		3
Electives		6
Outreach and Engagement		3
Capstone		3
Language Proficiency		
<b>Total Hours</b>		<b>33</b>

## Gateway and Foundation Courses

Code	Title	Hours
One of these:		
TRNS:1240/ CL:1240/CLSA:1040	World Literature in Translation I	3
TRNS:1241/CL:1241	World Literature: 1700 to Present	3
All of these:		
TRNS:2000	Translation and Global Society	3
TRNS:2578	Translation in the Humanities: Modes and Approaches	3
TRNS:3001	Reading for Translation: Text Analysis	3

## Workshops

Code	Title	Hours
This course:		
TRNS:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3
One of these:		
TRNS:3189	Undergraduate Translation Workshop II	3
TRNS:4050	Independent Study	1-3
ARAB:3060	Introduction to Arabic-English Translation	3
CHIN:3201/ TRNS:3202	Workshop in Chinese Literary Translation	3
CLSL:3200/ CLSG:3200/ TRNS:3205	Literary Translation Workshop in Ancient Greek and Latin	3
ENGL:4724	Advanced Writers' Seminar: Literary Translation	3
FREN:3232/ TRNS:3232	French Literary Translation Workshop	3
GRMN:3200/ TRNS:3200	Literary Translation from German	3

IWP:5205/ TRNS:5210	International Translation Workshop	3
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
KORE:3200	Introduction to Korean- English Translation	3
SPAN:3030	Translation Workshop: English to Spanish	3
SPAN:3050	Translation Workshop: Spanish to English	3
SPAN:4980	Advanced Translation: Spanish to English	3
WLLC:3208/ ASIA:3208/ TRNS:3208	Classical Chinese Literature Through Translation	3

## Seminar

Code	Title	Hours
One of these:		
TRNS:4131/ WLLC:4131	Critical Reading	3
TRNS:4470	Translating Style	3

## Electives

Students earn 6 s.h. in electives chosen from a list of approved courses in consultation with a faculty advisor. Many different courses can be used to satisfy the electives requirement.

The following are examples of possible elective choices.

Code	Title	Hours
ARTH:1020	Masterpieces: Art in Historical and Cultural Perspectives	3
ASIA:1510/ WLLC:1510	Ghost Stories and Tales of the Weird in Premodern Chinese Literature	3
FREN:1006	Global Sports and National Cultures	3
GRMN:2275	Scandinavian Crime Fiction	3
IS:2020	World Events Today!	3
JPNS:3208	Japanese Film	3
RUSS:1531	Slavic Folklore	3
SPAN:2050	Spanish in the United States	3

## Outreach and Engagement

Code	Title	Hours
One of these:		
TRNS:3491	Translation Internship	3
TRNS:3498/ ARAB:3498	Translate Iowa Project	3
Internship or study abroad experience, approved by the translation program		3

## Capstone

Code	Title	Hours
One of these:		
TRNS:4500	Undergraduate Capstone Project	3

Language-specific capstone related to translation in a department in the Division of World Languages, Literatures and Cultures	3
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## Language Proficiency

Students are required to have language proficiency in the world language from which the student plans to translate, demonstrated by successfully completing an advanced course taught in that language: either a 4000-level course or a course at the highest level available in that language at the University of Iowa. With the consent of the advisor, exceptions can be made for transfer courses or independent study to meet the language proficiency requirement.

The following are possible choices.

Code	Title	Hours
ARAB:3060	Introduction to Arabic- English Translation	3
CHIN:4103	Fourth-Year Chinese: First Semester	3
FREN:4020	Oral Expression in French II	3
FREN:4080	Post-Colonial Literature in France	3
FREN:4090	Quebec Literature	3
FREN:4110	Francophone Literature of the African Diaspora	3
FREN:4750	Topics in French Studies II	3
GRMN:4315	German Society Today	3
GRMN:4540	Literature in Film	3
GRMN:4730	Beautiful Souls and Scandalous Writing	3
ITAL:4634	The Italian Renaissance	3
ITAL:4660	Transcultural Texts and Translations	3
ITAL:4667	Modern Italian Fiction	3
ITAL:4668	Modern Italian Poetry and Theater	3
JPNS:4001	Fourth-Year Japanese I	3
KORE:4000	Fourth Year Korean: First Semester	3
PORT:4000	Topics in Luso-Brazilian Literature	3
PORT:4100	Topics in Luso-Brazilian Culture	3
RUSS:4111	Fourth-Year Russian I	4
SPAN:4150/ SLA:4300	Introduction to Spanish Syntax	3
SPAN:4160/ LATS:4160	Language, Justice, and the Law	3
SPAN:4170	Second Language Acquisition	3
SPAN:4190	Topics in Hispanic Linguistics	3
SPAN:4200	Discourse and Dialogue	3
SPAN:4205/ GHS:4205	Culture, Language, and Health	3
SPAN:4390/ LAS:4390	Topics in Spanish American Literature	3
SPAN:4815/ LAS:4815	Lost Childhoods: Marginal Children of Latin America	3
SWAH:3007	Advanced Swahili	3

SWAH:3090	Topics in Swahili	3
SWAH:4070	Swahili in the Modern World	3

## Related Majors and Programs

Translation majors can pursue second degrees or certificates in programs that emphasize language proficiency, writing arts, and international and global inquiry such as creative writing, global health, international business, international relations, international studies, screenwriting, world language education, and world languages, literatures, and cultures.

### Honors

#### Honors in the Major

Students majoring in translation have the opportunity to graduate with honors in the major. Departmental honors students must complete the required coursework for the major and an honors thesis or project. They must attain a g.p.a. of at least 3.50 in the major, and a cumulative University of Iowa g.p.a. of at least 3.33.

#### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the translation major.

### Career Advancement

The translation program approaches translation as a crucial dimension of global literacy and communication, and valuable career competency for the future. Graduates complete preprofessional training to obtain specializations to serve as translators in global sectors such as business, communication, and diplomacy where there is growing demand for language mediation.

Graduates are strongly encouraged to pursue graduate study in a range of programs, including specialized translation and interpreting programs; area studies; world languages, literatures, and cultures studies; education and teacher-training programs in schools, cultures, and society; global studies; international business; law school; nonprofit management; international development, and other fields in which language proficiency and language mediation are assets.

Graduates find opportunities in a range of professions for which language mediation is desirable:

- translation services,
- independent literary or legal/medical/business translation,
- international businesses,
- international agencies,
- publishing and media,
- refugee/immigrant service organizations,
- nongovernmental organizations (NGOs),
- schools and educational institutions, and
- research and academic institutions.

Translation graduates also receive fellowships to travel and work/teach abroad.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the fifth semester begins:** completion of fourth-level proficiency or two world language courses at the 2000 level or above, TRNS:2000 Translation and Global Society, and one additional major course.

**Before the seventh semester begins:** three more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** two more courses in the major.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Translation, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
The translation major requires 33 s.h. Students may count a maximum of 9 s.h. of coursework from another major, minor, or certificate toward the translation major.		
Students must have language proficiency in the world language from which they plan to translate, demonstrated by successfully completing either a 4000-level course or a course at the highest level available in that language at the University of Iowa. See General Catalog and consult an advisor for more information.		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
TRNS:2000	Translation and Global Society	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>b</sup>		4 - 5
Elective course <sup>c</sup>		1 - 3
CSI:1600	Success at Iowa	2
		<b>Hours</b>
		<b>13-17</b>

<b>Spring</b>		
TRNS:2578	Translation in the Humanities: Modes and Approaches	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>b</sup>		4 - 5
Elective course <sup>c</sup>		3

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**Hours 13-15**

**Second Year****Fall**

TRNS:3001	Reading for Translation: Text Analysis	3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: World Languages Third Level Proficiency <sup>b</sup>		4 - 5
Elective course <sup>c</sup>		3

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**Hours 13-14**

**Spring**

TRNS:1240 or TRNS:1241	World Literature in Translation I or World Literature: 1700 to Present	3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>b</sup>		4 - 5
Elective course <sup>c</sup>		3

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**Hours 13-14**

**Third Year****Fall**

TRNS:3179	Undergraduate Translation Workshop	3
TRNS:4131 or TRNS:4470	Critical Reading or Translating Style	3
Advanced language course or elective course <sup>c, e</sup>		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4

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**Hours 16**

**Spring**

TRNS:3189 or TRNS:4050	Undergraduate Translation Workshop II <sup>f</sup> or Independent Study	3
Advanced language course or elective course <sup>c, e</sup>		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
GE CLAS Core: Values and Culture <sup>d</sup>		3
Elective course <sup>c</sup>		3

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**Hours 15**

**Fourth Year****Fall**

Major: elective course in languages or humanities <sup>g</sup>		3
Major: outreach and engagement component <sup>h</sup>		3
Advanced language course or elective course <sup>c, e</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>d</sup>		3
Elective course <sup>c</sup>		3

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**Hours 15**

**Spring**

Major: capstone project <sup>i</sup>		3
Major: elective course in languages or humanities <sup>g</sup>		3

Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>	

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**Hours 15**

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**Total Hours 113-121**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

c Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students must demonstrate language proficiency by successfully completing either a 4000-level course or a course at the highest level available in that language at the University of Iowa. Students should continue language study if proficiency has not yet been reached. See General Catalog and consult an advisor for more information.

f See General Catalog for full list of approved courses.

g Students complete 6 s.h. in elective courses in consultation with a faculty advisor. See General Catalog for examples of acceptable choices; see advisor for full list of approved courses.

h Students can complete the outreach and engagement requirement in one of three ways: TRNS:3498 Translate Iowa Project, an internship registered as TRNS:3491, or another internship or study abroad experience approved by the translation program.

i Students must complete TRNS:4500 or an approved language-specific capstone in a Division of World Languages, Literatures and Cultures department.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Translation for Global Literacy, Minor

## Requirements

The undergraduate minor in translation for global literacy requires a minimum of 18 s.h., including a minimum of 12 s.h. in courses taken at the University of Iowa. At least 12 s.h. of coursework must be taken in courses numbered 2000 or above. Students must maintain a cumulative g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Students are encouraged to declare the minor after satisfying the GE CLAS Core [p. 20] World Languages requirement or during more advanced language study. Most students who successfully complete the minor will need at least 6 s.h. of additional coursework beyond the GE CLAS Core requirement in language study.

Students may count a maximum of 6 s.h. of coursework taken for each major, minor, or certificate program toward the requirements for the minor. Students who earn a B.A. in translation may not earn a minor in translation for global literacy.

All students should tailor their plan of study to their experience and objectives. Students interested in the minor should meet with a faculty member associated with the minor program as soon as possible to develop an individualized plan of study.

Courses listed in two or more categories may only be used toward one requirement.

The minor in translation for global literacy requires the following coursework.

Code	Title	Hours
	Core Course	3
	Translation Courses	6
	Language, Linguistics, Literature, and Culture Courses	6
	Capstone Course	3
	<b>Total Hours</b>	<b>18</b>

## Core Course

Code	Title	Hours
This course:		
TRNS:2000	Translation and Global Society	3

## Translation Courses

Code	Title	Hours
6 s.h. from these:		
TRNS:3179/ CLSA:3979/ ENGL:3850	Undergraduate Translation Workshop	3
ASIA:3208/ TRNS:3208/ WLLC:3208	Classical Chinese Literature Through Translation	3
ASLE:2500	Introduction to Interpreting	3-4

CHIN:3201/ TRNS:3202	Workshop in Chinese Literary Translation	3
ENGL:3724	Writers' Seminar: Literary Translation	3
ENGL:4724	Advanced Writers' Seminar: Literary Translation	3
FREN:3232/ TRNS:3232	French Literary Translation Workshop	3
JPNS:3201/ TRNS:3201	Workshop in Japanese Literary Translation	3
KORE:3200	Introduction to Korean-English Translation	3
SPAN:3030	Translation Workshop: English to Spanish	3
SPAN:3050	Translation Workshop: Spanish to English	3
SPAN:4980	Advanced Translation: Spanish to English	3

## Language, Linguistics, Literature, and Culture Courses

Code	Title	Hours
6 s.h. in this area (the following are sample courses):		
TRNS:4040	Topics in Translation	3-4
TRNS:4480	Literature and Translation	3
ASIA:2222/ GWSS:2222/ WLLC:2222	Women in Premodern East Asian Literature	3
FREN:3060	Introduction to Reading and Writing in Literature	3
GRMN:3501	German Writers Engaged	3
GRMN:3550	The Politics of Remembrance in German Multicultural Literature and Film	3
JPNS:3203	Modern Japanese Fiction in Translation	3
JPNS:3204	Topics in Japanese Literature in Translation	3
SPAN:2300	Introduction to Reading Literature	4
Other courses approved by advisor (students can select from a wide range of options)		

## Capstone Course

Code	Title	Hours
One of these:		
TRNS:4500	Undergraduate Capstone Project (consult advisor; credit earned toward certificate should total 18 s.h.)	3
	A departmental capstone course in which a project on translation is completed (must be approved by advisor)	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Translation for Global Literacy, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

The undergraduate minor in translation and global literacy requires a minimum of 18 s.h., including a minimum of 12 s.h. in courses taken at the University of Iowa.

Students must maintain a cumulative GPA of at least 2.00 in all courses for the minor and in all UI courses for the minor.

Coursework in the minor may not be taken pass/nonpass.

At least 12 s.h. of coursework must be taken in courses numbered 2000 or above.

Students may count a maximum of 6 s.h. of coursework taken for each major, minor, or certificate program toward the requirements for the minor.

Students interested in the minor should meet with the faculty advisor associated with the minor program as soon as possible to develop an individualized plan of study.

		Hours	0
<b>First Year</b>			
<b>Spring</b>			
TRNS:2000	Translation and Global Society	3	
		<b>Hours</b>	<b>3</b>
<b>Second Year</b>			
<b>Fall</b>			
Minor: translation course or language, linguistics, literature, and culture course <sup>a, b</sup>		3	
		<b>Hours</b>	<b>3</b>
<b>Spring</b>			
Minor: translation course or language, linguistics, literature, and culture course <sup>a, b</sup>		3	
		<b>Hours</b>	<b>3</b>
<b>Third Year</b>			
<b>Fall</b>			
Minor: translation course or language, linguistics, literature, and culture course <sup>a, b</sup>		3	
		<b>Hours</b>	<b>3</b>
<b>Spring</b>			
Minor: translation course or language, linguistics, literature, and culture course <sup>a, b</sup>		3	
		<b>Hours</b>	<b>3</b>

### Fourth Year

#### Fall

TRNS:4500	Undergraduate Capstone Project	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>18</b>

- a Students must complete 6 s.h. of "language, linguistics, literature, and culture" coursework. There are many different courses that can count toward this requirement. Please consult with your advisor to choose coursework.
- b Students must complete 6 s.h. of translation coursework. See the General Catalog for a list of approved courses.



# Literary Translation, M.F.A.

## Learning Outcomes

Students will be able to demonstrate:

- skills and knowledge of literary translation practice as a creative art;
- broad knowledge of the professional field of literary translation;
- familiarity with the cultural and literary context of the student's source language;
- understanding of literary translation as a critical and reflective practice, and of the history and contemporary discourse on translation theories; and
- ability to independently complete a literary translation project of scope and sophistication.

## Requirements

The Master of Fine Arts program in literary translation requires 48 s.h. of graduate credit, including a thesis. Students must maintain a cumulative g.p.a. of at least 2.75. They typically complete the program and graduate in two to three years.

Translators in the program focus on creating works that can convey the distinctness of the original languages and the immediacy of contemporary languages, whether poetry, fiction, or drama. Students consider ideas of literariness, style, cultural politics, authority, and how these come into play in the relationships between authors and their texts, authors and translators, translations and readers, and in the media landscapes in which these circulate.

At the core of the M.F.A. program are the workshops, TRNS:6555 Translator-in-Residence Workshop and TRNS:7460 Translation Workshop, which every student must take for a minimum of 12 s.h. of credit. Depth in the literature and culture of the source language, creative writing (translation is considered a writing art), translation theory and history, and contemporary literary theory are basic curricular requirements, supplemented with elective courses in which students may develop an area of special interest in consultation with their advisors.

During the first year, each student has an advisory committee of two faculty members: one from the translation program, who is the student's primary advisor; and one from a department in the Division of World Languages, Literatures and Cultures or from one of the M.F.A. writing programs. A third member joins the committee during the second year, when a student submits the thesis proposal. At least one member of the committee should be competent in the student's source language.

The M.F.A. with a major in literary translation requires the following work.

## Required Courses

Code	Title	Hours
All of these (36 s.h.):		
TRNS:6000	The Craft and Contexts of Translation (taken three semesters for 1 s.h. each semester)	3

TRNS:6459	Issues in Translation	3
Courses in literature and culture of the source language		9
Courses in creative writing (chosen in consultation with advisor)		6
Additional course in theory (chosen in consultation with advisor)		3
12 s.h. of workshop courses (each course taken at least twice):		
TRNS:6555	Translator-in-Residence Workshop	3
TRNS:7460	Translation Workshop	3

## Electives

Code	Title	Hours
Students earn 9 s.h. in electives of their choice, or from additional coursework in translation:		
TRNS:4040	Topics in Translation	3-4
TRNS:4480	Literature and Translation	3
TRNS:5491	Translation Internship	1-2
TRNS:5500	Advanced Translation Practice	1-3

## Thesis and Examination

Code	Title	Hours
One of these:		
TRNS:6400	Thesis	3
TRNS:6444	Thesis Workshop	3

Students earn 3 s.h. for the thesis, which is a translated collection of poems, literary essays, short stories, a short novel, or a drama with an introduction that sets the work in appropriate context. The introduction should include a critical discussion of issues and problems related to the translation; it should present a rationale for the translator's approach and strategies, based on interpretation, analysis of the leading features, structure, style, or authorial objectives of the source text. The source text should be a work that has not been translated previously or, at the discretion of the advisory committee, a work whose previous translation is judged to be outdated or inadequate in some respect. An oral defense of the thesis examines the student's translation and the introductory essay in detail.

## Admission

Applicants to the program are evaluated mainly on a writing portfolio. The portfolio should include translations, including source texts, and an original critical literary essay or literary writing in English; a statement of purpose; and three letters of recommendation. Applicants should provide evidence of advanced competence in their source language—normally at least three years of college-level work or the equivalent—and substantial preparation in English literature. Availability of faculty expertise in the applicant's source language and culture is considered in admission decisions.

All applicants must submit their scores on the Graduate Record Examination (GRE) General Test and transcripts from previous college-level study. Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as

a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

The program nominates up to two newly admitted, qualified students for the Iowa Arts Fellowship, a full-support fellowship awarded by the Graduate College each year. In addition, qualified students may receive teaching assistantships or part-time graduate assistantships. Students must apply for assistantships and other support; contact the translation program and the Office of Student Financial Aid for information.

## Career Advancement

Graduates have gone on to work in the world of professional publishing as editors and reviewers or as free-lance translators; to become university professors after earning a Ph.D.; and to pursue other careers involving cross-cultural and artistic exchange. In recent years, publishers of works by translation alumni have included Greywolf Press, Seven Stories Press, Autumn Hill Books, Melville House, Words Without Borders, *The Iowa Review*, *91st Meridian*, Two Lines Press, *Circumference Poetry in Translation*, *The Literary Review*, Passport Publications and Media Corporation, *Absinthe*, and others.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Literary Translation, M.F.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
48 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
TRNS:6000	The Craft and Contexts of Translation <sup>b</sup>	1
TRNS:6459	Issues in Translation	3
TRNS:7460	Translation Workshop <sup>c</sup>	3
Creative writing course <sup>d</sup>		3
Literature and culture of the source language course <sup>d</sup>		3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
TRNS:6000	The Craft and Contexts of Translation <sup>b</sup>	1
TRNS:7460	Translation Workshop <sup>c</sup>	3

Creative writing course <sup>d</sup>		3
Literature and culture of the source language course <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>13</b>

### Second Year

#### Fall

Thesis Proposal		
TRNS:6000	The Craft and Contexts of Translation <sup>b</sup>	1
TRNS:6555	Translator-in-Residence Workshop <sup>c</sup>	3
Literature and culture of the source language course <sup>d</sup>		3
Theory course <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>13</b>

#### Spring

TRNS:6400	Thesis <sup>f</sup>	3
or TRNS:6444	or Thesis Workshop	
TRNS:6555	Translator-in-Residence Workshop <sup>c</sup>	3
Elective course <sup>e</sup>		3
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>48</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Taken three times for 1 s.h. each semester.

c Complete workshop courses TRNS:6555 and TRNS:7460 for a total of 12 s.h. by taking each course twice.

d Work with faculty advisor to determine appropriate graduate level coursework and sequence.

e Students earn 9 s.h. in electives of their choice, or from additional coursework in translation; work with faculty advisor to select appropriate graduate coursework.

f Students earn 3 s.h. for the thesis, which is a translated collection of poems, literary essays, short stories, a short novel, or a drama with an introduction that sets the work in appropriate context. An oral defense of the thesis examines the student's translation and the introductory essay in detail.

g Oral thesis defense.

# Literary Translation, Graduate Certificate

## Requirements

The graduate Certificate in Literary Translation requires at least 15 s.h. of credit, including coursework in translation practice, techniques, and theories. Students must maintain a g.p.a. of at least 3.00 in work for the certificate. Students may earn the certificate while working toward a graduate degree. Nondegree students also can complete the certificate.

Translation workshops and coursework in translation theory are central to the certificate program since they are essential to the training of literary translators.

Certificate students enroll in a combination of the following courses determined in consultation with the director of the M.F.A. program in literary translation.

Code	Title	Hours
TRNS:4040	Topics in Translation	3-4
TRNS:4480	Literature and Translation	3
TRNS:5500	Advanced Translation Practice	1-3
TRNS:6459	Issues in Translation	3
TRNS:7460	Translation Workshop	3

## Admission

Applicants should submit a one-page statement of interest and a letter from their academic advisor indicating support for entrance to the program. Admission decisions are made when an application is received and contingent on enrollment capacity. Students must be in good standing in their degree programs.

# Tippie College of Business

## Dean

- Amy L. Kristof-Brown

## Senior Associate Dean

- Barrett W. Thomas

## Associate Dean, Graduate Management Programs

- Jennifer J. Blackhurst

## Associate Dean, Research and Ph.D. Programs

- Nick Street

## Associate Dean, Undergraduate Programs

- Charles W. Keene

**Undergraduate major:** B.B.A.

**Undergraduate minors:** business administration; economics

**Undergraduate certificates:** entrepreneurial management; international business; risk management and insurance

**Professional degree:** M.B.A.

**Professional certificates:** business fundamentals; corporate finance; finance; financial decision-making; innovation; investment management; leadership; marketing; responsible resource management

**Graduate degrees:** M.A.; M.Ac.; M.S.; Ph.D.

**Graduate certificate:** business analytics

**Website:** <https://tippie.uiowa.edu/>

The Tippie College of Business is composed of six academic departments: accounting, business analytics, economics, finance, management and entrepreneurship, and marketing.

The college's undergraduate and graduate programs are accredited by AACSB International—the Association to Advance Collegiate Schools of Business.

Research, executive development, and education activities are supported by these centers and institutes: America's Small Business Development Center, Emmett J. Vaughan Institute of Risk Management and Insurance, Frank Business Communication Center, Hawkinson Institute of Business Finance, Institute for International Business, Iowa Electronic Markets Institute, John Pappajohn Entrepreneurial Center, Marketing Institute, Pomerantz Career Center, RSM Institute of Accounting Education and Research, and the Tippie Analytics Cooperative.

Integrity and honesty are essential to success in all facets of life. The purpose of the undergraduate Tippie Honor Code and the M.B.A. and Master's Honor Code is to promote honorable and ethical behavior. Students admitted to the college or enrolled in courses offered by the college are required to uphold the honor code.

## Facilities and Resources

The Tippie College of Business is located in the John Pappajohn Business Building, at the heart of the campus. The Pappajohn Business Building contains seminar and conference rooms, a computer laboratory, two auditoriums, two computer classrooms, a behavioral laboratory, a restaurant (Pat's

Diner), a café and study space called Biz Hub, the Marvin A. Pomerantz Business Library, and a variety of classroom facilities.

The computer laboratory in the John Pappajohn Business Building serves the instructional programs of the college, and the staff maintains a current library of computational programs to accommodate users' needs. Business students also have access to the full range of services offered by the University's Information Technology Services and the extensive research materials and other resources of the University of Iowa Libraries.

## Alumni Relations

The Tippie College of Business alumni network numbers more than 50,000 graduates worldwide. Alumni have access to the college's wide array of resources, including the in-house Office of Alumni Relations. The college's director of alumni relations, the staff in the Undergraduate Program Office, the specialized master's degree programs, and the Master of Business Administration Program maintain relationships with alumni. The alumni office also hosts individual visits, receptions, speakers, and other events on campus and in cities nationwide and around the world.

By providing an up-to-date email address, alumni will receive e-invites to Tippie College of Business events and virtual programs. If alumni have updated their home mailing address with the college within the past two years, they will receive copies of the biannual alumni publication, *Tippie Magazine*. Members of the Business Student Ambassadors Organization (BSAO) often serve as hosts and guides for alumni who visit the college, and the Young Alumni Board works to strengthen ties between the college and more recent graduates.

To learn more about staying in touch, see Alumni on the college's website.

## Programs

### Undergraduate Programs of Study

The Tippie College of Business offers the Bachelor of Business Administration (B.B.A.) with majors in accounting, business analytics and information systems, economics, finance, management, and marketing, and it collaborates with the College of Liberal Arts and Sciences to offer an undergraduate major in economics for Bachelor of Arts and Bachelor of Science students. See Bachelor of Business Administration [p. 1212] for information about requirements common to all B.B.A. majors as well as the admission and academic rules and procedures. View the Tippie College of Business departments in the Catalog for information about the college's majors.

The college also offers combined undergraduate degrees with the College of Engineering and the College of Liberal Arts and Sciences, as well as the 3+3 program with the College of Law; see Combined Programs [p. 1219] in the Bachelor of Business Administration, B.B.A. section of the Catalog. The John Pappajohn Entrepreneurial Center also collaborates with the College of Liberal Arts and Sciences to offer the Bachelor of Arts in enterprise leadership [p. 465], which is offered both on campus and online.

The college offers the undergraduate Certificate in Entrepreneurial Management [p. 1272] and the Certificate in Risk Management and Insurance [p. 1329]. It collaborates

with the College of Engineering to offer the Certificate in Technological Entrepreneurship [p. 1686] and with the College of Liberal Arts and Sciences to offer the Certificate in International Business [p. 1286].

The college also offers a minor in economics [p. 1263] for all students and a minor in business administration [p. 1224] for non-business students.

## Graduate and Professional Programs of Study

The Tippie College of Business offers several graduate and professional degree programs: the Master of Accountancy (M.Ac.), the Master of Business Administration (M.B.A.), the Master of Science in business analytics and the Master of Science in finance, the Doctor of Philosophy in business administration, and the Doctor of Philosophy in economics. The M.A. in business administration is a terminal degree; students are admitted into the Ph.D. in business administration degree program. For information about the M.Ac. and the Ph.D. in economics, see Master of Accountancy [p. 1208] and Ph.D. in economics [p. 1265] in the Catalog.

For information about the graduate Certificate in Business Analytics and M.S. in business analytics, administered jointly by the Department of Business Analytics and Graduate Management Programs, see Certificate in Business Analytics [p. 1241], M.S. in business analytics (career) [p. 1233], and M.S. in business analytics (professional) [p. 1237] in the Catalog.

To view more about the Master of Science in finance, administered jointly by the Department of Finance and Graduate Management Programs, see M.S. in finance [p. 1281] in the Catalog.

For information on M.B.A. programs, see Master of Business Administration Program [p. 1313] in the Catalog.

For a description of the Ph.D. in business administration, see Ph.D. in business administration [p. 1243] in the Catalog. The Ph.D. is an interdepartmental degree; programs leading to the degree are offered by the Departments of Accounting [p. 1202], Business Analytics [p. 1226], Finance [p. 1274], Management and Entrepreneurship [p. 1295], and Marketing [p. 1306].

## CIMBA Italy

CIMBA Italy offers semester and summer study abroad programs for undergraduate and graduate students in Paderno del Grappa, an hour northwest of Venice. Students who attend the programs come from a variety of public and private universities worldwide.

At CIMBA, students immerse themselves in a wide range of rigorous courses, including innovative leadership and development programming, while living amidst the Venetian countryside in one of the most popular travel and study destinations in the world. Business and cultural immersions begin for students the minute they arrive on campus. All courses are taught in English by professors from top universities throughout the United States and Europe. CIMBA programs offer unparalleled amounts of travel time for students to explore Italy and beyond, as well as cultural exploration opportunities. For more information, see the CIMBA Italy website.

## Centers and Institutes

### America's Small Business Development Center

Since 1981, America's Small Business Development Center at the University of Iowa has played an important role in helping enterprising Iowans manage or start their own successful businesses. The center provides support for small business owners and entrepreneurs. Its personnel are trained to meet the varied needs of small business management, including marketing, financing, human resource planning, cash flow analysis, product commercialization, market research and analysis, strategic planning, international trade, and advertising. Services are free and confidential.

### Emmett J. Vaughan Institute of Risk Management and Insurance

The Emmett J. Vaughan Institute of Risk Management and Insurance prepares students for risk management careers. The institute's certificate program is open to undergraduate students pursuing any major. In addition to the coursework, the Institute provides professional development, including networking events with industry speakers, scholarships, a mentorship program with young alumni, and a job fair.

There are great career opportunities in risk management and insurance. The industry needs to fill 400,000 jobs by 2024 in the United States. There are 228 insurance companies in Iowa; 29 major carriers have headquarters in the state. Within the United States, there are only 60 risk management insurance programs. The institute's Certificate in Risk Management and Insurance [p. 1329] assists students in the competition for those jobs.

Graduates in the program begin their careers as corporate risk managers, risk management consultants, employee benefits managers, insurance brokers, underwriters, personal banking wealth managers, asset managers, financial analysts, claims adjusters, producers (sales), actuaries, and auditors.

The Tippie College of Business, in partnership with the Iowa insurance industry, developed the Vaughan Institute in 2005. The institute provides innovative education and research on contemporary risk management practice, while laying a business foundation for a productive future. In 2016, the Vaughan Institute was labeled a Global Center of Insurance Excellence; only 12 universities and colleges in the United States have been awarded this honor.

### Frank Business Communication Center

The Frank Business Communication Center is the hub for all Tippie College of Business communication initiatives. The center provides individual and team tutoring for written, oral, and visual communication assignments for all Tippie class assignments, as well as for résumés, cover letters, and interview preparation. It develops, directs, and delivers all undergraduate and specialty master's communication courses in the college. At the graduate level, the center supports M.B.A. communication curriculum development and engages with Ph.D. students through extensive wrap-around summer programming in writing instruction and job talk/presentation preparation.

The Frank Center partners with Tippie academic departments to establish departmental communication plans and initiatives that develop discipline-specific communication skills. It also oversees the Department of Accounting writing program, which integrates communication assignments across the required accounting curriculum courses. The Frank Center engages with diversity, equity, and inclusion (DEI) practices as power communication skills. It figures diversity as a sharing of different ways to be effective rather than an accommodation to a preferred way of doing or being. The required course, BUS:3000 Business Communication and Protocol, particularly integrates DEI practices into its semester-long curriculum.

The Frank Center helps undergraduate students prepare for nationwide competitions, such as the annual National Diversity Case Competition and the Eller Ethics in Business Case Competition. The Center's staff facilitates the annual Mary Thomas Prappas Business Ethics Essay Competition and the Norman J. Kallaus Business Communication Scholarship Competition.

The center currently houses four instructional track faculty members, two full-time staff members, and over 40 additional part-time faculty, staff, and peer consultants, as well as post-graduate professionals with specialized expertise in multiple writing formats and genres. Along with dedicated tutoring spaces, its facilities include the One Button Studio, where students can practice and record elevator pitches, team presentations, or other oral and visual communication assignments.

## Hawkinson Institute of Business Finance

The Hawkinson Institute of Business Finance facilitates career opportunities in investment banking and related fields for students in the Tippie College of Business. The institute prepares high-achieving undergraduates for interviews, internships, and full-time jobs in the industry. Criteria for admission to the institute include a strong academic record, involvement in campus and community activities, high motivation, strong interpersonal skills, and demonstrated interest in business and financial markets.

Hawkinson Scholars participate in a course taught by former investment bankers that features guest speakers from leading banks, private equity firms, and hedge funds. Hawkinson Scholars also receive intensive education in equity valuation, financial market dynamics, soft skills, and more. An extensive network of dedicated Hawkinson alumni serve as mentors.

The institute has worked to broaden entry-level employment opportunities for Iowa graduates, who land jobs at prestigious firms such as Goldman Sachs, Barclays, Bank of America, Merrill Lynch, and JP Morgan. Graduating Hawkinson Scholars enjoy a 100 percent placement rate.

## Institute for International Business

The Institute for International Business (IIB) works to promote entrepreneurship as a tool to empower people in developing countries and frontier markets while at the same time providing Iowa students with cross-cultural and international business skills. In so doing, IIB is strengthening links between the University of Iowa's Tippie College of Business, Iowa communities, and the world.

The IIB's international entrepreneurship and global engagement programs have the following goals:

- Provide an avenue for students to obtain cross-cultural skills through global experiential learning projects.
- Offer a vehicle for citizen diplomacy where students can collaborate and exchange ideas with their peers in developing countries.
- Offer a platform to faculty members to foster social entrepreneurship projects in developing countries.
- Empower people in developing countries through entrepreneurship.

## Iowa Electronic Markets Institute

The Iowa Electronic Markets Institute supports scholarship in prediction markets and experimental economics. It operates the Iowa Electronic Markets (IEM), a small-scale, real-money online futures markets where contract payoffs are based on real-world events such as political outcomes, the U.S. federal funds rate, companies earnings per share, and stock price returns. Known internationally as the genesis of modern prediction markets, the Iowa Electronic Markets are used as tools for research and teaching.

## John Pappajohn Entrepreneurial Center

The John Pappajohn Entrepreneurial Center (Iowa JPEC) serves as the hub for entrepreneurship education and outreach at the University of Iowa. Iowa JPEC prepares entrepreneurial-minded leaders and innovators through interdisciplinary academic programs that integrate applied classroom learning, community and international engagement, and extensive cocurricular experiences. It also supports students, faculty, and community members seeking to launch a business by providing training, mentoring, technical assistance, capital, and physical space to help them move from idea to enterprise.

Students earning the Bachelor of Business Administration degree who are majoring in management [p. 1295] may complete the major's entrepreneurial management track. This track is specifically designed to prepare students to apply entrepreneurship and innovation approaches and strategies to successfully lead teams and accelerate career success. Within the program, students have multiple opportunities to work on real-world challenges facing Iowa-based companies, learn from business leaders and entrepreneurial faculty who have built successful companies, and be introduced to alumni and executives to help develop a strong professional network.

Students working toward any bachelor's degree may earn the Certificate in Entrepreneurial Management [p. 1272]. Both programs are offered on campus at the Tippie College of Business. The certificate also is offered online through Distance and Online Education [p. 2181]. Students may earn the Certificate in Entrepreneurial Management in addition to their undergraduate degree unless they are currently pursuing the B.B.A. in management with the entrepreneurial management track or the B.A. in enterprise leadership.

Graduate and professional students may enroll in advanced entrepreneurship courses; see Master of Business Administration Program [p. 1313] in the Catalog.

Students in the College of Liberal Arts and Sciences may earn a Bachelor of Arts degree with a major in enterprise leadership [p. 465]. Students develop a solid foundation in entrepreneurial management as well as leadership and communication skills that prepare them for a variety of professional career opportunities or position them to start their own business. Students are able to apply their innovative

problem-solving and critical thinking skills to contemporary issues, develop strategies to seize upon opportunities, and build and lead successful teams. The major presents a unique blend of skills, theory, and content, encouraging students to apply their knowledge and skills to entrepreneurial concepts and ventures. Offering a combination of business and liberal arts approaches, the major allows students to enhance their skills in communication, leadership, innovation, and critical thinking. The major in enterprise leadership is offered jointly by the John Pappajohn Entrepreneurial Center and the College of Liberal Arts and Sciences; the degree is awarded by the College of Liberal Arts and Sciences. The degree is offered on campus and online.

Iowa JPEC and the Department of Management and Entrepreneurship offer the Entrepreneurial Leadership Academy (ELA) for select undergraduate students earning the B.B.A. in management, the B.A. in enterprise leadership, or one of the entrepreneurship certificates. The ELA is a two-course program designed to help students develop advanced leadership and project management skills and then apply them to a strategic entrepreneurial management consulting project. Students work closely with alumni and business experts to build their professional network and receive assistance in pursuing high quality professional career opportunities.

The center offers the Iowa Innovation Academy (IIA) for select undergraduate students earning the B.B.A. in management with the entrepreneurial management track, the B.A. in enterprise leadership, or one of the entrepreneurship certificates. The IIA is a two-course advanced entrepreneurial practicum designed to teach students the latest tools in innovation, design thinking, entrepreneurship, and business modelling. Students experience what entrepreneurs and corporate innovators go through when advancing ideas in the business world. Students also work closely with alumni and entrepreneurial leaders to build their professional network and position themselves for success.

College of Engineering students may earn the Certificate in Technological Entrepreneurship [p. 1686] in addition to their undergraduate degree. The certificate allows students to develop a competitive advantage in the professional workplace by developing their business strategy, entrepreneurship, innovation, and leadership skills. Students also learn how to commercialize their innovations—critical for working in industry as well as for pursuing entrepreneurial ventures. Students learn from a select group of faculty who have built and lead successful ventures. The program combines engineering technology, entrepreneurship, and business education to position students for success in today's competitive work environment.

Iowa JPEC also offers students additional opportunities to develop their professional skills and network with entrepreneurial leaders and industry experts through business consulting projects and internships, sponsorship of applied workshops and seminars, coordination of company visits, support of student participation at regional and national conferences, and fostering global awareness through international trips and consulting. It also sponsors several entrepreneurial student organizations designed to support students' professional and career development.

For students who may want to pursue the creation of a new business and/or develop a new product or software application while at the University of Iowa, Iowa JPEC is dedicated to training and support of student entrepreneurs. Welcoming both individual students and teams, the Startup

Incubator program is located in the Bedell Entrepreneurship Learning Laboratory (BELL), providing a physical home for student businesses on campus. Participants have access to a variety of resources including collaborative workspace and equipment, one-on-one mentoring from experienced professionals, workshops, trainings, networking, and funding opportunities.

The Hawkeye Summer Accelerator program and the Iowa Startup Games are two additional programs designed to help student teams identify new business opportunities, while they provide training on how to launch new ventures. Several campus, statewide, and national funding competitions also are available to support student startups.

Iowa JPEC offers programs and services to community members to enhance the region and state's entrepreneurial ecosystem. Venture School is an innovative training program focused on real-world experimentation, customer discovery, and Lean LaunchPad methodologies. Iowa JPEC also offers student consulting services led by faculty members through business consulting courses and the Institute for International Business, as well as business advising and mentoring through the Iowa Small Business Development Center, numerous workshops, and networking events. Iowa JPEC partners with entrepreneurial service organizations, economic development organizations, and private sector businesses to advance entrepreneurship and economic development across Iowa. The Jacobson Institute is committed to infusing the entrepreneurial mindset with 21st-century skills in K-12 students through teacher professional development and innovative curricula.

## Marketing Institute

The Marketing Institute prepares students for today's diverse and competitive job market in many areas of marketing, including marketing strategy, market research, marketing analytics, advertising, and sales.

The Marketing Institute is a three-semester marketing elective program in which students earn 6 s.h. of elective credit. Students also fulfill both the research and experiential course components of Tippie RISE by successfully completing the program.

Undergraduate students apply in the fall, and 16-20 students are admitted. Admittance criteria include academic performance, leadership, interpersonal skills, and executive potential. Field immersion projects are a major component of the program. Field projects include student work as consultants for a variety of clients, including start-ups, multimillion- or billion-dollar businesses or nonprofits. Students gain hands-on experience in identifying and solving marketing-related issues and providing recommendations to their assigned client. In addition, students are mentored by an advisory board of top executives from companies that include ASM Global, Chicago Blackhawks, Hormel, John Deere, Twitter, McGraw Hill, Medtronic, Meredith Corporation, Newell Brands, Reckitt Benckiser, Principal Financial Group, and Unilever.

The Marketing Institute and its advisory board work together to foster networking opportunities and provide career guidance that help students use their skills and talents to develop rewarding careers.

## Pomerantz Career Center

Career development and campus recruiting services are provided by the Marvin A. and Rose Lee Pomerantz Career Center. Professional career coaches and online resources

provide University undergraduate students with assistance on résumés, cover letters, internship and job searches, employer research, interviewing skills, negotiation of job offers, graduate school personal statements, as well as drop-in sessions with trained student career peer advisors. The center helps students choose a major and identify careers related to industry interests through online assessment tools and customized advising. Career coaches specialize in specific career interest communities to assist students. The center also presents multiple fall and spring semester career fairs and networking events. Campus recruitment is facilitated through Handshake, where students can search and apply for full-time employment, internships, and student employment positions. Students may participate in mock interviews and on-campus interviews for full-time positions and internships during the academic year. Additionally, the center offers career-related and professional development courses such as LS:2002 Career Leadership Academy Part 1: Leadership in Practice, LS:3002 Career Leadership Academy Part 2: Leadership in Action, CCP:1300 Major and Career Explorations, and CCP:1303 Successful Teamwork for the Workplace. For more information, contact the Pomerantz Career Center.

## RSM Institute of Accounting Education and Research

The RSM Institute of Accounting Education and Research fosters educational excellence in accounting at the University of Iowa, promotes high-quality research by Iowa accounting faculty members, and facilitates the development of doctoral students in accounting. The institute sponsors an annual national speaker series, an educational initiative that allows accounting students to expand their perspectives of accounting by bringing in external thought leaders and experts in different fields of accounting. The director of the institute also coordinates various research activities, including the ongoing PwC Accounting Research Workshops, the biennial Sidney Winter Lecture Series, and the accounting department's Sullivan Scholar in Residence series.

### Courses

Most Tippie College of Business courses are offered by the college's departments and programs. They are listed and described in the corresponding Catalog sections.

The college also offers the following nondepartmental courses for undergraduate students.

## Tippie College of Business Courses

**BUS:1200 Tippie College Direct Admit Seminar 1 s.h.**  
Facilitates an introduction to the undergraduate student experience in the Tippie College of Business; discussions of transition issues, academic skill acquisition, and professional goal setting. Requirements: admitted to the direct admission program.

**BUS:1300 First-Year Seminar 1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities and local businesses).

**BUS:1400 Pre-Business First-Year Seminar 1 s.h.**  
Connection to Tippie College of Business resources; support for student's pathway to admission to the Tippie College of Business; transition to college life, academic skill acquisition, and professional goal setting; for pre-business students. Requirements: pre-business standing.

**BUS:1999 Introduction to Research in Business 1 s.h.**  
Introduction to research in business including scope and methods of business research, questions for which business research seeks answers, and impact of business research on society; weekly seminars include discussion and exploration and serve as preparation for engaging in mentored research.

**BUS:2013 Introduction to Sustainability 3 s.h.**  
Introduction to sustainability knowledge, skills, and habits as a means to shape one's vision of a sustainable citizen; emphasis on basic skills of literacy, applied math, and finding information; traditional sustainability knowledge areas related to society, economy, and environment; intersecting themes (e.g., informed consumerism, eco-economics, and livable environments). GE: Sustainability. GE: Social Sciences. Same as GEOG:2013, SUST:2013, URP:2013.

**BUS:2200 Foundations for Success in Business 1 s.h.**  
Designed to facilitate business students' career exploration and professional development; students participate in a variety of career-related activities including informational interviews, networking events, guest speakers, and workshops; topics include exploring majors, researching career fields and associated qualifications, identifying experiential learning opportunities, networking with integrity, searching for internships, and developing professionalism.

**BUS:2300 Searching for Business Information 1 s.h.**  
Search concepts and sources specific to business information; subscription and government online research sites.

**BUS:2350 Introduction to Global Business: Asia Pacific 3 s.h.**  
Virtual exploration of business and culture in Asia Pacific with focus on Singapore, Hong Kong, Australia, and New Zealand; faculty-led study program includes lectures, readings, case studies, virtual business briefings, and cultural activities from the region. Prerequisites: ECON:1100. Requirements: admission to global business in Asia Pacific study abroad program.

**BUS:2360 Introduction to Global Business: Northern Italy 3 s.h.**  
Virtual exploration of the business and culture of Italy; instructor based in Italy; examination of business, social, financial, and political happenings in Italy and the European Union; hands-on cultural events using virtual reality headsets for city visits, live tours with interactive guides, hands-on cooking class, language lesson, and more; features industry speakers and opportunity to network with Italian students. Prerequisites: ECON:1100. Requirements: admission to global business Northern Italy study abroad program.



- BUS:2550 International Business in Asia Pacific** 3 s.h.  
International business in the Asia Pacific region and related management issues confronting small-medium enterprises and multinational enterprises in that region; topics include rise of the Association of Southeast Asian Nations (ASEAN), challenges and opportunities for trade growth and collaboration, and practical guidance on how to develop and sustain a competitive advantage in a fast growing and dynamic environment; offered by the international business in Sydney, Australia study abroad program through Tippie College of Business. Prerequisites: MGMT:2100. Requirements: admission to international business in Sydney, Australia study abroad program.
- BUS:3000 Business Communication and Protocol** 3 s.h.  
Foundation in business communication and protocol; composing business messages, organizing and reporting workplace data, developing business presentation and team-building skills, exploring issues pertaining to professional behavior. Prerequisites: RHET:1030 or (RHET:1040 and RHET:1060). Requirements: admission to Tippie College of Business and 30 s.h. earned.
- BUS:3025 Global Internship Preparation** 1 s.h.  
Classroom preparation for the Tippie Global Internship Program; includes interview preparation, host country research, internship goal setting, international business practices, cultural awareness and adjustment, and other preparation topics.
- BUS:3050 Business, Culture, and Society** 3 s.h.  
International business environment and interpersonal traits and skills expected of successful international businessperson; interdisciplinary overview of issues related to business in Western Europe; important cultural differences, the code of business and professional etiquette, business protocol, Italian business history, cultural appreciation, and executive legal/ethical concerns in the workplace; series of lectures, workshops, speakers, plant tours, and cultural events.
- BUS:3100 Academic Internship or Cooperative Education** 0 s.h.  
Participation in an internship or cooperative education; fulfills Tippie College of Business experiential learning requirement.
- BUS:3200 Advanced Business Presentation Workshop: Strategy and Implementation** 2 s.h.  
Advanced oral business presentation skills for solo, paired, and team presentations; suitable for students considering participating in case competitions; emphasis on articulating a particular strategy for an oral presentation and three areas of implementation—content structuring, visual design of PowerPoint slides, and vocal and physical delivery; how to integrate presentation technologies effectively, evaluate other speakers, speak clearly, use gestures appropriately, and engage the audience during the presentation and in question-and-answer sessions. Prerequisites: BUS:3000 with a minimum grade of B.
- BUS:3500 Tippie Senate** 1 s.h.  
For elected student representatives on the Tippie Senate.
- BUS:3600 Mentored Research** arr.  
Business research conducted by undergraduate students under faculty supervision.
- BUS:3800 Business Writing** 3 s.h.  
Series of practical projects; development of effective and persuasive business communication and analytical skills in public relations context.
- BUS:3900 Business Communication Internship I** 3 s.h.  
Opportunity for students to earn academic credit for serving as a peer tutor, an orientation and training assistant, or an administrative intern in the Judith R. Frank Business Communications Center.
- BUS:3910 Business Communication Internship II 1-3 s.h.**  
Continuation of BUS:3900; opportunity for students to earn academic credit for serving as a peer tutor, an orientation and training assistant, or an administrative intern in the Judith R. Frank Business Communications Center. Prerequisites: BUS:3900.
- BUS:4025 Certified Global Business Professional Exam Prep** 1 s.h.  
Preparation for the Certified Global Business Profession (CGBP) exam; topics include global business management, global marketing, supply chain management, and trade finance; students build knowledge and skills in areas of documentation, legal and regulatory compliance, intercultural awareness, technology, and resources; students will be eligible to sit for the CGBP exam upon completion; attainment of CGBP credential complements student's postsecondary education as it represents the achievement of advanced specialization in international business. Prerequisites: MGMT:2100 or ECON:1200. Corequisites: MGMT:3450. Requirements: 60 s.h. completed.
- BUS:4900 Academic Internship** arr.  
Professional internship experience with associated academic content (e.g., paper, coursework).
- BUS:4999 Honors Thesis in Business** arr.  
Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University of Iowa Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: BUS:1999.

# Accounting

## Chair

- Cristi A. Gleason

## Director, Undergraduate Program

- Kevin J. Den Adel

## Director, Master of Accountancy

- Thomas J. Carroll

## Director, Ph.D. Program

- Dain Donelson

## Director, RSM Institute of Accounting Education and Research

- Jaron Harp Wilde

**Undergraduate major:** accounting (B.B.A.)

**Graduate degrees:** M.Ac.; accounting subprogram for the Ph.D. in business administration

**Faculty:** <https://tippie.uiowa.edu/people?department=Accounting>

**Website:** <https://tippie.uiowa.edu/about/accounting-department>

The Department of Accounting offers a broad education that prepares undergraduate and graduate students for careers in auditing, corporate accounting, management consulting, taxation, government, not-for-profit organizations, and academia.

The department also collaborates with the College of Law to offer the combined M.Ac./J.D. program; see Combined Programs [p. 1209] under Master of Accountancy in this section of the Catalog. It also participates in the M.B.A. program; see the Master of Business Administration Program [p. 1313] in the Catalog.

## Accounting Program

The accounting program draws on curricula that provide a strong base of traditional technical subject matter and the skills needed for solving complex business problems. This framework of study enables students to continue professional growth over the entire span of their careers. The program emphasizes communication skills and provides the academic background required for leadership positions in business, government, and public accounting. It also qualifies students to take the Certified Public Accountant (CPA) examination.

The accounting program leads to a Bachelor of Business Administration with a major in accounting, which requires 120 s.h. of credit and the Master of Accountancy, which requires 30 s.h. of graduate credit. Students are granted the B.B.A. upon successful completion of the third and fourth years; they are granted the M.Ac. after successful completion of 30 s.h. beyond the B.B.A.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Accounting (Bachelor of Business Administration) [p. 1205]

### Graduate Programs of Study

#### Majors

- Master of Accountancy [p. 1208]
- Accounting subprogram for the Doctor of Philosophy [p. 1211] in Business Administration

## Courses

### Accounting Courses

- ACCT:1300 First-Year Seminar** **1 s.h.**  
Small discussion class taught by faculty member; topics chosen by instructor; may include outside activities (e.g., films, readings, visits to research facilities).
- ACCT:2100 Introduction to Financial Accounting** **3 s.h.**  
Accounting and financial reporting procedures used by business and not-for-profit entities; emphasis on accounting concepts and use of accounting information in making economic decisions. Requirements: sophomore or higher standing.
- ACCT:2200 Managerial Accounting** **3 s.h.**  
Basic topics in cost behavior, measurement, accumulation; use of cost data for relevant analysis, budgeting, performance evaluation. Prerequisites: ECON:1100 and ACCT:2100 and (MATH:1850 or MATH:1550 or MATH:1460 or MATH:1860 or MATH:1350 or MATH:1380).
- ACCT:3020 Financial Accounting and Reporting** **3 s.h.**  
External financial reporting practices in context of decisions by management, current and potential stockholders, financial analysts; emphasis on interpretation, use of financial statements. Prerequisites: ACCT:2200. Requirements: non-accounting major.
- ACCT:3100 Professional Accounting Seminar** **1 s.h.**  
Seminar topics, including accounting careers, curriculum, M.Ac. program, internships, CPA examination and other professional certificates, Beta Alpha Psi, ethics, and global standards. Offered fall semesters. Corequisites: ACCT:2200 or ACCT:3200.
- ACCT:3200 Income Measurement and Asset Valuation** **3 s.h.**  
Accounting rules that determine how economic events and transactions are described in published financial reports; emphasis on revenue and expense recognition, asset valuation, accrual accounting model. Prerequisites: ACCT:2100 with a minimum grade of B- and ACCT:2200 with a minimum grade of B-. Corequisites: ACCT:3400. Requirements: admission to Professional Program in Accounting.
- ACCT:3300 Valuation of Financial Claims** **3 s.h.**  
Current and long-term liabilities and stockholders' equity, off-balance sheet financing, cash flow statement, earnings-per-share, financial instruments. Prerequisites: ACCT:3200 and ACCT:3400. Corequisites: ACCT:3100.

- ACCT:3400 Introduction to Taxation** 3 s.h.  
Federal income taxation of individuals and businesses, including corporations, partnerships, and sole proprietorships; emphasis on developing a broad perspective on structure, administration, and rationale of federal income tax system. Prerequisites: ACCT:2100 with a minimum grade of B- and ACCT:2200 with a minimum grade of B-. Corequisites: ACCT:3200. Requirements: admission to Professional Program in Accounting.
- ACCT:3450 Tax Practicum (VITA) I** 0-1 s.h.  
Transformative opportunity to work on real world tax problems with real clients; application of skills learned in classroom to real world problems; development of crucial accounting career soft skills including communication (explaining complicated ideas in simple language), moving out of one's comfort zone, working as a team, and having an appreciation for the importance of community service. Corequisites: ACCT:3400. Requirements: acceptance to undergraduate accounting program.
- ACCT:3451 Tax Practicum (VITA) II** 2 s.h.  
Transformative opportunity to work on real world tax problems with real clients; application of skills learned in classroom to real world problems; development of crucial accounting career soft skills including communication (explaining complicated ideas in simple language), moving out of one's comfort zone, working as a team, and having an appreciation for importance of community service. Requirements: successful completion of ACCT:3450 and certification on the most recent Internal Revenue Service certification tests.
- ACCT:3500 Advanced Tax Topics** 3 s.h.  
Taxation of corporations and partnerships from organization through liquidation; relative merits of conducting business as C corporation, partnership, S corporation; the alternative minimum tax; introduction to tax research. Prerequisites: ACCT:3400. Requirements: senior standing.
- ACCT:3550 Financial Statement Analysis** 3 s.h.  
How to analyze published financial statements; practical experience using financial statement information to assess accounting quality, historical performance, forecasted performance, credit risk, firm value. Prerequisites: ACCT:3020.
- ACCT:3600 Accounting Information Systems** 3 s.h.  
Application of computer technology and internal controls to accounting and transaction processing systems; auditing of information systems; information systems infrastructure and trends; problem solving with Python and databases; accounting cycle operations. Prerequisites: ACCT:2200 and ACCT:2100 and (BAIS:3005 or CS:2110). Same as BAIS:3100.
- ACCT:4000 Special Topics in Accounting** 1-3 s.h.
- ACCT:4001 Continuing Education: Special Topics in Accounting** arr.  
Independent study topics determined by faculty member.
- ACCT:4050 Directed Readings in Accounting** arr.  
Individual guided readings in accounting topics. Requirements: admission to Professional Program in Accounting.
- ACCT:4100 Auditing** 3 s.h.  
General framework underlying auditing, role of audit standards in planning and conduct of audits, effect of regulation, ethics, liability on audit practices. Prerequisites: ACCT:3100 and ACCT:3300 and ACCT:3600 and (BAIS:2800 or ECON:4800 or STAT:2020 with a minimum grade of B or STAT:4101). Requirements: senior standing.
- ACCT:4200 Accounting for Management Analysis and Control** 3 s.h.  
Advanced topics in cost estimation, measurement, accumulation; use of cost data for decision making, performance evaluation in multi-unit organizations. Prerequisites: (STAT:2020 with a minimum grade of B or ECON:4800 or STAT:4101 or BAIS:2800) and (CS:2110 or BAIS:3005) and ((ACCT:2100 with a minimum grade of B- and ACCT:2200 with a minimum grade of B-) or ACCT:3200). Requirements: admission to Professional Program in Accounting.
- ACCT:4280 Cybersecurity** 3 s.h.  
High-level view of computer security and fostering a cybersecurity mindset which is in demand across all industries; frequent change of perspective from employee to CEO, casual home user, and hacker; broad range of topics; actionable items to make daily digital interactions more secure. Prerequisites: BAIS:3005 or CS:1210 or CS:2110 or CS:2230 or CS:3330 or ENGR:2730. Same as BAIS:4280.
- ACCT:4300 Accounting Ethics and Law** 3 s.h.  
Integration of ethics with study of legal topics for accountants (e.g., contracts, debtor-creditor law, agency law, employment law, securities law, accountant's legal liability, business entities); selections from American Institute of Certified Public Accountants (AICPA) Code of Professional Conduct; students analyze ethical considerations of essential topics (e.g., fraud, fiduciary duties). Prerequisites: MGMT:2000 and ((ACCT:2100 with a minimum grade of B- and ACCT:2200 with a minimum grade of B-) or ACCT:3200). Requirements: senior standing.
- ACCT:4400 Advanced Financial Accounting** 3 s.h.  
Accounting and reporting standards for business combinations, including mergers, consolidations, and multinational enterprises; accounting for partnerships, business segments, transactions denominated in foreign currency, including hedges using foreign currency derivative instruments; reporting standards for interim financial statements and fund accounting applied to government and nonprofit entities. Prerequisites: ACCT:3300. Requirements: senior standing.
- ACCT:4500 Accounting Measurement: Research and Analysis** 3 s.h.  
How uncertainty and risk influence accounting judgments, estimates, and forecasts that underlie reported financial statement amounts; applications drawn from familiar accounting measurement challenges and those unique to industries (e.g., airline transportation, healthcare, insurance, gaming, oil and gas exploration). Prerequisites: ACCT:3300. Corequisites: ACCT:4100.
- ACCT:4600 Tax Research** 2 s.h.  
Understanding the validity and use of various tax law sources; performing tax research using printed and electronic tax materials; evaluation of tax law provisions and application to specific facts and circumstances; preparing tax memorandums. Prerequisites: ACCT:3500. Requirements: accounting major.
- ACCT:4999 Honors Thesis in Accounting** arr.  
Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University of Iowa Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: BUS:1999.
- ACCT:7850 Seminar in Accounting Research** arr.  
Forum on current research in accounting, related disciplines; faculty, student, guest papers, Ph.D. dissertation proposals. Requirements: Ph.D. enrollment.

- ACCT:7900 Seminar in Selected Accounting Topics** arr. 3 s.h.  
Individual study, research paper preparation. Requirements: Ph.D. enrollment.
- ACCT:7950 Directed Readings in Accounting** arr.  
Individual guided readings in accounting topics.
- ACCT:7975 Thesis: Accounting** arr.  
Requirements: Ph.D. enrollment.
- ACCT:9020 Strategic Cost Analysis** 2-3 s.h.  
Introduction to cost accumulation, reporting, cost management systems; managerial and divisional performance evaluation; appropriate use of cost data for short- and long-run decisions; product costing in manufacturing and service industries. Prerequisites: MBA:8140.
- ACCT:9030 Financial Accounting Standards and Analysis** 2-3 s.h.  
Accounting model, underlying measurement concepts, valuation rules for assets, liabilities, related issues of income determination; emphasis on economic substance of transactions, evaluation and interpretation of financial data. Prerequisites: MBA:8140.
- ACCT:9040 Financial Statement Analysis and Forecasting** 3 s.h.  
Use of corporate financial statements for investment and lending decisions; emphasis on financial analysis techniques, valuation, business analysis, cash flow projections, credit scoring, related research evidence. Prerequisites: MBA:8140 or (ACCT:3200 and ACCT:3300). Recommendations: for Iowa M.B.A. majors - MBA:8180 or prior undergraduate finance course.
- ACCT:9050 Taxes and Business Strategy** 2-3 s.h.  
Effect of taxes on business decisions, including investment strategies, capital structure decisions, compensation policies, international business, mergers and acquisitions, and financial reporting. Prerequisites: ACCT:3020 or ACCT:3500 or MBA:8140 or LAW:8194. Requirements: graduate standing in business.
- ACCT:9110 Special Topics in Taxation** 3 s.h.  
Timely and relevant topics in taxation and/or topics related to taxation not covered in ACCT:3400 and ACCT:3500. Prerequisites: ACCT:3500 or LAW:8194.
- ACCT:9120 Design and Use of Cost Management Systems** 3 s.h.  
Development of cost accumulation and reporting systems that complement a firm's strategy and structure; how activity-based cost management systems increase competitiveness by helping a firm manage its costs, processes, people. Prerequisites: ACCT:4200 or ACCT:9020.
- ACCT:9130 Financial Reporting: Theory and Practice** 3 s.h.  
Corporate accounting choices in framework of traditional accounting theory, economic consequences, firm valuation. Prerequisites: ACCT:3300. Requirements: graduate standing in business.
- ACCT:9140 Advanced Auditing** 3 s.h.  
Advanced issues such as ethics, internal control audits, forensic auditing, and fair value auditing. Prerequisites: ACCT:4100. Requirements: graduate standing in business.
- ACCT:9150 Tax Research** 3 s.h.  
Understanding the validity and use of various tax law sources; performing tax research using printed and electronic tax materials; evaluation of tax law provisions and application to specific facts and circumstances; preparing tax memorandums. Prerequisites: ACCT:3500. Requirements: admission to M.Ac. program.
- ACCT:9170 Advanced Accounting Analytics** 3 s.h.  
Application of the latest business intelligence software packages to real world problems from auditing, managerial, financial, and tax accounting; how to use Big Data to make better business decisions and identify potential risks and opportunities. Prerequisites: ACCT:4100 and ACCT:4200. Corequisites: BAIS:9210.

# Accounting, B.B.A.

Students who wish to earn the Bachelor of Business Administration with a major in accounting must be admitted to the accounting program. Undergraduate accounting majors are subject to the probation and dismissal rules described in the Bachelor of Business Administration [p. 1212] section of the Catalog and are governed by the Tippie Honor Code.

## Requirements

The Bachelor of Business Administration with a major in accounting requires a minimum of 120 s.h., including at least 25 s.h. of work for the major. All required major coursework must be taken at the University of Iowa. Students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all college coursework attempted in business, all college coursework attempted in the major, all coursework attempted at the University of Iowa, all business coursework attempted at the University of Iowa, and all coursework in the major attempted at the University of Iowa.

Students must complete certain prerequisite courses for admission to the college as well as courses required to declare a major in accounting. Students usually spend the first and second year completing prerequisites and other coursework required for all B.B.A. students. To view the common B.B.A. requirements, see the Bachelor of Business Administration [p. 1217] in the Catalog. In addition, students must have a University of Iowa g.p.a. and a cumulative g.p.a. of at least 3.00, and a grade of at least B-minus in ACCT:2100 Introduction to Financial Accounting.

Students must be admitted to the accounting program before they begin work in courses required for the major. They must have a combined g.p.a. of at least 2.67 in ACCT:2100 Introduction to Financial Accounting and ACCT:2200 Managerial Accounting. Coursework provides concentrated coverage of professional accounting subjects and closely related topics in commercial law, business, and information systems.

Students who wish to declare accounting as a major but do not satisfy the automatic admission requirements may submit a petition for admission.

## Accounting Major

These business core classes are prerequisites to major-level courses: ACCT:2200 Managerial Accounting, MGMT:2000 Introduction to Law, BAIS:2800 Foundations of Business Analytics, and BAIS:3005 Information Systems.

Students may not count ACCT:3020 Financial Accounting and Reporting toward the B.B.A. in accounting due to overlap in course content.

Students who major in accounting are required to take the following major coursework at the University of Iowa.

Code	Title	Hours
All of these:		
ACCT:3100	Professional Accounting Seminar (must be taken by the second semester in the program)	1
ACCT:3200	Income Measurement and Asset Valuation	3
ACCT:3300	Valuation of Financial Claims	3

ACCT:3400	Introduction to Taxation	3
ACCT:3600	Accounting Information Systems	3
ACCT:4100	Auditing	3
ACCT:4200	Accounting for Management Analysis and Control	3
ACCT:4300	Accounting Ethics and Law	3
And one accounting elective during the fourth year from these:		
ACCT:3500	Advanced Tax Topics (offered fall only)	3
ACCT:4400	Advanced Financial Accounting (offered spring only)	3

## Optional Accounting Electives

Code	Title	Hours
ACCT:3450	Tax Practicum (VITA) I	1
ACCT:3451	Tax Practicum (VITA) II	2
ACCT:4600	Tax Research	2

## Certified Public Accountant (CPA) Exam and Licensure

A significant percentage of accounting graduates pursue the CPA license. Requirements to sit for the CPA exam and for CPA licensure vary by state. Each state requires 150 s.h. to become a licensed CPA, including specific courses and a minimum number of accounting hours. In many states, the required accounting hours exceed the minimum requirements of the B.B.A. Students should review their state's educational requirements at the National Association of State Boards of Accountancy (NASBA) website and consult with the undergraduate accounting program director as needed.

## Career Advancement

In the most recent Pomerantz Career Center graduate survey, 98 percent of graduating students reported that they found permanent employment, planned to attend graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit the Pomerantz Career Center website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Accounting, B.B.A.

### Course Title Hours

#### Academic Career

#### Any Semester

Pre-business students must be admitted to the Tippie College to declare the accounting major. Students not already admitted to Tippie generally apply for admission during their second year as they are completing the prerequisite courses.<sup>a</sup>

Completion of prerequisites and Business Core Part I, a grade of B- or higher in ACCT:2100 Introduction to Financial Accounting, and UI and cumulative GPA of 3.00 or higher is required to declare the major.

Students are required to complete 52 s.h. of non-business coursework. Courses with a prefix of ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, and MKTG will not count towards non-business hours. Check degree audit for non-business hours or confer with academic advisor.

Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. World Language counts as non-business coursework.

To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course.<sup>b</sup> 0 - 3

Students must satisfy the Tippie College of Business residence requirement: 45 s.h. of UI coursework after admission to Tippie.<sup>c</sup>

**Hours 0-3**

#### First Year

##### Fall

MATH:1350	Quantitative Reasoning for Business <sup>d</sup>	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives <sup>e</sup>		3
GE: Social Sciences <sup>e</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16</b>

##### Spring

STAT:1030	Statistics for Business	4
ECON:1100	Principles of Microeconomics	4
BAIS:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion <sup>e</sup>		3
<b>Hours</b>		<b>16</b>

#### Second Year

##### Fall

ACCT:2100	Introduction to Financial Accounting <sup>f, g</sup>	3
BAIS:2800	Foundations of Business Analytics	3
MGMT:2000	Introduction to Law	3
GE: Natural Sciences without Lab <sup>e</sup>		3
BUS:2200	Foundations for Success in Business	1
<b>Hours</b>		<b>13</b>

##### Spring

ACCT:2200	Managerial Accounting <sup>h</sup>	3
ECON:1200	Principles of Macroeconomics <sup>f</sup>	4
BUS:3000	Business Communication and Protocol <sup>i</sup>	3
BAIS:3005	Information Systems	2
BAIS:3000	Operations Management	2
<b>Hours</b>		<b>14</b>

#### Third Year

##### Fall

ACCT:3100	Professional Accounting Seminar <sup>j</sup>	1
ACCT:3200	Income Measurement and Asset Valuation	3
ACCT:3400	Introduction to Taxation	3
FIN:3000	Introductory Financial Management	3
GE: International and Global Issues <sup>e</sup>		3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>16</b>

##### Spring

ACCT:3300	Valuation of Financial Claims	3
ACCT:3600	Accounting Information Systems	3
MGMT:2100	Introduction to Management	3
GE: Values and Culture <sup>e</sup>		3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>15</b>

#### Fourth Year

##### Fall

ACCT:4100	Auditing	3
Major: Accounting elective course <sup>k, l</sup>		3
MKTG:3000	Introduction to Marketing Strategy	3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>15</b>

##### Spring

ACCT:4200	Accounting for Management Analysis and Control	3
ACCT:4300	Accounting Ethics and Law	3
Major: Accounting elective course <sup>k, m</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>n</sup>		

**Hours 15**

**Total Hours 120-123**

a Prerequisite courses include RHET:1030, MATH:1350, STAT:1030, ECON:1100 and BAIS:1500. Refer to the Tippie website for admission requirements and deadlines.

b See degree audit for course options.

c All major courses in accounting must be completed at the University of Iowa.

d Enrollment in math courses requires completion of a placement exam.

e GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Business Core Part I component; required to declare major.

- g Students must have a UI and cumulative GPA of at least 3.00, and earn a grade of B- or better in ACCT:2100 in order to declare the accounting major.
- h To begin accounting major coursework, students must have accounting major declared and grade of B- or higher in ACCT:2200.
- i Must be admitted to Tippie to enroll in BUS:3000. Generally completed during the second year, but should be taken no later than the third year.
- j A significant percentage of accounting graduates pursue the CPA license. Requirements to sit for the CPA exam and for CPA licensure vary by state. Each state requires 150 s.h. to become a licensed CPA, including specific courses and a minimum number of accounting hours. In many states, the required accounting hours exceed the minimum requirements of the B.B.A. Students should review their state's educational requirements at the National Association of State Boards of Accountancy (NASBA) website and consult with the undergraduate accounting program director as needed.
- k One accounting major elective required, but both are highly recommended for students taking the CPA exam.
- l ACCT:3500 recommended; typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- m ACCT:4400 recommended; typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- n Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Master of Accountancy, M.Ac.

The Master of Accountancy (M.Ac.) is a nonthesis program. Coursework focuses on the conceptual and economic foundations of accounting with applications to current and emerging problems of professional practice. M.Ac. students also have the opportunity to acquire expertise in one of four specialization areas: financial accounting/auditing, business analytics, taxation, and managerial accounting.

Graduate students in accounting are subject to the probation and dismissal rules of the Graduate College and are governed by the full-time M.B.A. honor code.

## Learning Outcomes

C.P.A. licensure demonstrates the technical skills necessary for entry into the accounting profession. Mastery of these technical skills is the principal focus of the undergraduate accounting program. The M.Ac. program enhances these skills with particular focus on research, analysis, interpretation, and the use of technology while emphasizing the problem-solving and communications skills necessary for advancement in the profession.

Students should be able to:

- identify a problem in an unstructured setting;
- consider the goals of the decision maker(s), identify an appropriate solution methodology, and develop possible decision options;
- know how to obtain, assess, and organize information to evaluate the decision options;
- utilize the appropriate data analytics, management tools, and information technologies to evaluate options;
- include qualitative issues—strategic, social, and ethical—when picking the option to execute; and
- communicate the solution in an effective manner.

## Requirements

The Master of Accountancy requires 30 s.h. beyond the B.B.A. The program permits students to specialize in accounting areas according to their interests and objectives. It builds on the technical skills acquired in the undergraduate program, broadens students' perspectives on the role of accounting in organizations and decision making, and further develops written and oral communication skills. The 30 s.h. required for the M.Ac. must include at least 12 s.h. in graduate-level accounting courses and at least 21 s.h. in courses numbered 5000 or above. Some work for the specialization areas is cross-disciplinary, with courses from other departments as well as accounting.

Students from a variety of academic backgrounds enter the M.Ac. program. Those who enter with an undergraduate degree in accounting can expect to complete the degree in 12 months. Those who enter with a non-accounting undergraduate degree typically require four semesters to complete the M.Ac. Study plans are adjusted to reflect each student's particular academic background; see "Students Without Undergraduate Accounting Degrees" below.

The Master of Accountancy requires the following coursework. Students complete the requirements for their chosen specialization or for the core program.

## Specialization in Financial Accounting/Auditing

Code	Title	Hours
<b>Accounting Courses</b>		
Total of 12 s.h.		
All of these:		
ACCT:9040	Financial Statement Analysis and Forecasting	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3
One of these:		
ACCT:9050	Taxes and Business Strategy	3
ACCT:9120	Design and Use of Cost Management Systems	3
<b>Business Analytics Courses</b>		
Two business analytics courses (prefix BAIS or CS) numbered above 5000		6
<b>Finance Courses</b>		
Total of 6 s.h.		
MBA:8180	Managerial Finance (requires consent of M.B.A. office)	3
One additional finance course numbered above 5000		3
<b>General Electives</b>		
Total of 6 s.h.		6

## Specialization in Business Analytics

Code	Title	Hours
<b>Accounting Courses</b>		
Total of 12 s.h.		
This course:		
ACCT:9140	Advanced Auditing	3
Three of these:		
ACCT:9040	Financial Statement Analysis and Forecasting	3
ACCT:9050	Taxes and Business Strategy	3
ACCT:9120	Design and Use of Cost Management Systems	3
ACCT:9130	Financial Reporting: Theory and Practice	3
<b>Business Analytics Courses</b>		
Four business analytics courses (prefix BAIS or CS) numbered above 5000		12
<b>General Electives</b>		
Total of 6 s.h.		6

## Specialization in Taxation

Code	Title	Hours
<b>Accounting Courses</b>		
Total of 9 s.h.		
Three of these:		
ACCT:9040	Financial Statement Analysis and Forecasting	3



ACCT:9120	Design and Use of Cost Management Systems	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3

**Taxation Courses**

Total of 9 s.h.

ACCT:9050	Taxes and Business Strategy	3
College of Law tax courses (may follow a different academic calendar schedule than business courses, some courses may require consent of instructor)		
6		

**Business Analytics Courses**

Two business analytics courses (prefix BAIS or CS) numbered above 5000 6

**General Electives**

Total of 6 s.h. 6

## Specialization in Managerial Accounting

Code	Title	Hours
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**Accounting Courses**

Total of 12 s.h.

This course:

ACCT:9120	Design and Use of Cost Management Systems	3
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Three of these:

ACCT:9040	Financial Statement Analysis and Forecasting	3
ACCT:9050	Taxes and Business Strategy	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3

**Business Analytics Courses**

Two business analytics courses (prefix BAIS or CS) numbered above 5000 6

**Business Electives Outside Accounting**

Two business electives numbered above 5000 6

**General Electives**

Total of 6 s.h. 6

## Core Program

Students who do not wish to pursue a specialization area must complete 30 s.h. beyond the B.B.A. At least 15 s.h. must be earned in graduate-level accounting courses and at least 21 s.h. must be earned in courses numbered 5000 or above.

The following courses are required.

Code	Title	Hours
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**Accounting Courses**

Total of 15 s.h.

ACCT:9040	Financial Statement Analysis and Forecasting	3
ACCT:9050	Taxes and Business Strategy	3
ACCT:9120	Design and Use of Cost Management Systems	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3

**Business Analytics Courses**

Two business analytics courses (prefix BAIS or CS) numbered above 5000 6

**General Electives**

Total of 9 s.h. 9

## Students Without Undergraduate Accounting Degrees

Coursework for students who enter the program with a non-accounting bachelor's degree is determined by each student's background and interest area. In addition to meeting the core program requirements for the M.Ac., students typically take a combination of undergraduate and M.B.A. courses to remove academic deficiencies in quantitative methods, business, and accounting. Students with a bachelor's degree in another area of business typically are required to take 45-51 s.h. in order to complete the M.Ac. program. Those with degrees outside of business and with no accounting courses typically are required to take 57-60 s.h.

## Combined Programs

### M.Ac./J.D.

The Department of Accounting and the College of Law offer the combined Master of Accountancy/Juris Doctor program. The combined M.Ac./J.D. requires a minimum of 18 s.h. of graduate coursework in accounting. Students in the program may count up to 12 s.h. of College of Law courses as electives for the M.Ac. and up to 12 s.h. of graduate accounting courses as electives for the J.D.

Separate application to each degree program is required. Applicants must be admitted to each program before they may be admitted to the combined program.

For information about the J.D. degree, see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

## Admission

Admission to the M.Ac. program is competitive. The admissions committee reviews applications individually, considering quantitative aspects (grade-point average and GMAT scores) and qualitative aspects of each applicant's background and professional experience (if applicable) to assess an applicant's potential for academic success and professional growth.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Application materials must include the following:

- an application for graduate admission;
- official transcripts of all undergraduate and graduate coursework submitted by each institution an applicant has attended;
- official scores on the Graduate Management Admission Test (GMAT), unless the student is a B.B.A. major in accounting at the University of Iowa;
- a supplemental application form with essay responses;
- a résumé; and
- at least three letters of reference from former instructors or employers unless the student is a B.B.A. major in accounting at the University of Iowa.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

For complete information about application procedures, contact the Department of Accounting.

## Application Deadlines

The Department of Accounting admissions committee reviews completed M.Ac. application files (which must include official GMAT scores) on five dates: March 1, April 15, July 15, October 1, and December 1. Applications are reviewed on these dates regardless of whether the applicant plans to begin the M.Ac. program in the fall semester (August), spring semester (January), or summer session (May). Final Graduate College application deadlines are as follows.

- Fall semester entry: July 15 (April 15 for international students).
- Spring semester entry: December 1 (October 1 for international students).
- Summer session entry: April 15 (March 1 for international students).

Students who wish to apply for a teaching assistantship must apply to the M.Ac. program no later than March 1.

## Career Advancement

Over 95 percent of graduating students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit the Pomerantz Career Center website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Master of Accountancy, M.Ac.

### Specialization in Financial Accounting/ Auditing

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

30 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.<sup>a, b, c</sup>

Students entering with an undergraduate degree in accounting typically complete the degree requirements in two semesters; those with non-accounting degrees typically complete degree requirements in four semesters.

<b>Hours</b>	<b>0</b>
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## First Year

### Fall

ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9140	Advanced Auditing	3
ACCT:9120	Design and Use of Cost Management Systems <sup>d</sup>	3
Business Analytics course <sup>e</sup>		3
MBA:8180	Managerial Finance <sup>f</sup>	3
<b>Hours</b>		<b>15</b>

### Spring

ACCT:9040	Financial Statement Analysis and Forecasting	3
ACCT:9050	Taxes and Business Strategy <sup>g</sup>	3
Business Analytics course <sup>e</sup>		3
Finance course <sup>e</sup>		3
Elective <sup>h</sup>		3
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>30</b>

a Complete at least 12 s.h. in graduate level accounting courses and at least 21 s.h. in courses numbered 5000 or above.

b Students may design their program around particular career goals in chosen specialization by working with their advisor to determine coursework and sequence.

c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

d ACCT:9120 offered fall only; choose an elective if taking ACCT:9050 in spring.

e Course numbered above 5000; work with faculty advisor to determine appropriate course.

f Requires consent of the MBA program.

g ACCT:9050 offered spring only; choose an elective if taking ACCT:9120 in fall.

h Work with faculty advisor to determine appropriate graduate elective coursework and sequence.

# Doctor of Philosophy

Graduate students in accounting may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in business administration [p. 1243] in the Catalog and visit the Department of Accounting website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. Application materials must include the applicant's score on the Graduate Management Admission Test (GMAT).

## Learning Outcomes

- To demonstrate proficiency and knowledge in the specialization discipline, students will demonstrate expertise in reading and interpreting academic research articles in their specialized discipline. They will be knowledgeable in the major theoretical perspectives and prior research findings in their area and be able to integrate prior research from various streams of literature.
- To demonstrate the ability to conduct independent, original research that leads to publications, students will be able to identify important research questions, provide theory-based reasoning to develop original hypotheses, execute an appropriate research design, and summarize their efforts in a working paper. This includes being able to read and summarize existing research into their paper and understanding the prior literature in a variety of substantive areas, paradigms, and methodologies.
- To be effective teachers in their disciplines, students will demonstrate proficiency as instructors in courses in their specialized discipline. This includes preparing course syllabi, giving lectures, writing assignments and exams, and evaluating students on the various deliverables.
- To demonstrate effective communications skills, students will be effective at communicating ideas in academic writing and how these ideas relate to each other within the context of an academic paper. This includes the ability to establish a position, show why that position matters, and situate that position within a context that is determined by the appropriate audience. International students will demonstrate the ability to effectively lecture and communicate in English.

# Bachelor of Business Administration

**Undergraduate major:** B.B.A.

**Website:** <https://tippie.uiowa.edu/>

The Bachelor of Business Administration is offered with majors in accounting, business analytics and information systems, economics, finance, management, and marketing.

This Catalog section provides information about requirements that all B.B.A. students must fulfill, regardless of their major, as well as admission information and academic rules and procedures for the B.B.A. For information about the individual majors, see the Departments of Accounting [p. 1202], Business Analytics [p. 1226], Economics [p. 1249], Finance [p. 1274], Management and Entrepreneurship [p. 1295], and Marketing [p. 1306] in the Catalog.

Students may earn multiple majors in the B.B.A.; they also may earn combined degrees in the College of Engineering or the College of Liberal Arts and Sciences. See "Multiple Majors in Business" under Requirements [p. 1217] and see Combined Programs [p. 1219] in the Business Administration, B.B.A. section. Many business students earn one or more certificates and minors offered in disciplines across the University; see "Minors" and "Certificates" below.

The Tippie College of Business's undergraduate and graduate programs are accredited by AACSB International, the Association to Advance Collegiate Schools of Business.

## Undergraduate Advising

All students enrolled in the Tippie College of Business are advised at the business college's Undergraduate Program Office. Pre-business students are enrolled in the College of Liberal Arts and Sciences and are advised at the University's Academic Advising Center. Drop-in hours and scheduled appointments are available at both offices. For more information on advising, contact the college's Undergraduate Program Office or the University's Academic Advising Center.

## Honor Code

Integrity and honesty are essential to success in all facets of life. The purpose of the Tippie Honor Code is to promote honorable and ethical behavior. Students admitted to the college or enrolled in courses offered by the college are required to uphold the honor code.

## Minors

The Tippie College of Business offers a minor in economics [p. 1263] for all students and a minor in business administration [p. 1224] for non-business students.

Bachelor of Business Administration students may earn minors in a number of disciplines outside of the Tippie College of Business. For example, students interested in international business might choose to earn a minor in a second language. For a list of minors and links to the departments and programs that offer them, see Find Your Program on the General Catalog website and select undergraduate minors.

Students may declare a minor on MyUI. To have the minor recorded on their transcripts, students must complete the minor section on their Application for Degree which they submit through MyUI in the session they intend to graduate.

## Certificates

Bachelor of Business Administration students may earn certificates offered by the Tippie College of Business as well as by other colleges at the University of Iowa. The Tippie College of Business offers the Certificate in Entrepreneurial Management [p. 1272] and the Certificate in Risk Management and Insurance [p. 1329]. In addition, it partners with the College of Engineering to offer the Certificate in Technological Entrepreneurship [p. 1686] and with the College of Liberal Arts and Sciences to offer the Certificate in International Business [p. 1285].

The College of Liberal Arts and Sciences, the College of Public Health, and University College offer a wide range of certificates open to all undergraduates. Many pair exceptionally well with a business major. See Find Your Program on the General Catalog website and select undergraduate certificates for a complete list of certificates and links to their Catalog sections.

## Tippie RISE

RISE is an acronym for hands-on experiential learning in the form of Research with Faculty, Internship Course, Study Abroad, and Experiential Course.

All Tippie College of Business students must successfully complete at least one of the following Tippie RISE experiences to graduate. Each experience is tied to an academic course for which students must register. See "Experiential Learning Requirement: Tippie RISE" in the Business Administration, B.B.A. Requirements [p. 1217] section for the full list of qualifying courses.

## Research with Faculty

Working closely with a faculty mentor, students explore a research question of interest for a semester or more. By conducting academic research, students enhance their critical thinking skills, learn techniques to collect and analyze data, and apply their findings to business practices. These skills are highly useful for a variety of businesses and graduate programs.

## Internship Course

As students gain valuable hands-on work experience in a professional internship, they complete one of the approved internship courses to assist them in having a meaningful learning experience. The internship courses encourage students to take on relevant job responsibilities, outline strategies to meet internship goals, regularly communicate with their supervisors, explore the career field, and reflect on their growth throughout the experience.

## Study Abroad

By taking advantage of short-term, summer, semester, or academic year programs, students can expand their worldview and learn alternative business and cultural practices outside of the United States. Students can participate in Tippie international programs such as London Winter, International Business in Sydney, China May, CIMBA Italy, Global Internships, spring break programs through the John Pappajohn Entrepreneurial Center, or any of the many UI study abroad programs in over 40 countries.

## Experiential Course

In approved experiential courses, students improve their understanding of academic concepts by applying them to

a class project with a company or nonprofit organization. Using real circumstances and issues, students engage with the organization to make a lasting impact. Students have support from classmates and guidance from their instructor throughout the duration of the project. Experiential courses are offered in many Tippie majors and as business and non-business electives. Courses must be taken at the University of Iowa to satisfy Tippie RISE.

## Programs

### Undergraduate Program of Study

- Bachelor of Business Administration [p. 1217]

## Academic Rules and Procedures

### Academic Recognition

#### Dean's List

Undergraduate students in the Tippie College of Business who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded coursework during a given semester or summer session and who have no semester hours of I (incomplete) or O (no grade reported) during the same semester are recognized by inclusion on the Dean's List for that semester.

#### President's List

Undergraduate students in the Tippie College of Business who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded coursework and who have no semester hours of I (incomplete) or O (no grade reported) for two consecutive semesters (excluding summer sessions) are recognized by inclusion on the President's List.

### Graduation with Honors in the Major

Graduation with honors in the major recognizes high scholastic achievement based on grades and on completion of a research project that enables students to gain expertise in a topic related to their field of study. The requirements to graduate with honors in the major at the Tippie College of Business are the following:

- g.p.a. of at least 3.50 in cumulative, University of Iowa, business, and University of Iowa business coursework at the time of graduation;
- completion of BUS:1999 Introduction to Research in Business;
- two-semester research project with a Tippie College of Business faculty member that results in a written thesis; and
- a poster presentation of research at the Undergraduate Research Festival.

To learn more, see Tippie Honors on the Tippie College of Business website.

### Graduation with Distinction

Graduation with distinction recognizes high scholastic achievement based on grades. The Office of the Registrar certifies to the Tippie College of Business associate dean the names of students eligible to graduate with distinction. The college awards degrees "with highest distinction" to students in the highest two percent of the graduating class, "with high distinction" to students in the next highest three percent, and

"with distinction" to the next highest five percent. Ranking is based on students' grade-point averages for all college-level study undertaken before their final registration.

To be eligible to be considered for graduation with distinction, a student must complete 60 s.h. in residence as an undergraduate at the University of Iowa; 45 s.h. of that must be completed before the final registration.

## Credit and Grading

### Credit by Examination

Students may earn up to 30 s.h. of credit by examination by taking selected tests from the College-Level Examination Program (CLEP) and the Advanced Placement (AP) program of the College Board or the International Baccalaureate Program (IB). The University of Iowa is a testing center for CLEP tests. For information about when and how to take CLEP tests, see Testing Services on the New Student Services website. The Tippie College of Business Undergraduate Program Office has information on scores, credit, and course duplicates for all CLEP, Advanced Placement, and IB tests accepted by the college.

### Maximum Schedule

Students may register for a maximum of 18 s.h. in the fall and spring semesters and a maximum of 12 s.h. in the summer session. Course schedules of more than 18 s.h. for a fall or spring semester, or more than 12 s.h. for the summer session, require approval from the Undergraduate Program Office. Approval is based on a review of past academic performance. Permission for more than 12 s.h. in the summer session is granted only in extraordinary circumstances.

### Adding and Dropping Courses

Students may add or drop courses, except College of Law courses, any time before the deadline published in the University's academic deadline calendar. Deadlines are different for regular and off-cycle courses. See the Academic Calendar and Course Deadlines for course-specific deadlines at the University of Iowa on the Office of the Registrar website. Students must obtain approval from the college that offers the course in order to add or drop a course after these deadlines.

To request a late add of a Tippie College of Business course, students must obtain the authorization of the instructor followed by authorization of the Undergraduate Program Office.

To request a late drop of a Tippie College of Business course, students should meet with an advisor in the Undergraduate Program Office to discuss their request to drop the course. To request permission, students must submit a written petition. The petition is granted only with documentation of extenuating circumstances beyond the student's control.

### Prerequisites

Undergraduate students must complete a course's prerequisites. When a student registers, the MyUI course registration system reads a student's record, and if there is no evidence that a prerequisite has been completed or is in progress, enrollment for the course is blocked. See the Tippie College of Business Prerequisites web page for more information about prerequisite policies and procedures.

## Administrative Drops for Nonattendance

Instructors have the option to drop a student who has missed the first two class periods of a course, unless the student has offered an acceptable reason for beginning the course late. Administrative drops must be processed by the first eight calendar days of the semester or the first two calendar days of the winter session, each summer session, or the start of an off-cycle course. Administrative drops are made without assignment of a W (withdrawn). Students who are dropped from a course are notified. Students should not assume that they have been dropped from a course because they have not attended.

## Pass/Nonpass

Up to 15 s.h. of coursework required for the B.B.A. may be taken pass/nonpass with the consent of an advisor and the instructor. Students must be in good academic standing to be eligible for the pass/nonpass option. A maximum of two pass/nonpass courses may be taken in one semester or session.

Courses taken pass/nonpass may not be used to satisfy general education, prerequisite, core, or major business requirements; major business requirements include any course that fulfills a business major course requirement or is offered by a business major department, regardless of the business major of the student seeking to take the course pass/nonpass.

Pass/nonpass registration must be completed by the last day to add a course without dean's permission. For full-length courses during the fall or spring semesters, that is the first ten days of the semester. For summer or off-cycle courses, see the Office of the Registrar's Course Deadline web page for the last day to add a course without dean's permission.

For courses taken pass/nonpass, an earned grade of D-minus or higher is recorded as a P; an earned grade of F is recorded as an N. Pass/nonpass credit is not included in grade-point-average calculations.

## Satisfactory/Fail, Satisfactory/Unsatisfactory

Certain courses are offered satisfactory/fail (S/F) or satisfactory/unsatisfactory (S/U). All students registered for these courses receive one of these marks.

Special forms are not necessary to register for S/F or S/U courses, since all students enrolled in such courses automatically receive an S, an F, or a U.

Semester hours of S or U graded coursework are not used in computing grade-point averages, but hours of F graded coursework are used.

Semester hours of S graded coursework are counted as semester hours earned toward graduation; semester hours of F or U graded coursework do not count as semester hours earned toward graduation.

A maximum of 15 s.h. of S credit from the University of Iowa is accepted toward a bachelor's degree.

## Second-Grade-Only Option for Students Admitted to Business

Students admitted to the Tippie College of Business may use the second-grade-only option on any course except courses numbered above 3005 with the prefix ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, MKTG, or any course offered by a

department outside the Tippie College of Business that is being used to fulfill a business major course requirement.

## Policies

- Students may apply the second-grade-only option to a maximum of three different courses while they are enrolled at the University of Iowa; any second-grade-only options used before entry to the Tippie College of Business count toward the maximum of three second-grade-only options allowed.
- Students in combined degree programs are allowed a combined maximum of three second-grade-only options.
- The second-grade-only option may be used only once per course. Once placed on the record, the option may not be retracted.
- A course taken at another college or university may not be repeated at the University of Iowa under the second-grade-only option.
- A University of Iowa course may not be repeated at another institution under the UI second-grade-only option.
- If the course was taken for a grade the first time, it must be taken for a grade the second time.
- If the course was taken pass/nonpass the first time, a student may choose to take the course for a grade or as pass/nonpass the second time.
- Any University of Iowa course taken in any mode of delivery—during a regular semester, a summer session, an intensive session, or through distance learning and Distance and Online Education [p. 2181]—may be repeated in the same mode of delivery or in any other mode of delivery.
- Students who have been awarded a degree from the University of Iowa may not use the second-grade-only option on a course taken before the degree was awarded.
- Graduate or professional colleges may recalculate grade-point averages using all grades visible on the permanent record.

## Procedures

- Students must register as usual for the course that is to be repeated.
- After the session in which the course is being repeated has begun, students must request the second-grade-only option by completing the Request a Second-Grade-Only Option form.
- The permanent record is adjusted by placing a pound symbol (#) next to the first grade to indicate that it is no longer being included in the grade-point-average calculation, and only the semester hours from the second registration have been counted as semester hours earned.

## Second-Grade-Only Option for Pre-Business Students

Pre-business students must follow the rules established by the College of Liberal Arts and Sciences (CLAS). Contact the CLAS Undergraduate Programs office or consult the CLAS Academic Policies Handbook for more information.

## Incomplete Grades

Instructors may report a mark of I (incomplete) only if the unfinished part of a student's work in a course other than research, thesis, or independent study is small; if the work is unfinished for reasons acceptable to the instructor; and if a student's standing in the course is satisfactory.

Students should not re-enroll in a course for which they have an incomplete. Incomplete grades must be removed by completing the unfinished part of the work. Faculty and students are encouraged to state clearly in a written agreement how the incomplete is to be completed. Both the faculty member and the student should keep a record of the written agreement.

Failure to remove the incomplete before the end of the next full semester, excluding summer and winter sessions, results in replacement of the I with a grade of F, regardless of whether a student is enrolled during that semester. A grade change may be submitted to convert a grade of F to another letter grade, with the instructor's approval.

## Probation and Dismissal

Students are placed on academic probation when their grade-point average in any of the following categories falls below 2.00:

- all coursework taken,
- all coursework taken at the University of Iowa,
- all business coursework taken,
- all business coursework taken at the University of Iowa,
- all coursework taken to satisfy requirements for the major(s), or
- all coursework taken at the University of Iowa to satisfy requirements for the major(s).

In probation decisions, a 3 s.h. minimum is used to calculate the grade-point average for all coursework taken to satisfy requirements for the major(s), and all coursework taken at the University of Iowa to satisfy requirements for the major(s).

Students on probation are required to meet with an academic advisor and cannot register for the next session's classes before doing so. Students on academic probation who withdraw registration after the deadline for dropping courses may be dismissed.

Students on probation with more than one declared business major may be required to drop one or more majors in order to pursue one business major only.

Students may be dismissed from the college at any time for unsatisfactory scholarship. While some probationary period usually precedes a dismissal, students in good academic standing who complete a session with extremely unsatisfactory grades may be placed on academic probation or dismissed immediately. Students dropped from the college for poor scholarship may petition for permission to be reinstated, but usually only after one year following the end of the session in which they were dismissed; see "Reinstatement" below.

When all of the grade-point averages outlined above equal or surpass 2.00, students are removed from probation. Students usually are allowed only one session to return to good academic standing.

## Reinstatement

Students dismissed for unsatisfactory scholarship for the first time are not permitted to register again for one year. Students dismissed for the second time may or may not be granted a second reinstatement. Requests for reinstatement must be made in writing and should be addressed to the Associate Dean, Undergraduate Program Office. Arrangements for a reinstatement interview must be made with the Undergraduate Program Office in the Tippie College of Business. The interview must take place between March 1

and June 15 for reinstatement for fall semester, or between October 1 and November 15 for reinstatement to spring semester. Late requests are deferred to the following semester. Students who are permitted to register following dismissal are registered on academic probation and ordinarily are allowed two semesters to achieve good standing. Most reinstatements include a limit on the number of semester hours the student may take upon reinstatement. Very poor academic work in the first semester of a reinstatement, however, may result in dismissal at the close of that semester.

## ReStart

The undergraduate colleges at the University of Iowa offer an academic forgiveness policy, referred to as ReStart.

If students were previously enrolled in the Tippie College of Business and are returning, or have returned, to the University of Iowa after an extended absence (four consecutive years or more), they may use the ReStart option to request removal of one or more previously completed academic sessions at the Tippie College of Business (i.e., semesters or winter/summer enrollments) from future grade-point averages and satisfaction of degree requirements.

If students have already graduated from the University of Iowa, they are not eligible to use the ReStart option whether for a second degree or any other purpose.

Students are strongly advised to contact the assistant dean or director to discuss the ReStart option before submitting a ReStart application. Contact the Undergraduate Program Office to schedule an in-person or telephone appointment.

## Returning for Baccalaureate Degrees

### Returning for a Second Business Major

Individuals who already hold a B.B.A. degree from the University of Iowa may complete the requirements for another business major, except accounting. Those interested in earning a degree in accounting must apply for admission to the Graduate College in order to earn the Master of Accountancy degree. Students who return to the University of Iowa to complete another business major must meet the requirements for that major; they do not have to meet the Tippie College of Business residence requirement. It is their responsibility to notify the Office of the Registrar once they complete the requirements for the second major so that a notation can be placed on their permanent record. Returning students are held to the requirements that are published in the University of Iowa General Catalog for the session in which they reenter.

### Returning for an Additional Bachelor's Degree

Individuals who hold a bachelor's degree from another college at the University of Iowa may return to earn the B.B.A. degree from the Tippie College of Business. They must satisfy all requirements for undergraduate admission to the business college. Once admitted, they must satisfy all requirements for the B.B.A. in their chosen major. Returning students are held to the requirements that are published in the University of Iowa General Catalog for the session in which they reenter.

## **Returning for an Additional Bachelor's Degree in Accounting**

Individuals who hold a bachelor's degree in a non-business discipline from the University of Iowa or from another college or university may be considered for admission to the Tippie College of Business to earn the B.B.A. with a major in accounting. Individuals interested in this option should consult with the Department of Accounting about the B.B.A. program in accounting (undergraduate) and the Master of Accountancy graduate program. Those who already hold a B.B.A. from the University of Iowa or any business degree from another institution may not earn a major in accounting at Iowa.



# Business Administration, B.B.A.

## Requirements

The Bachelor of Business Administration requires a minimum of 120 s.h. of credit, including at least 48 s.h. earned in business courses and at least 52 s.h. earned in non-business courses.

B.B.A. students must earn 45 s.h. in residence following admission to the Tippie College of Business. At least 24 s.h. in courses offered by the business college and at least two-thirds of the semester hours in a student's major must be earned in the student's major department at the Tippie College of Business. Nonresident instruction includes coursework at colleges and universities other than the University of Iowa.

To graduate, B.B.A. students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all college coursework attempted in business, all college coursework attempted in the major, all coursework attempted at the University of Iowa, all business coursework attempted at the University of Iowa, and all coursework in the major attempted at the University of Iowa.

## Common B.B.A. Requirements

B.B.A. students must satisfy the following minimum common requirements or approved equivalents. For approved equivalents, consult the college's Undergraduate Program Office.

### General Education

Code	Title	Hours
	Diversity and Inclusion	3
	Historical Perspectives	3
	International and Global Issues	3
	Interpretation of Literature	3
	Natural Sciences (without lab)	3
	Rhetoric	4-5
	Social Sciences (excluding ECON:1100 and ECON:1200)	3
	Values and Culture	3
	World Languages	0-10

### World Languages

Tippie College of Business students may complete the World Languages requirement using one of two options. One year of high school language study is generally equivalent to one semester of college language study.

#### Option One

Attain fourth-level proficiency in a single world language, usually by completing four years of that language in high school or four semesters in college or an equivalent combination of high school and college coursework; or pass an achievement test or evaluation at fourth-level proficiency.

#### Option Two

Attain second-level proficiency in each of two world languages, usually by completing two years of each language in high school or two semesters of each language in college or an equivalent combination of high school and college

coursework; or pass achievement tests and/or evaluations at second-level proficiency in each language. Option two does not fulfill the World Languages requirement for the College of Liberal Arts and Sciences or qualify students to earn credit under the Furthering Language Incentive Program (FLIP).

Students may not count courses taken to fulfill General Education Program requirements toward other requirements for the B.B.A.

## Prerequisites for Admission to the College

Code	Title	Hours
RHET:1030	Rhetoric	4-5
MATH:1350	Quantitative Reasoning for Business	4
STAT:1030	Statistics for Business	4
ECON:1100	Principles of Microeconomics	4
BAIS:1500	Business Computing Essentials	2

## Prerequisites for Declaring a Business Major

Code	Title	Hours
ECON:1200	Principles of Macroeconomics	4
ACCT:2100	Introduction to Financial Accounting	3

The accounting major has additional major declaration requirements. See Requirements [p. 1205] in the B.B.A. in accounting section of the Catalog for further information.

## Business Core

Code	Title	Hours
ACCT:2200	Managerial Accounting	3
BAIS:2800	Foundations of Business Analytics	3
BAIS:3000	Operations Management	2
BAIS:3005	Information Systems	2
BUS:2200	Foundations for Success in Business	1
BUS:3000	Business Communication and Protocol	3
FIN:3000	Introductory Financial Management	3
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
MKTG:3000	Introduction to Marketing Strategy	3

## Experiential Learning Requirement: Tippie RISE

All Tippie College of Business students must successfully complete at least one of these four experiences—Research with Faculty, Internship Course, Study Abroad, or Experiential Course. Courses that satisfy Tippie RISE are listed below.

## Research with Faculty

Code	Title	Hours
ACCT:4999	Honors Thesis in Accounting	arr.
BAIS:4999	Honors Thesis in Business Analytics	arr.
BUS:3600	Mentored Research	arr.
BUS:4999	Honors Thesis in Business	arr.
ECON:4999	Honors Thesis in Economics	arr.
FIN:4999	Honors Thesis in Finance	arr.
MGMT:4999	Honors Thesis in Management	arr.
MKTG:3702	Marketing Institute Seminar II	2
MKTG:4999	Honors Thesis in Marketing	arr.
URES:3992	Undergraduate Research and Creative Projects	0
URES:3993	Undergraduate Research and Creative Projects	1-4
URES:3994	Undergraduate Research and Creative Projects	1-4
URES:3995	ICRU Research Fellow	0

## Internship Course

Code	Title	Hours
BUS:3100	Academic Internship or Cooperative Education	0
BUS:3900	Business Communication Internship I	3
BUS:4900	Academic Internship	arr.
CCP:1201	Academic Internship	1-3
CCP:2020	Washington Center Internship Program	arr.
CCP:2202	International Student Full-Time Academic Internship	9
ENTR:4300	Entrepreneurship: Advanced Business Planning	arr.
ENTR:4900	Academic Internship	arr.
EVNT:2110	Internship in Event Management	3
LS:3011	Leadership Certificate Capstone	0,2
SRM:4199	Independent Sport and Recreation Field Experience	arr.

## Study Abroad

Any study abroad program is accepted for credit, including virtual programs, short term faculty-led programs, and summer, semester, or year-long programs. These courses may be study abroad courses (prefix ABRD) or select study abroad international activities courses (prefix INTL) but are not required to be; see Study Abroad [p. 2205] in the Catalog.

## Experiential Course

Experiential courses must be taken at the University of Iowa to satisfy Tippie RISE.

Code	Title	Hours
ACCT:3451	Tax Practicum (VITA) II (spring only)	2
BAIS:4150	Business Analytics and Information Systems Capstone	3

ENTR:4100	International Entrepreneurship, Culture, and Social Impact	1-3
ENTR:4200	Entrepreneurship: Business Consulting	3
FIN:4250	Applied Equity Valuation	3
FIN:4310	Advanced Corporate Finance	3
FIN:4350	Applied Wealth Management	3
FIN:4410	Enterprise Risk Management	3
FIN:4420	Property and Liability Insurance	3
FIN:4460	Insurer Operations and Captive Management	3
LS:1024	Hawkeye Service Breaks (spring only)	3
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3
MGMT:3600	Nonprofit Organizational Effectiveness II	3
MGMT:4600	Nonprofit Ethics and Governance	3
MKTG:3100	Marketing Research	3
MKTG:3103	Advanced Marketing Research	3
MKTG:3700	Marketing Institute Seminar I	2
MKTG:3701	Marketing Institute Field Studies	2
MKTG:4250	Marketing and Sustainability	3
MKTG:4800	Marketing Consulting Project	3
SRM:4197	Sport and Recreation Field Experience (not Fans First section)	arr.

## Major Area of Study

All B.B.A. students must complete a major area of study. The college offers majors in accounting [p. 1202], business analytics and information systems [p. 1226], economics [p. 1249], finance [p. 1274], management [p. 1295], and marketing [p. 1306]. The requirements for each major are established by the department that offers the major.

## Students with Associate of Arts Degrees

Students who have been granted an Associate of Arts (A.A.) from a community college participating in the Iowa and Illinois Community College/Regents Articulation Agreements are considered to have met all high school unit requirements for admission to the B.B.A. and all of the General Education Program requirements listed under "General Education Requirements" above, except the World Languages and the Diversity and Inclusion requirements. The program of study for which a student was awarded the A.A. must have included:

- a minimum of 60 s.h. (or 90 quarter hours) of credit acceptable toward graduation from the University of Iowa;
- mathematics courses comparable to MATH:0100 Basic Algebra I are not accepted toward graduation;
- completion of the agreed-upon group of courses at the community college; and
- a g.p.a. of at least 2.00.

Completion of an Associate of Arts does not guarantee admission to the Tippie College of Business. See Admission [p. 1220] in this section of the Catalog for a complete list of requirements for admission to the B.B.A.

Students who use the provisions of the articulation agreement are granted a maximum of 60 s.h. of transferable credit from two-year colleges toward the 120 s.h. required for a B.B.A. Credit earned for the A.A. beyond the 60 s.h. transferable maximum is used in computing a student's grade-point average, and it may be used to satisfy course requirements, but it does not count toward the B.B.A. Transfer credit for business courses taken during the first and second years is counted toward the B.B.A. only if such courses are usually offered as lower-division courses at the University of Iowa.

## Transfer Courses

Students who have taken courses at another institution that are similar to those approved for the common business requirements at Iowa may request that these courses be evaluated for transfer credit. Students who transfer fewer hours than needed to meet a common business requirement may use only approved courses to complete the remainder of the requirement. Only third- and fourth-year-level courses taken at accredited four-year institutions may be used to satisfy common business course requirements numbered 3000 or above. Students must complete a minimum of 24 s.h. of business coursework and at least two-thirds of the coursework in the major at the University of Iowa. They also must meet the 45 s.h. residence requirement of the Tippie College of Business. Credit earned through online courses may be counted toward all requirements for graduation, subject to approval by a student's major department.

## Multiple Majors in Business

Students may earn the B.B.A. degree with more than one major. The Four-Year Graduation Plan is not available to students earning more than one major. Students have access to degree audits in MyUI for all of the programs of study they have officially declared. They also have access to all program courses, with some limitations, during early registration. A student must be in good academic standing in order to declare more than one major. See Double Majors and Joint Degrees on the Tippie College of Business website.

## Combined Programs

Undergraduate students may earn combined undergraduate degrees from the Tippie College of Business and the College of Liberal Arts and Sciences or the College of Engineering. The following rules apply to all students in combined degree programs.

- To enter a combined degree program, students must have approval from the Tippie College of Business and must be admitted to both colleges. Interested students should see an advisor in the college's Undergraduate Program Office.
- Students in combined degree programs are allowed a combined maximum of three second-grade-only options.
- All students in combined programs must meet all requirements for both degrees, including all General Education Program requirements.
- Students are assigned two advisors (one for each major).
- Students in combined degree programs are assessed tuition only for the primary (first) major.
- First-year students in combined degree programs who are direct admission students in the Tippie College of Business

must enroll in BUS:1200 Tippie College Direct Admit Seminar during their first semester at the University.

## B.B.A./Liberal Arts and Sciences Degree

The Tippie College of Business and the College of Liberal Arts and Sciences offer a combined degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business and a Bachelor of Arts (B.A.), Bachelor of Science (B.S.), Bachelor of Fine Arts (B.F.A.), or Bachelor of Music (B.M.) from the College of Liberal Arts and Sciences.

Students in the combined business/liberal arts and sciences degree program must declare the Tippie College of Business program of study as their primary (first) major.

To learn about liberal arts and sciences majors, see the College of Liberal Arts and Sciences [p. 17] section of the Catalog.

## B.B.A./B.S.E.

The Tippie College of Business and the College of Engineering offer a combined degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business and a Bachelor of Science in Engineering (B.S.E.) from the College of Engineering. Students in the combined business/engineering degree program must declare the College of Engineering program of study as their primary (first) major.

Students in the combined business/engineering degree program must enroll in appropriate mathematics and engineering courses early during their course of study in order to complete the program in a timely way. Because courses in natural sciences, mathematics, humanities, and social sciences count toward the B.B.A. and the B.S.E., students may be able to count certain courses toward both degrees.

B.B.A./B.S.E. students usually meet the degree requirements of both colleges in about five years; time required depends on a student's choice of major study areas.

For information about engineering majors, see Bachelor of Science in Engineering [p. 1549] (College of Engineering) in the Catalog. To learn more about requirements for the combined business/engineering degree, consult the Undergraduate Program Office in the Tippie College of Business and the Student Development Center in the College of Engineering.

## B.B.A./M.S. in Business Analytics or M.S. in Finance

The combined Bachelor of Business Administration/Master of Science in business analytics or Master of Science in finance allows undergraduate students majoring in any of the six B.B.A. majors the opportunity to begin work toward the M.S. degree while completing the B.B.A. degree. The program allows students to count a limited amount of credit toward both degrees, enabling students to finish the M.S. degree one semester early.

Students apply to the Master of Science program in the third year of undergraduate study and begin masters-level work in the fourth year of undergraduate study. For information on these graduate programs, see M.S. in business analytics [p. 1233] and M.S. in finance [p. 1281] in the Catalog.

## B.B.A./J.D.

The Tippie College of Business 3+3 agreement with the College of Law allows well-prepared students the opportunity to apply for admission to the College of Law during their third year, and if accepted, to begin work on the Juris Doctor degree during their fourth year of study in the B.B.A. degree program. Students participating in the 3+3 program apply to the College of Law and are required to submit a Law School Admission Test (LSAT) score. If a student is admitted into the J.D. program, the Tippie College of Business accepts all credit earned during the first year of law school to satisfy the remaining elective hours required to earn the B.B.A. degree.

The 3+3 option is open to students in all six of the B.B.A. majors. Students who wish to pursue this opportunity are required to plan early in their undergraduate career, as all degree requirements except elective hours must be completed in the first three years of B.B.A. study

For more information, see the 3+3 Program for Undergraduates on the College of Law website.

## Honors

### Honors in the Major

Outstanding students in the college have an opportunity to undertake independent research under the supervision of a faculty member. To graduate with honors in the major, students must complete an honors thesis under the supervision of a Tippie College of Business faculty member. Students begin by completing BUS:1999 Introduction to Research in Business prior to the commencement of their thesis work. This course introduces students to research in the college and provides an opportunity to develop thesis questions and meet faculty members engaged in research.

Students then identify a faculty thesis advisor and complete their research and thesis writing over the course of two semesters, registering for the appropriate honors thesis course for both semesters from the following list. With faculty permission, students may elect to complete the thesis with another Tippie College of Business student.

Code	Title	Hours
ACCT:4999	Honors Thesis in Accounting	arr.
BAIS:4999	Honors Thesis in Business Analytics	arr.
BUS:4999	Honors Thesis in Business	arr.
ECON:4999	Honors Thesis in Economics	arr.
FIN:4999	Honors Thesis in Finance	arr.
MGMT:4999	Honors Thesis in Management	arr.
MKTG:4999	Honors Thesis in Marketing	arr.

To earn the B.B.A. with honors in the major, students must successfully complete all college requirements with a g.p.a. of at least 3.50 in all courses taken at Iowa, all business courses taken at Iowa, all courses taken (including transfer courses), and all business courses taken (including transfer courses). Students also must present their research in a poster format at the spring or fall Undergraduate Research Festival.

See Tippie Honors on the Tippie College of Business website to learn more.

## University of Iowa Honors Program

Completing the honors in the major requirements also satisfies the experiential learning requirement for the University of Iowa Honors Program. To learn more about graduating with University honors through the University of Iowa Honors Program, visit the Honors at Iowa website.

Pre-business students interested in honors study are encouraged to participate in the University of Iowa Honors Program until they are admitted to the business college. Visit Honors at Iowa to learn about the University's honors program.

### Admission

Students enter the Tippie College of Business in one of two ways: direct admission or standard admission. All students admitted to the Tippie College of Business must follow the Tippie Honor Code. Students who meet the admission requirements may be denied admission upon evidence of postsecondary academic misconduct or other violations of the honor code. Students are required to meet with the associate dean, undergraduate programs, to discuss incidents of academic misconduct.

Admission standards are set by the Undergraduate Program Committee. All admission appeals are reviewed by the Undergraduate Program Office. Prospective students must submit acceptance of admission offers and all transcripts showing coursework that satisfies the Tippie College of Business admission requirements to the University's Office of Admissions by the appropriate deadline. Letters of recommendation are not accepted. For more information about application and admission, contact the Undergraduate Program Office.

### Direct Admission

Direct admission is designed to enable highly qualified high school students to enter the college directly after high school. Applicants must have a composite ACT score of 26 or higher (or SAT equivalent) and a high school g.p.a. of 3.60 or higher (on a 4.00 scale) to qualify. Applicants who do not meet these criteria but who present a strong academic record are carefully considered through a petition process.

Incoming high school students who are admitted to the College of Liberal Arts and Sciences as pre-business students may inquire about their admission decision by contacting the associate director of admissions and recruiting in the Tippie College of Business Undergraduate Program Office. For more information about admission requirements, see Undergraduate Program Admissions on the Tippie College of Business website.

Students granted direct admission to the college are eligible to apply for first-year scholarships. The application process is competitive and is based on high school record and an application essay.

Students who are directly admitted take BUS:1200 Tippie College Direct Admit Seminar in their first semester. The course, taught by a Tippie advisor in the Undergraduate Program Office and by undergraduate peer mentors, spans nine weeks and orients students to the University of Iowa and the Tippie College of Business.

## Standard Admission

University of Iowa students are eligible to apply to the Tippie College of Business through standard admission if they have completed or are completing the five prerequisite courses for admission to the college listed under "Common B.B.A. Requirements" (see Requirements [p. 1217] in this section of the Catalog) and have a g.p.a. of at least 2.75 on the prerequisite courses, on all college coursework completed, and on all University of Iowa coursework. Applicants also must complete a University of Iowa ICON module, which opens after the application deadline, that provides information on collegiate policies, major selection, and course planning.

Transfer students who have completed the prerequisite courses and meet the grade-point average requirements also may apply through standard admission. Transfer students are not required to complete the University of Iowa ICON module but instead receive similar information through the orientation program.

Applications for standard admission must be submitted online. Application deadlines for current University of Iowa students are March 1 for fall admission and October 1 for spring admission. Application deadlines for transfer students are May 1 for fall admission and December 1 for spring admission.

Applicants should meet all admission requirements by the end of the semester in which they apply. Admission is not granted for the summer session or the three-week winter session. Grades from the three-week winter session do not count toward admission for the following spring semester, and grades from a summer session do not count toward admission for the following fall semester.

Students who are denied admission may file an appeal for denial of admission to business if they can provide documentation of extenuating circumstances that affected their academic performance.

## Nondegree Admission

Students visiting from another institution who wish to enroll in undergraduate courses in order to earn credit that they can transfer to their home institution may be granted admission as undergraduate nondegree students. Nondegree students are not guaranteed access to specific courses; they must have the approval of the Undergraduate Program Office and may earn no more than 9 s.h. in nondegree status.

## Reentry Policy

All students who have been enrolled in another college or university since leaving the University of Iowa are required to submit official transcripts along with an application for reentry. Completed application materials must be received at least two weeks before the opening of classes. Reentry students are held to the requirements that are published in the University of Iowa General Catalog for the session in which they reenter.

## Absent for 12 Months or More in Good Standing

Students absent from the University of Iowa for 12 months or more who left in good standing must apply to the UI Office of Admissions as returning students and must contact the Tippie College of Business Undergraduate Program Office for advising before registration. Good standing is defined as not on probation and not dismissed for any reason.

## Absent for 12 Months or More not in Good Standing

Students absent from the University of Iowa for 12 months or more who were not in good standing when they left the University must file a petition with the Tippie College of Business Undergraduate Program Office to be reinstated. If the petition is approved, the student must apply to the UI Office of Admissions as a returning student; the Undergraduate Program Office notifies the Office of Admissions that a student's petition for reinstatement has been approved. The student also must schedule an appointment to see an advisor in the Tippie College of Business for advising before registration. Not in good standing is defined as being on probation or having been dismissed from the Tippie College of Business due to unsatisfactory scholarship, academic misconduct at the University of Iowa or at another institution, or a violation of the Tippie College Undergraduate Honor Code. Students who have been officially dismissed follow the procedures for reinstatement [p. 1213].

## Absent for Less Than 12 Months in Good Standing

Students absent for less than 12 months are not required to file an application for reentry. Students who were in good standing when they left the University should contact the Tippie College of Business Undergraduate Program Office for advising before registration. Reentry is approved regardless of any admission requirement changes.

## Absent for Less Than 12 Months not in Good Standing

Students absent for less than 12 months are not required to file an application for reentry. Students who were not in good standing when they left the University must consult with an advisor in the Tippie College of Business; the student may be readmitted on probation. Readmitted students should contact the Tippie College of Business Undergraduate Program Office for advising before registration. Reentry is approved regardless of any admission requirement changes. Not in good standing is defined as being on probation or having been dismissed from the Tippie College of Business due to unsatisfactory scholarship, academic misconduct at the University of Iowa or at another institution, or a violation of the Tippie College Undergraduate Honor Code. Students who have been officially dismissed follow the procedures for reinstatement [p. 1213].

## Career Advancement

Tippie College of Business graduates enjoy a high placement rate. Over 90 percent of students reported that they found permanent employment, were pursuing graduate degrees, or were not seeking employment six months after graduation.

Visit the Pomerantz Career Center website for more information.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

The following checkpoints are designed for students who enter the University as direct admission or pre-business students. In order to stay on the plan, pre-business students must maintain the grade-point averages required for admission to the Tippie College of Business and must apply for admission to the college the semester that the five prerequisite courses will be completed, but no later than before the fifth semester begins. The Four-Year Graduation Plan is not available to students who choose to pursue a double major in the college or to those enrolled in a combined degree program.

**Before the third semester begins:** RHET:1030 Rhetoric, ECON:1100 Principles of Microeconomics, MATH:1350 Quantitative Reasoning for Business, STAT:1030 Statistics for Business, and BAIS:1500 Business Computing Essentials, or equivalents; and at least one-quarter of the semester hours required for graduation.

**Before the fifth semester begins:** ACCT:2100 Introduction to Financial Accounting and ECON:1200 Principles of Macroeconomics, or equivalents; business core courses that satisfy prerequisites in a student's intended major; three-quarters of General Education requirements; and at least half of the semester hours required for graduation.

**Before the seventh semester begins:** three-quarters of business core requirements, approximately half of the coursework in the major (varies by major), and three-quarters of the semester hours required for graduation.

**Before the eighth semester begins:** approximately three-quarters of coursework in the major (varies by major).

**During the eighth semester:** all remaining coursework in the B.B.A. degree and a sufficient number of semester hours to graduate.

## Iowa Degree in Three

Iowa Degree in Three is designed for students who are academically prepared to complete more semester hours per term than average or who come to the University of Iowa with completed college credits. It is a flexible, affordable option developed to meet the needs of highly motivated students. Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

The Tippie College makes several assumptions about candidates for the Iowa Degree in Three:

- students are prepared to enroll in MATH:1350 Quantitative Reasoning for Business during their first enrollment at the University of Iowa;
- students have fulfilled the General Education World Language requirement before matriculation;
- students are direct admits to the Tippie College of Business;
- students have earned at least 15 s.h. of college credit before matriculation; and
- students are not held for more than two English as a Second Language classes.

The Iowa Degree in Three is available for any of the majors offered by the Tippie College of Business.

# Business Administration

**Undergraduate minor:** business administration

**Website:** <https://tippie.uiowa.edu/>

The Tippie College of Business offers a minor in business administration for non-business students. The minor is open to all University of Iowa undergraduates except those majoring in business (Tippie College of Business) and interdepartmental studies majors in the business studies track (College of Liberal Arts and Sciences).

## Programs

### Undergraduate Program of Study

#### Minor

- Minor in Business Administration [p. 1224]

# Business Administration, Minor

## Requirements

The undergraduate minor in business administration requires 36 s.h., including at least 12 s.h. offered by the Tippie College of Business. Students must maintain a g.p.a. of at least 2.00 in the minor overall and in all courses in the minor taken at the University of Iowa. Coursework in the minor may not be taken pass/nonpass.

The minor can be earned by any University of Iowa undergraduate student except those majoring in business (Tippie College of Business) and interdepartmental studies majors in the business studies track (College of Liberal Arts and Sciences).

The minor in business administration requires the following courses, or the equivalents. Some of these courses have prerequisites and other requirements for registration; students must complete a course's prerequisites and meet its registration requirements before they may register for the course. For more information, visit Minor in Business Administration on the Tippie College of Business website.

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
BAIS:1500	Business Computing Essentials	2
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
FIN:3000	Introductory Financial Management	3
MATH:1350	Quantitative Reasoning for Business	4
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
MKTG:3000	Introduction to Marketing Strategy	3
STAT:1030	Statistics for Business	4
<b>Total Hours</b>		<b>36</b>

Students who will have completed all requirements for the minor when they graduate should indicate a business administration minor on their Application for Degree. Contact the Undergraduate Program Office for more information about the minor in business administration.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Business Administration, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Thoughtful planning is required to complete the courses necessary for a minor.		
At least 12 semester hours of coursework must be completed in the Tippie College of Business. See MyUI course listing for administrative home of courses required for the minor.		
An overall grade-point average of at least 2.00 is required on all courses taken and on courses taken at The University of Iowa. (2.00 GPA on all courses, not each course).		
Coursework in the minor may not be taken pass/nonpass.		
Exceptions made for the minor may not satisfy requirements for the Bachelor of Business Administration degree. See an advisor in C140 PBB for more information.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1380 or MATH:1350	Calculus and Matrix Algebra for Business <sup>a, b, c, d</sup> or Quantitative Reasoning for Business	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
ECON:1100	Principles of Microeconomics <sup>e</sup>	4
<b>Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
BAIS:1500	Business Computing Essentials	2
ECON:1200	Principles of Macroeconomics <sup>e</sup>	4
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
ACCT:2100	Introduction to Financial Accounting <sup>f</sup>	3
STAT:1030	Statistics for Business	4
<b>Hours</b>		<b>7</b>
<b>Third Year</b>		
<b>Fall</b>		
ACCT:2200	Managerial Accounting <sup>f</sup>	3
MGMT:2100	Introduction to Management <sup>f</sup>	3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
MGMT:2000	Introduction to Law <sup>f</sup>	3
MKTG:3000	Introduction to Marketing Strategy	3
<b>Hours</b>		<b>6</b>
<b>Fourth Year</b>		
<b>Fall</b>		
FIN:3000	Introductory Financial Management <sup>f</sup>	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>36</b>

<sup>a</sup> This course has prerequisites. See MyUI course listing for details.



- b Students must meet the stated prerequisites or ALEKS score to enroll in MATH:1350 or MATH:1380. Discuss math placement with your academic advisor.
- c MATH:1350 is a new course effective fall 2020; students should take MATH:1350, MATH:1380, or a calculus course to complete this requirement.
- d Enrollment in math courses requires completion of a placement exam.
- e This course is designed to be taken early in your studies as the content is important to subsequent classes. See MyUI for prerequisites.
- f Check MyUI for course requirements.

# Business Analytics

## Chair

- Ann M. Campbell

## Director, Undergraduate Program

- Michael W. Colbert

## Codirectors, Master of Business Analytics

- Patrick J. Johanns, Kang Zhao

## Director, Ph.D. Program

- Gautam Pant

**Undergraduate major:** business analytics and information systems (B.B.A.)

**Graduate degrees:** M.S. in business analytics; business analytics subprogram for the Ph.D. in business administration

**Graduate certificate:** business analytics

**Faculty:** <https://tippie.uiowa.edu/people?department=Business%20Analytics>

**Website:** <https://tippie.uiowa.edu/about/business-analytics-department>

The Department of Business Analytics specializes in using advanced computational and mathematical techniques to solve critical business problems. Its strengths in research and instruction include operations management, optimization, machine learning, natural language processing, network science, and data mining.

The department offers the undergraduate major in business analytics and information systems. Off-campus offerings include the part-time Master of Science program in business analytics and a graduate Certificate in Business Analytics located in Des Moines, Cedar Rapids, and online. On-campus graduate programs include the full-time Master of Science program in business analytics and the Doctor of Philosophy in business administration with a business analytics subprogram.

The off-campus business analytics (professional) program collaborates with the Professional Master of Business Administration Program to offer combined M.S./M.B.A. degrees. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Business Analytics and Information Systems (Bachelor of Business Administration) [p. 1231]

### Graduate Programs of Study

#### Majors

- Master of Science in Business Analytics (career) [p. 1233]
- Master of Science in Business Analytics (professional) [p. 1237]
- Business analytics subprogram for the Doctor of Philosophy [p. 1240] in Business Administration

## Certificate

- Certificate in Business Analytics [p. 1241]

## Courses

### Business Analytics Courses

#### **BAIS:1300 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

#### **BAIS:1500 Business Computing Essentials** 2 s.h.

Basic proficiency with common business application software (word processing, spreadsheet, presentation software, database); simulation training to achieve requisite skills; additional support available via optional textbook or ebook; online, modular, self-taught course.

#### **BAIS:2800 Foundations of Business Analytics** 3 s.h.

Introduction to business decision making using data; students transform data into insight using visualization and statistics; introduction to Excel as a tool for business analytics. Prerequisites: (STAT:1030 or STAT:2010 or STAT:3100 or STAT:3101 or STAT:3120 or STAT:3510 with a minimum grade of B or STAT:4100 or BIOS:4120 or PSQF:4143 with a minimum grade of B) and (MATH:1350 or MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860) and (BAIS:1500 or CS:1020 or CS:1110 or CS:1210 or CS:2110 or ENGR:1300 or ENGR:2730).

#### **BAIS:3000 Operations Management** 2-3 s.h.

Strategic, tactical, operational issues that arise in management of production and service operations; product and process design, facilities planning, quality management, materials management, operations planning and scheduling, emerging technologies in production and service management. Prerequisites: STAT:2010 or STAT:3120 or STAT:3101 or STAT:2020 with a minimum grade of B or STAT:3510 with a minimum grade of B or BIOS:4120 or STAT:3100 or PSQF:4143 with a minimum grade of B or STAT:1030 or STAT:4100.

#### **BAIS:3005 Information Systems** 2 s.h.

Application of computing principles to solving business problems; information technology in modern organizations; focus on sound data analysis to support decision making; tools used for problem solving (i.e., databases, Python); role of information systems in organizations; components of information technology; internet and network economy; basic data analysis and visualization; emerging technologies. Prerequisites: BAIS:1500 or CS:1020.

#### **BAIS:3020 Computational Thinking** 3 s.h.

Introduction to algorithmic problem-solving logic with Python; use of data structures and programming constructs to manipulate data and solve business problems. Prerequisites: BAIS:3005 or CS:2110.

#### **BAIS:3025 Business Process Automation** 3 s.h.

Students map current business processes and identify areas for software automation utilizing Excel VBA; how mapping and automating business processes can improve an organization by providing for simplified workflow, digital transformation of existing processes, increased service quality, improved service delivery, or reduced costs. Prerequisites: BAIS:3005 or CS:2110.

**BAIS:3050 Business Analytics and Information Systems Professional Preparation** **1 s.h.**

Information on career opportunities in the fields of business analytics and information systems (BAIS); introduction to the many career avenues available to a BAIS major and how to position oneself for success in those careers.

**BAIS:3070 Business Analytics and Information Systems Topics** **arr.**

Special topics in business analytics and information systems.

**BAIS:3100 Accounting Information Systems** **3 s.h.**

Application of computer technology and internal controls to accounting and transaction processing systems; auditing of information systems; information systems infrastructure and trends; problem solving with Python and databases; accounting cycle operations. Prerequisites: ACCT:2200 and ACCT:2100 and (BAIS:3005 or CS:2110). Same as ACCT:3600.

**BAIS:3140 Information Visualization** **3 s.h.**

Instruments for reasoning about quantitative information; analyzing and communicating statistical information; main typologies of data graphics (data-maps, time-series, space-time narrative, relational diagrams, graphs and methods for dimensionality reduction); language for discussing data visualizations combined with knowledge of human perception of visual objects; how to visualize information effectively by using statistical methods, knowledge of human perception, and basics of data graphics. Prerequisites: BAIS:2800 and BAIS:3005.

**BAIS:3200 Database Management** **3 s.h.**

Design, implementation, and use of relational database systems; emphasis on conceptual, logical, and physical data modeling; hands-on skill development with Structured Query Language (SQL). Prerequisites: BAIS:3005 or CS:1210 or CS:2110 or CS:2230 or CS:3330 or ENGR:2730.

**BAIS:3250 Data Wrangling** **3 s.h.**

Use of R programming to collect, process, and manipulate data; application of methods for descriptive and visual analytics to derive insights that can aid business decision making. Prerequisites: (BAIS:2800 or STAT:2020 with a minimum grade of B or STAT:4101 or ECON:4800) and BAIS:3020 and BAIS:3200.

**BAIS:3300 Digital Product Management** **3 s.h.**

Utilization of Agile project management to manage digital projects; many companies want employees who have experience managing technical projects; students experience each role on a project team as they prioritize backlogs, gather requirements, and deliver features that add value for their customer. Prerequisites: BAIS:3020 and BAIS:3200.

**BAIS:3400 Cloud Computing** **3 s.h.**

Introduction to cloud providers (i.e., Amazon Web Services, Microsoft Azure) and the underlying technology to provide reliable, secure transmission of data between client and cloud provider; hands-on experience configuring compute, storage, database, application, and networking services to provide cost-effective solutions to solve businesses' everyday problems. Prerequisites: BAIS:3005 or CS:2110 or CS:1210.

**BAIS:3500 Data Mining** **3 s.h.**

Introduction to predictive analytics methods motivated by problems in operations, marketing, finance, and health care; data mining techniques including classification, regression, and clustering. Prerequisites: (BAIS:2800 or STAT:2020 with a minimum grade of B or STAT:4101 or ECON:4800) and BAIS:3020 and BAIS:3200.

**BAIS:3600 Data Engineering** **3 s.h.**

Students Identify metrics to measure business initiatives, and identify and manipulate data artifacts necessary to track and measure success of those metrics; topics include ingesting streaming and batch data, creating data pipelines, warehousing appropriate data, and using software to create dashboards to visualize data. Prerequisites: BAIS:3020 and BAIS:3200.

**BAIS:3800 Optimization and Simulation Modeling** **3 s.h.**

Students utilize data and apply logic to construct optimization models to guide business decisions in operations, finance, accounting, marketing, economics, and human resources; leverage data to model uncertainty and construct Monte Carlo simulation models to quantify risk and assess different strategies. Prerequisites: BAIS:2800 or STAT:4101 or ECON:4800 or STAT:2020 with a minimum grade of B.

**BAIS:4050 Directed Readings** **arr.****BAIS:4150 Business Analytics and Information Systems Capstone** **3 s.h.**

Relevant analytics project experience which facilitates a real professional engagement utilizing Tippie College Business analytics curriculum and delivering value to project sponsors; outcomes include client presentation, steps to recreate analysis, and project report. Prerequisites: BAIS:3250 and BAIS:3500 and ACCT:2200 and BUS:3000.

**BAIS:4220 Advanced Database Management and Big Data** **3 s.h.**

Advanced database management topics; basics of semi-structured data and web services; how to retrieve real-world big data sets from web services; use of SQL and PL/SQL to analyze data in relational databases; big data related topics such as Hadoop and Hive. Prerequisites: BAIS:3200.

**BAIS:4280 Cybersecurity** **3 s.h.**

High-level view of computer security and fostering a cybersecurity mindset which is in demand across all industries; frequent change of perspective from employee to CEO, casual home user, and hacker; broad range of topics; actionable items to make daily digital interactions more secure. Prerequisites: BAIS:3005 or CS:1210 or CS:2110 or CS:2230 or CS:3330 or ENGR:2730.

**BAIS:4480 Knowledge Discovery** **3 s.h.**

Knowledge discovery process including data reduction, cleansing, and transformation; advanced modeling techniques from classification, prediction, clustering, and association; evaluation and integration.

**BAIS:4540 Statistical Learning** **3 s.h.**

Introduction to supervised and unsupervised statistical learning, with a focus on regression, classification, and clustering; methods will be applied to real data using appropriate software; supervised learning topics include linear and nonlinear (e.g., logistic) regression, linear discriminant analysis, cross-validation, bootstrapping, model selection, and regularization methods (e.g., ridge and lasso); generalized additive and spline models, tree-based methods, random forests and boosting, and support-vector machines; unsupervised learning topics include principal components and clustering. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to programming and/or software, such as R, SAS, and Matlab. Same as IGPI:4540, STAT:4540.

- BAIS:4999 Honors Thesis in Business Analytics** arr. Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University of Iowa Honors Program guidelines; may include empirical research, library research, applied projects.
- BAIS:6040 Data Programming in Python** 3 s.h. Introduction to principles and practices of handling, cleaning, processing, and visualizing data using the Python programming language; basic data programming skills that can be applied to software development in any high-level programming language; data types, control structures, functions and modules, and other useful libraries for data manipulation and machine learning applications in Python.
- BAIS:6050 Data Management and Visual Analytics** 3 s.h. Understanding how data is stored in databases and learning the tools used to access the data is key to creating data sets used to answer many business questions; how to manage and access data in relational databases using Structured Query Language (SQL); basic principles of visual analytics using Tableau; techniques for presenting data retrieved from databases.
- BAIS:6060 Data Programming in R** 3 s.h. Introduction to principles and practices of handling, cleaning, processing, and visualizing data using R programming language; basic programming skills that can be applied to software development in any programming language; variables and data types, control structures, functions and subroutines, arrays and other simple data structures.
- BAIS:6070 Data Science** 3 s.h. Underlying concepts and practical computational skills of data-mining tools including penalty-based variable selection (LASSO), logistic regression, regression and classification trees, clustering methods, principal components and partial least squares; analysis of text and network data; theory behind most useful data mining tools and how to use these tools in real-world situations; software for analysis, exploration, and simplification of large high-dimensional data sets. Prerequisites: MBA:8150 or BAIS:9100.
- BAIS:6100 Text Analytics** 3 s.h. Concepts and techniques of text mining; practice of using statistical tools to automatically extract meaning and patterns from collections of text documents; topics include document representation, text classification and clustering, sentiment analysis and topic modeling. Prerequisites: (BAIS:6060 or BAIS:6040) and (BAIS:6070 or BAIS:9110).
- BAIS:6105 Social Analytics** 3 s.h. Exploration of collection, management, and analysis of social data (interactions among actors); actors as individuals, organizations, or other collectives; sources for social data including social media, websites, annual reports, press releases, articles, and other traditional media. Prerequisites: BAIS:6040 or BAIS:6060.
- BAIS:6110 Big Data Management and Analytics** 3 s.h. Introduction to advanced techniques for managing and analyzing big data using R programming language; non-relational data models, such as semi-structured (XML) and unstructured (key-value) data; state-of-the-art big data tools for non-relational data management, such as NoSQL databases and distributed databases (Hadoop); query languages such as Hive); design and implementation of data analysis methods on these platforms; students use introduced tools to implement analysis tasks on big data sets through exercises and course projects. Prerequisites: BAIS:6050 and (BAIS:6060 or BAIS:6040). Recommendations: BAIS:6060 or knowledge of R programming language.
- BAIS:6120 Analytics Experience** 3 s.h. Students work in groups to complete semester-long projects pertaining to business analytics; all project stages are addressed including problem definition, data cleaning, analysis, and final presentation; appropriate tools from required courses used throughout. Prerequisites: BAIS:9100 and BAIS:6050 and BAIS:9110 and (BAIS:6060 or BAIS:6040) and BAIS:6070. Requirements: all CER courses and at least one master's course.
- BAIS:6130 Applied Optimization** 3 s.h. Use of optimization (also called prescriptive analytics or mathematical programming) to make tactical and strategic decisions; advanced optimization skills including data collection and preparation, logical modeling, and solution interpretation and implementation within a software environment; applications in the various functional areas of business are discussed throughout. Prerequisites: (BAIS:9100 or MBA:8150) and (BAIS:6060 or BAIS:6040).
- BAIS:6140 Information Visualization** 3 s.h. Exposure to problems and challenges of effectively interpreting and communicating the pervasive data that surround us; students cover the area of information visualization, grounded in theoretical foundations of visual perception, cognition, information design, human-computer interaction, and analysis of quantitative, unstructured, and relational data; lecture/seminar format with discussion of assigned readings, critiquing visualization examples, hands-on experience with a commercial information visualization application, and exploration of select open-source information visualization tools and toolkits.
- BAIS:6150 Financial Analytics** 3 s.h. Businesses as well as investors are affected by fluctuating treasury bond rates, equity prices, and foreign exchange rates, and the risk must be measured; students focus on gaining knowledge of the classic financial models and statistical and risk metrics and scaling them up with analytics techniques (sorting with thresholds, portfolio optimization, decision trees, and database programming) to find the best investments based on historical data sets; beginning with descriptive analytics and pushing into predictive and prescriptive analytics, students build a software simulation laboratory using R. Prerequisites: (BAIS:9100 or MBA:8150) and (BAIS:6060 or BAIS:6040).
- BAIS:6160 Big Data Analytics** 3 s.h. Principles of data mining and machine learning in the context of big data; basic data mining principles and methods (pattern discovery, clustering and ordering); analysis of different types of data (sets and sequences); machine learning topics including supervised and unsupervised learning, tuning model complexity, dimensionality reduction, nonparametric methods, comparing and combining algorithms, and applications of these methods; development of analytical techniques to cope with challenging and real big data problems; introduction to graphics processing unit (GPU) computing tools. Prerequisites: (BAIS:9100 or MBA:8150) and BAIS:6060.
- BAIS:6170 Directed Readings - Graduate Business Analytics** arr. Project and/or research with a faculty member as part of the graduate business analytics program. Requirements: enrollment in graduate business analytics program.

- BAIS:6180 Healthcare Analytics** 3 s.h.  
Clinical data management is essential for evaluating evidence-based practice/performance-improvement projects; a high quality data management plan provides key stakeholders with information necessary to make decisions; plan components include identified processes and outcomes linked to variables and data sources, adequate statistical power, data cleaning and manipulation techniques, statistical methods, and meaningful presentation of variables that address stakeholder concerns and questions; students gain knowledge and skills necessary to develop and execute a data management plan within a final project. Prerequisites: (BAIS:9100 or MBA:8150) and BAIS:6050.
- BAIS:6190 Forecasting** 3 s.h.  
Forecasting plays a central role in business decision making, and accurate forecasts are needed when making decisions about investments, resource allocations, schedules, and inventory levels; quantitative forecasting tools; extrapolation of time series data (e.g., daily, weekly, monthly sales); exponential smoothing methods; time series extrapolations from autoregressive and autoregressive integrated moving average (ARIMA) Box-Jenkins models; regression models that predict a variable of interest from its own history as well as any other available information (e.g., sales promotions, price reductions); methods for assessing performance of forecasting methods. Prerequisites: MBA:8150 or BAIS:9100.
- BAIS:6210 Data Leadership and Management** 3 s.h.  
Core chief information officer (CIO) basics; focus on how to keep technology, systems, and procedures supporting business goal outcomes including management of information technology (IT) teams, systems selection, vendor negotiation, change, information risk, data integrity, ethics, information system (IS) policies, strategies, cloud computing, and budget.
- BAIS:6220 Business Analytics Certification Workshop** 0-3 s.h.  
Preparation for one or more industry certifications in the field of business analytics; certification varies based on timing of course and current trends in business analytics; several options include certifications related to programming languages (e.g., Python, R, SQL), analytics tools (e.g., Tableau, PowerBI), or general professional skills certifications (e.g., Associate Certified Analytics Professional, Certified Associate in Project Management).
- BAIS:6230 People Analytics** 3 s.h.  
Developing, interpreting, and making decisions related to knowledge of human behavior, performance characteristics, and tendencies for organizational success and competitive advantage; data driven frameworks, strategies, and methods for job assignment, scheduling, skill acquisition, staffing, and cross training.
- BAIS:6280 Cybersecurity** 3 s.h.  
High-level view of computer security and fostering a cybersecurity mindset which is in demand across all industries; frequent change of perspective from employee to CEO, casual home user, and hacker; broad range of topics; actionable items to make daily digital interactions more secure.
- BAIS:6300 Dynamic Programming** 3 s.h.  
Fundamentals of discrete sequential dynamic programming with special focus on situations in which outcomes are uncertain; formulation and analysis of deterministic and stochastic dynamic programs under several objective criteria; emphasis on rapidly expanding field of approximate dynamic programming; applications including inventory control, vehicle routing, and resource allocation.
- BAIS:6400 Cloud Computing** 3 s.h.  
Introduction to cloud providers (i.e., Amazon Web Services, Microsoft Azure) and underlying technology to provide reliable, secure transmission of data between client and cloud provider; hands-on experience configuring compute, storage, database, application, and networking services to provide cost-effective solutions to solve businesses' everyday problems.
- BAIS:6420 Advanced Database Management and Big Data** 3 s.h.  
Advanced database management topics; basics of semi-structured data and web services; how to retrieve real-world big data sets from web services; use of SQL and PL/SQL to analyze data in relational databases; big data related topics (e.g., Hadoop, Hive). Same as IGPI:6420.
- BAIS:6480 Knowledge Discovery** 3 s.h.  
Knowledge discovery process including data reduction, cleansing, and transformation; advanced modeling techniques from classification, prediction, clustering, and association; evaluation and integration. Same as IGPI:6480.
- BAIS:6500 Social Network Analytics: Models and Algorithms** 3 s.h.  
Preparation for future research in computational network analysis; introduction to methodology for analyzing various types of complex networks including social networks, information networks, and business networks; basic concepts of networks, models for network structures and dynamics, computational algorithms for analyzing networks; hands-on experience with analyzing real-world networks using third-party software or programming APIs.
- BAIS:6600 Linear Programming** 3 s.h.  
Mathematical programming models; linear and integer programming, transportation models, large-scale linear programming, network flow models, convex separable programming. Requirements: calculus and linear algebra. Same as IGPI:6600, ISE:6600.
- BAIS:6700 Discrete Optimization** 3 s.h.  
Introduction to modeling and solving discrete optimization problems; integer programming, network flows, dynamic programming. Prerequisites: BAIS:6600. Same as IGPI:6700.
- BAIS:6900 Heuristic Search** 3 s.h.  
Design of heuristic search algorithms to find good (near-optimal) solutions to difficult (NP-hard) optimization problems that occur in many disciplines; basic heuristic concepts (local search, greedy search, problem decomposition) which serve as fundamental constructs for metaheuristics, including simulated annealing, genetic algorithms, tabu search, variable neighborhood search; introduction to various optimization problems and survey of various heuristic approaches; underlying theoretical structure of several heuristic methods; how to implement a heuristic algorithm.
- BAIS:6999 Graduation Registration Requirement** 1 s.h.  
Requirements: professional business analytics M.S. degree candidate in final semester and all mandatory courses completed.
- BAIS:7000 Business Analytics Topics** 3 s.h.  
Same as IGPI:7000.

**BAIS:7500 Statistical Machine Learning 3 s.h.**

Regularization methods for sparse models, computational algorithms for large scale problems, statistical inference in high-dimensional models, reproducing kernel Hilbert space, supervised learning, nonparametric density and conditional density estimation, neural networks and deep learning, optimal transport and generative learning, dimension reduction and representation learning. Prerequisites: STAT:5100 or STAT:5200. Same as STAT:7500.

**BAIS:7900 Special Topics in Business Analytics arr.****BAIS:7925 Machine Learning and Causal Inference 3 s.h.**

Exploration of methods and research at intersections of machine learning and causal inference; examination of intersections related to regression and classification, regularization, treatment effects, counterfactuals, text analytics, dimensionality reduction, and causal trees.

**BAIS:7950 Directed Readings arr.****BAIS:7975 Thesis in Business Analytics arr.**

Requirements: Ph.D. enrollment.

**BAIS:8130 Business Communication 1-3 s.h.**

Effective communication to become a successful business professional and leader; strengthen ability to speak and write confidently, competently, and effectively regardless of venue; varied team and individual presentation coaching, applied exercises. Requirements: admission to M.S. in business analytics (career) program.

**BAIS:9010 Contemporary Topics in Analytics 1-3 s.h.**

Content from cutting edge topics in business analytics, operations, and project management; topics vary.

**BAIS:9100 Data and Decisions 3 s.h.**

Introduction to business analytics; utilizing Excel to apply descriptive and predictive analytical tools to solve practical business problems using real world data; dealing with uncertainty in decision making; formal probability concepts and statistical methods for describing variability (decision trees, random variables, hypothesis testing); application of techniques (linear regression, Monte Carlo simulation, linear optimization) to model, explain, and predict for operational, tactical, and strategic decisions.

**BAIS:9110 Advanced Analytics 2-3 s.h.**

Development of data-driven, problem-solving skills for prediction of uncertain outcomes and prescription of business solutions; linear and nonlinear regression, Monte Carlo simulation, forecasting, data mining, and optimization utilizing spreadsheets and dedicated software packages. Prerequisites: MBA:8150 or BAIS:9100.

**BAIS:9120 Managing the Supply Chain 2-3 s.h.**

Design, operation, and management of a supply chain; supplier and customer partnerships, supply base management, transportation and logistics, supply chain innovation, supply chain sustainability; supply chain risk management and performance metrics. Prerequisites: MBA:8240.

**BAIS:9130 Lean Process Improvement 3 s.h.**

Design, management, and improvement of business processes which form the basis of every organization, ranging from manufacturing facilities to service providers and from for-profits to nonprofits; students learn the principles of lean thinking and continuous improvement through a series of hands-on exercises; team-based, data-driven approach on how to map a value stream, identify waste, analyze root causes, and brainstorm countermeasures for a variety of different processes. Recommendations: MBA:8240.

**BAIS:9140 Agile Project Management 3 s.h.**

Students prepare to create or participate in a successful agile work environment; learn various agile methods (e.g., scrum, lean, Kanban, XP); understand and apply tools, techniques, and approaches in an agile setting; and how to apply advanced agile topics (e.g., story mapping, advanced planning and estimating, scaling methods).

**BAIS:9160 Supply Chain Analytics 2-3 s.h.**

Supply chain analytics applications for decision making, including demand forecasting, inventory management, capacity planning, and supply chain coordination. Prerequisites: MBA:8150 or BAIS:9100.

**BAIS:9210 Introduction to Modeling with VBA 2-3 s.h.**

Introduction to programming Visual Basic for Applications in Excel; case studies in finance, marketing, operations, accounting.

**BAIS:9220 Introduction to Information Systems 3 s.h.**

Effective ways for business firms to harness the power of information technology for strategic purposes; conventional and emerging architectures of information systems; integrated perspective on structural relationships among IT components; emphasis on case studies.

**BAIS:9300 Innovations in Technology 2-3 s.h.**

Current innovations in technology; examination of virtual reality including basics, hardware and history, applications, psychology; focus on experiencing prebuilt environments to develop an understanding of how virtual reality can be used in different industries rather than on building virtual reality environments; technical background not required.

**BAIS:9400 Professional Development and Business Acumen 0-3 s.h.**

Professional development and business acumen in preparation for a postgraduate career; students explore how to grow a professional network, examine how to build depth of knowledge and breadth of business acumen, gain knowledge from industry professionals on current trends and activities in business analytics, and receive guidance and best practices on career management fundamentals as well as specific recommendations for business analytics students; exposure to relevant information important to student's major that does not clearly fit into academic coursework. Requirements: admission to M.S. in business analytics (career) program.

# Business Analytics and Information Systems, B.B.A.

## Requirements

The Bachelor of Business Administration with a major in business analytics and information systems (BAIS) requires a minimum of 120 s.h., including 22 s.h. of work for the major. Students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all college coursework attempted in business, all college coursework attempted in the major, all coursework attempted at the University of Iowa, all business coursework attempted at the University of Iowa, and all coursework in the major attempted at the University of Iowa.

The program provides a variety of educational experiences that develop students' knowledge of managerial decision-making systems. Students acquire skill in applying this knowledge by constructing quantitative models, using computer technology, and creating database systems.

Students earning the BAIS major may not earn the major or minor in informatics.

The B.B.A. with a major in business analytics and information systems requires the following coursework. For common B.B.A. requirements, see the Bachelor of Business Administration [p. 1217] in the Catalog.

Code	Title	Hours
Required Courses		16
Required Electives		6
<b>Total Hours</b>		<b>22</b>

## Required Courses

Code	Title	Hours
All of these:		
BAIS:3020	Computational Thinking	3
BAIS:3050	Business Analytics and Information Systems Professional Preparation	1
BAIS:3200	Database Management	3
BAIS:3250	Data Wrangling	3
BAIS:3500	Data Mining	3
BAIS:4150	Business Analytics and Information Systems Capstone	3

## Required Electives

Code	Title	Hours
At least 6 s.h. from these; 3 s.h. may be taken in non-BAIS coursework:		
BAIS:3025	Business Process Automation	3
BAIS:3100	Accounting Information Systems	3
BAIS:3140	Information Visualization	3
BAIS:3300	Digital Product Management	3
BAIS:3400	Cloud Computing	3

BAIS:3600	Data Engineering	3
BAIS:3800	Optimization and Simulation Modeling	3
BAIS:4220	Advanced Database Management and Big Data	3
BAIS:4280	Cybersecurity	3
CS:1210	Computer Science I: Fundamentals	4
ECON:3355	Economic and Business Forecasting	3
MKTG:3102	Marketing Analytics	3
Any computer science course for which CS:1210 is a prerequisite		3-4

## Career Advancement

The business analytics and information systems major prepares students for wide-ranging analytics and technology related opportunities. Graduates successfully seek careers as business analysts, data analysts, systems analysts, technology consultants and managers, and in many other types of technology and data-related careers. Graduates work in all different organizations across all industries. More details about the major and careers can be found in the Business Analytics and Information Systems (BAIS) Toolkit on the Marvin A. Pomerantz Business Library website.

According to the Pomerantz Career Center's postgraduation data, 98 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit the Pomerantz Career Center website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Business Analytics and Information Systems, B.B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Students are required to complete 52 s.h. of non-business coursework. Courses with a prefix of ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, MSCI, and MKTG will not count towards non-business hours. Check degree audit for non-business hours or confer with academic advisor.

To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course.<sup>a</sup>

Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. World Language counts as non-business coursework.

Students must satisfy the Tippie College of Business residence requirement: 45 s.h. of UI coursework after admission to Tippie.

Completion of BAIS:2800 Foundations of Business Analytics, BAIS:3000 Operations Management, and BAIS:3005 Information Systems by the end of the second year or no later than the first semester of the third year is essential for major course sequencing.

		<b>Hours</b>	<b>0-3</b>
<b>First Year</b>			
<b>Fall</b>			
MATH:1350	Quantitative Reasoning for Business <sup>b</sup>	4	
RHET:1030	Rhetoric <sup>c</sup>	4	
GE: Historical Perspectives <sup>c</sup>		3	
GE: Social Sciences <sup>c</sup>		3	
CSI:1600	Success at Iowa	2	
		<b>Hours</b>	<b>16</b>
<b>Spring</b>			
STAT:1030	Statistics for Business	4	
ECON:1100	Principles of Microeconomics	4	
BAIS:1500	Business Computing Essentials	2	
ENGL:1200	The Interpretation of Literature	3	
GE: Diversity and Inclusion or GE: Values and Culture <sup>c</sup>		3	
		<b>Hours</b>	<b>16</b>
<b>Second Year</b>			
<b>Fall</b>			
ACCT:2100	Introduction to Financial Accounting	3	
ECON:1200	Principles of Macroeconomics	4	
BAIS:3000	Operations Management	2	
BAIS:3005	Information Systems	2	
BUS:2200	Foundations for Success in Business <sup>d</sup>	1	
GE: Natural Sciences without Lab <sup>c</sup>		3	
		<b>Hours</b>	<b>15</b>
<b>Spring</b>			
BAIS:3050	Business Analytics and Information Systems Professional Preparation	1	
BUS:3000	Business Communication and Protocol <sup>e</sup>	3	
BAIS:2800	Foundations of Business Analytics	3	
MGMT:2100	Introduction to Management	3	
GE: International and Global Issues <sup>c</sup>		3	
Minor, certificate, or non-business elective		3	
		<b>Hours</b>	<b>16</b>
<b>Third Year</b>			
<b>Fall</b>			
ACCT:2200	Managerial Accounting	3	
MGMT:2000	Introduction to Law	3	
BAIS:3200	Database Management	3	
Minor, certificate, or non-business elective		3	

Minor, certificate, or non-business elective		3	
		<b>Hours</b>	<b>15</b>
<b>Spring</b>			
BAIS:3020	Computational Thinking	3	
Major: BAIS elective course <sup>f</sup>		3	
FIN:3000	Introductory Financial Management	3	
Minor, certificate, or non-business elective		3	
Minor, certificate, or non-business elective		3	
Minor, certificate, or non-business elective		1	
		<b>Hours</b>	<b>16</b>
<b>Fourth Year</b>			
<b>Fall</b>			
BAIS:3250	Data Wrangling	3	
BAIS:3500	Data Mining	3	
MKTG:3000	Introduction to Marketing Strategy	3	
Minor, certificate, or non-business elective		3	
Minor, certificate, or non-business elective		1	
		<b>Hours</b>	<b>13</b>
<b>Spring</b>			
BAIS:4150	Business Analytics and Information Systems Capstone <sup>g</sup>	3	
BAIS:3800	Optimization and Simulation Modeling	3	
Minor, certificate, or non-business elective		3	
Minor, certificate, or non-business elective		3	
Minor, certificate, or non-business elective		1	
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>			
		<b>Hours</b>	<b>13</b>
		<b>Total Hours</b>	<b>120-123</b>

a See degree audit for course options.

b Enrollment in math courses requires completion of a placement exam.

c GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Complete BUS:2200 by the end of the second year, before enrolling in BAIS:3050.

e BUS:3000 should be taken the first semester after admission to the Tippie College of Business; may be deferred one semester. Direct admits take BUS:3000 in their second year.

f Select from list of approved courses in the General Catalog or on degree audit.

g Students should consider in their planning that ACCT:2200, BAIS:3250, BAIS:3500, and BUS:3000 are prerequisites for the capstone course.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Business Analytics (career), M.S.

Businesses of all sizes are creating and storing more data than ever before according to IBM—2.5 quintillion bytes per day. Businesses are swimming in data, but often lack the talent and expertise to use it effectively for making decisions, revealing insights, and making predictions. Business analytics experts are changing that. The full-time Master of Science program in business analytics puts students on the leading edge of a burgeoning industry hungry for top notch talent.

Students learn the skills and techniques necessary to turn raw data into actionable insights. Descriptive and diagnostic analytics are just starting points in the program. The skills learned develop students into decision-makers and data scientists adept at using predictive and prescriptive analytics to solve business problems.

The full-time program is located in Iowa City. The plan of study spans 16 months, and includes core courses, internships, and electives.

## Learning Outcomes

Graduates will exhibit knowledge and skills relevant to data and its applications in business. They will demonstrate competence in the subareas of:

- descriptive analytics;
- predictive analytics; and
- prescriptive analytics.

Graduates will create and communicate solutions to data-related business problems that impact their organizations and communities. They will:

- approach, address, and solve a loosely defined business problem requiring the use, exploration, and analysis of data; and
- communicate effectively through oral, written, and visual forms.

Graduates will understand and explore ethical and privacy issues related to the use of data in the modern world. They will:

- contemplate ethical and privacy issues arising in their own work; and
- express a working knowledge of the major ethical and privacy issues facing the business-analytics profession, supported with examples from current events.

Graduates will demonstrate the ability to be effective team members in a diverse and complex world. They will:

- engage in effective team processes; and
- lead and support others to achieve collective goals.

## Requirements

The full-time Master of Science program in business analytics requires a minimum of 40 s.h. of graduate credit. Transfer credit may be accepted with approval from the program. A major g.p.a. and a cumulative g.p.a. of at least 2.75 is required in all coursework.

The M.S. with a major in business analytics requires the following coursework.

Code	Title	Hours
Core Courses		19
Experience Course/Project		3
Electives		18
<b>Total Hours</b>		<b>40</b>

## Core Courses

Code	Title	Hours
All of these:		
BAIS:6050	Data Management and Visual Analytics	3
BAIS:6070	Data Science	3
BAIS:8130	Business Communication (taken fall and spring semester for 1 s.h. each)	2
BAIS:9100	Data and Decisions	3
BAIS:9110	Advanced Analytics	3
BAIS:9400	Professional Development and Business Acumen (taken fall and spring semester for 1 s.h. each)	2

One of these:

BAIS:6040	Data Programming in Python	3
BAIS:6060	Data Programming in R	3

## Experience Course/Project

The experience course consists of a group project that solves a semester-long business problem.

Code	Title	Hours
This course:		
BAIS:6120	Analytics Experience	3

## Electives

Elective coursework allows students to deepen or broaden their skills. Additional electives may be available for credit but must be preapproved.

Code	Title	Hours
18 s.h. from these:		
BAIS:6040	Data Programming in Python (if not taken as core course)	3
BAIS:6060	Data Programming in R (if not taken as core course)	3
BAIS:6100	Text Analytics	3
BAIS:6105	Social Analytics	3
BAIS:6110	Big Data Management and Analytics	3
BAIS:6130	Applied Optimization	3
BAIS:6140	Information Visualization	3
BAIS:6150	Financial Analytics	3
BAIS:6170	Directed Readings - Graduate Business Analytics	arr.
BAIS:6180	Healthcare Analytics	3
BAIS:6190	Forecasting	3
BAIS:6210	Data Leadership and Management	3
BAIS:6220	Business Analytics Certification Workshop	3
BAIS:6230	People Analytics	3

BAIS:6280	Cybersecurity	3	PSQF:6209/ EPLS:6209	Survey Research and Design	3
BAIS:6400	Cloud Computing	3			
BAIS:9210	Introduction to Modeling with VBA	3	PSQF:6243/ STAT:6513	Intermediate Statistical Methods	3
ACCT:9170	Advanced Accounting Analytics	3	PSQF:6246/ STAT:6516	Design of Experiments	3
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3	PSQF:6250	Computer Packages for Statistical Analysis (not recommended if completed BAIS:6060)	1-3
BIOS:5310/ IGPI:5310/ STAT:5810	Research Data Management	3	STAT:4100/ IGPI:4100	Mathematical Statistics I	3
CS:3210	Programming Languages and Tools	arr.	STAT:4101/ IGPI:4101	Mathematical Statistics II	3
CS:4420	Artificial Intelligence	3	STAT:4200/ IGPI:4200	Statistical Methods and Computing	3
CS:4470	Health Data Analytics	3	STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
CS:5110/IGPI:5110	Introduction to Informatics	3	STAT:4560	Statistics for Risk Modeling I	3
CS:5430	Machine Learning	3	STAT:5100	Statistical Inference I	3
ECE:5450/IGPI:5450	Machine Learning	3	STAT:5200/ IGPI:5199	Applied Statistics I	4
ECE:5490	Multi-Dimensional Image Analysis Tools and Techniques	3	STAT:5400/ IGPI:5400	Computing in Statistics	3
ECON:4800	Econometric Analysis	3	STAT:6560	Applied Time Series Analysis	3
ECON:5800	Econometrics	3	STAT:7400/ IGPI:7400	Computer Intensive Statistics	3
ECON:5805	Statistics for Economics	3	URP:6200/ PBAF:6200	Analytic Methods I	1-3
EPID:5200/ IGPI:5220	Principles of Public Health Informatics	3	URP:6225/ PBAF:6225	Applied GIS for Planning and Policy Making	1-3
FIN:9160	Quantitative Finance and Deep Learning	0,3	May include 6 s.h. from these:		
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3	ENTR:9800	Entrepreneurship: Advanced Business Planning	1-3
GEOG:3540/ IGPI:3540	Geographic Visualization	3	MBA:8140	Corporate Financial Reporting	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3	MBA:8170	International Economic Environment of the Firm	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3	MBA:8180	Managerial Finance	3
GEOG:5540/ IGPI:5540	Geographic Visualization	3	MGMT:3200	Individuals, Teams, and Organizations	3
GEOG:5055/ IGPI:5055	Geospatial Programming	3	MGMT:9150/ HMP:6360/ PBAF:6278/ RELS:6070/ SPST:6010/ SSW:6247/ URP:6278	Nonprofit Organizational Effectiveness I	3
ISE:3600/CEE:3142/ STAT:3620	Quality Control	3	MGMT:9160/ HMP:6365/ PBAF:6279/ RELS:6075/ SPST:6020/ SSW:6248/ URP:6279	Nonprofit Organizational Effectiveness II	3
ISE:4172	Big Data Analytics	3	PSQF:5165/ EPLS:5165	Introduction to Program and Project Evaluation	3
ISE:6380	Deep Learning	3			
ISE:6760	Pattern Recognition for Financial Data	3			
ISE:6780	Financial Engineering and Optimization	3			
JMC:3640	Information and Data Visualization	3-4			
MATH:4250	Introduction to Financial Mathematics	3			
ME:4111/CEE:4511	Scientific Computing and Machine Learning	3			
ME:4150	Artificial Intelligence in Engineering	3			
MKTG:9165	Digital Marketing Analytics	3			
MKTG:9310	Marketing Analytics	3			
POLI:3001	Hawkeye Poll	3			

## Combined Programs

### M.S./J.D.

The combined Master of Science in business analytics (career subprogram)/Juris Doctor allows students to pursue two degrees simultaneously, earning both more quickly than they would if the degrees were pursued separately. The Department of Business Analytics collaborates with the College of Law to offer the combined program.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined program. For more information, see the Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

### M.S./M.S. in Finance

The combined Master of Science in business analytics (career subprogram)/Master of Science in finance allows students to pursue two degrees simultaneously, earning both more quickly than they would if the degrees were pursued separately. The Department of Business Analytics collaborates with the Department of Finance to offer the combined program.

A single admission application is available for the combined degree program. For more information, see the M.S. in finance [p. 1281] in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must:

- have earned a bachelor's degree from a U.S. college or university, or have earned an equivalent degree from another country;
- submit unofficial transcripts with their application and official transcripts for admission;
- have earned a minimum g.p.a. of at least 3.00 or the international equivalent;
- submit a current résumé that includes information about employment (if applicable), education, extracurricular activities, and community involvement; and
- submit a statement of purpose with a maximum length of 500 words.

Applicants whose first language is not English must submit official test scores to verify English proficiency. They can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET). Applicants who use the IELTS or DET are required to take the on-campus English Proficiency Examination.

Application deadlines are as follows.

- Priority deadline: December 15
- International student deadline: March 15
- Domestic student deadline: June 15

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Business Analytics (career), M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
40 s.h. of graduate level coursework must be completed; up to 6 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Maintain at least a 2.75 cumulative and program GPA.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Meet with your Career Management coach and Professional Director.		
Attend Career Management Center sessions offered.		
Apply to and secure a summer internship or arrange a summer research project.		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
BAIS:6050	Data Management and Visual Analytics	3
BAIS:6060 or BAIS:6040	Data Programming in R or Data Programming in Python	3
BAIS:9100	Data and Decisions	3
BAIS:9400	Professional Development and Business Acumen <sup>b</sup>	1
Elective course <sup>c</sup>		3
Arrange for the Career Management Center to review updated resume, then upload to Handshake.		
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
BAIS:6070	Data Science	3
BAIS:9110	Advanced Analytics	3
BAIS:9400	Professional Development and Business Acumen <sup>b</sup>	1
BAIS:8130	Business Communication <sup>d</sup>	1
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Complete end of semester employment placement survey as requested by Career Management.		
<b>Hours</b>		<b>14</b>
<b>Summer</b>		
Internship: complete a summer internship <sup>e</sup>		
Research: complete a summer research project <sup>e</sup>		
<b>Hours</b>		<b>0</b>

**Second Year****Any Semester**

Meet with your Career Management coach and Professional Director.

Attend Career Management Center sessions offered.

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
BAIS:6120	Analytics Experience	3
BAIS:8130	Business Communication <sup>d</sup>	1
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Complete end of semester employment placement survey as requested by Career Management.		
Verify completion of all degree requirements with program administrator.		
Apply to and secure post-graduation employment.		
<b>Hours</b>		<b>13</b>
<b>Total Hours</b>		<b>40</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b BAIS:9400 is taken during both fall and spring of the first year for a total of 2 s.h.

c Choose from a pre-approved elective list or contact academic advisor for consideration and approval of another course.

d BAIS:8130 is taken during both first year spring and second year fall for a total of 2 s.h.

e Choose between a summer internship or summer research project.

# Business Analytics (professional), M.S.

The digital revolution empowered by the internet and computer technology in business and individual life during the last several decades has generated unimaginable amounts of data in the form of digital records stored in databases and file servers. The volume, velocity, and variety of these data have produced a new set of problems and challenges for businesses and organizations in their pursuit of competitiveness, effectiveness, and efficiency. These problems and challenges also have created unprecedented opportunities for businesses and organizations to discover, model, understand, and serve their customers and partners in ways never imagined and to supply details never possible before. Businesses and organizations that are able to master this volume of data will have a tremendous competitive advantage over their competition in the marketplace.

As the need for business analytics grows, demand for professionals who understand and are capable of working with and exploring this data has exploded in recent years. This program addresses the growing need to manage and analyze the rapidly increasing amount of data that is available to support business decision making.

Students in the part-time program may take courses in Des Moines, Cedar Rapids, and online.

## Learning Outcomes

Graduates will exhibit knowledge and skills relevant to data and its applications in business. They will demonstrate competence in the subareas of:

- descriptive analytics;
- predictive analytics; and
- prescriptive analytics.

Graduates will create and communicate solutions to data-related business problems that impact their organizations and communities. They will:

- approach, address, and solve a loosely defined business problem requiring the use, exploration, and analysis of data; and
- communicate effectively through oral, written, and visual forms.

Graduates will understand and explore ethical and privacy issues related to the use of data in the modern world. They will:

- contemplate ethical and privacy issues arising in their own work; and
- express a working knowledge of the major ethical and privacy issues facing the business-analytics profession, supported with examples from current events.

Graduates will demonstrate the ability to be effective team members in a diverse and complex world. They will:

- engage in effective team processes; and
- lead and support others to achieve collective goals.

## Requirements

The part-time Master of Science program in business analytics requires a minimum of 30 s.h. of graduate credit. A maximum

of 6 s.h. of transfer credit may be accepted with approval from the program. Students who wish to include the 15 s.h. earned from the Certificate in Business Analytics toward the M.S. degree may do so as long as their coursework is not more than 10 years old from the date of the M.S. degree conferral. A major and cumulative g.p.a. of at least 2.75 is required in all coursework.

The M.S. with a major in business analytics requires the following coursework.

Code	Title	Hours
Core Courses		15
Experience Course/Project		3
Electives		12
<b>Total Hours</b>		<b>30</b>

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for that course.

## Core Courses

Code	Title	Hours
One of these:		
BAIS:6040	Data Programming in Python	3
BAIS:6060	Data Programming in R	3
All of these:		
BAIS:6050	Data Management and Visual Analytics	3
BAIS:6070	Data Science	3
BAIS:9100 or MBA:8150	Data and Decisions	3
BAIS:9110	Advanced Analytics	3

## Experience Course/Project

The experience course consists of a group project that solves a semester-long business problem. Students should take this course after they have completed the core courses and one elective course.

Code	Title	Hours
This course:		
BAIS:6120	Analytics Experience	3

## Electives

Elective coursework allows students to deepen or broaden their skills.

Code	Title	Hours
12 s.h. from these:		
BAIS:6040	Data Programming in Python (if not taken as a core course)	3
BAIS:6060	Data Programming in R (if not taken as a core course)	3
BAIS:6100	Text Analytics	3
BAIS:6105	Social Analytics	3
BAIS:6110	Big Data Management and Analytics	3
BAIS:6130	Applied Optimization	3
BAIS:6140	Information Visualization	3
BAIS:6150	Financial Analytics	3
BAIS:6180	Healthcare Analytics	3

BAIS:6190	Forecasting	3
BAIS:6210	Data Leadership and Management	3
BAIS:6230	People Analytics	3
BAIS:6280	Cybersecurity	3
BAIS:9010	Contemporary Topics in Analytics	1-3
BAIS:9130	Lean Process Improvement	3
BAIS:9140	Agile Project Management	3
BAIS:9160	Supply Chain Analytics	3
MKTG:9165	Digital Marketing Analytics	3
6 s.h. of the total 12 s.h. in electives may be taken from these:		
BAIS:9300	Innovations in Technology	3
ACCT:9020	Strategic Cost Analysis	3
ACCT:9040	Financial Statement Analysis and Forecasting	3
ENTR:9100	Entrepreneurship and Innovation	3
ENTR:9200	Entrepreneurial Finance	3
ENTR:9450	Strategic Management of Technology and Innovation	3
ENTR:9500	Managing the Growth Business	3
ENTR:9700	Entrepreneurship: Business Consulting	3
FIN:9140	Enterprise Risk Management	3
FIN:9150	Financial Modeling and Firm Valuation	3
FIN:9200	Portfolio Management	3
FIN:9230	Real Estate Finance and Investments	3
FIN:9240	International Finance	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9310	Corporate Financial Strategy	3
FIN:9350	Wealth Management	3
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8130	Business Communication	3
MBA:8140	Corporate Financial Reporting	3
MBA:8160	Managerial Economics	3
MBA:8180	Managerial Finance	3
MBA:8240	Operations and Supply Chain	3
MBA:8300	Foundations in Strategy	3
MBA:8500	Seminar in International Business	3
MGMT:9090	Influence and Constructive Persuasion	3
MGMT:9091	Corporate Social Responsibility and Sustainability	3
MGMT:9092	Effective Managerial Communication	3
MGMT:9110	Dynamics of Negotiations	3
MGMT:9120	Leadership and Personal Development	3

MGMT:9130	Strategic Management of Change	3
MGMT:9185	Project Management	3
MGMT:9210	Law and Ethics	3
MGMT:9220	Maximizing Team Performance	3
MGMT:9230	Managing and Preventing Conflict	3
MGMT:9240	Inclusive Leadership	3
MGMT:9250	Managing Employee Performance	3
MGMT:9260	Strategic Employee Development	3
MGMT:9270	Human Resource Management	3
MGMT:9290	Global Business Management	3
MKTG:9015	Social Media Marketing for Business	3
MKTG:9120	Customer Relationship Management	3
MKTG:9150	Brand Management	3
MKTG:9155	Digital Marketing Insights, Strategies, and Applications	3
MKTG:9170	Business to Business Marketing	3
MKTG:9190	International Marketing	3
MKTG:9300	Applied Marketing Research	3
MKTG:9320	Strategic Brand Positioning	3
MKTG:9330	Product and Pricing Management	3
MKTG:9340	Customer Analysis	3
MKTG:9350	Marketing Communication and Promotions	3
MKTG:9360	Category Management	3

## Combined Programs

### M.S./M.B.A. (Professional Program)

The combined Master of Science in business analytics (professional subprogram)/Professional Master of Business Administration Program allows students to pursue two degrees simultaneously, earning both more quickly than they would if the degrees were pursued separately. The Department of Business Analytics collaborates with the Master of Business Administration Program to offer combined M.S./M.B.A. degrees.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the M.B.A., see the M.B.A. Professional Program in the Master of Business Administration [p. 1315] section of the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College and the Master of Science in business analytics (professional subprogram); see the Manual of Rules and Regulations on the Graduate College website and the

part-time Master of Science in business analytics (professional subprogram) admission guidelines on the Tippie College of Business website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Business Analytics (professional), M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MBA:8150 or BAIS:9100	Data and Decisions <sup>c</sup> or Data and Decisions	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
BAIS:6060 or BAIS:6040	Data Programming in R <sup>c</sup> or Data Programming in Python	3
<b>Hours</b>		<b>3</b>
<b>Summer</b>		
Elective course <sup>d, e</sup>		3
<b>Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
BAIS:6050	Data Management and Visual Analytics <sup>c</sup>	3
Elective course <sup>d, e</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
BAIS:9110	Advanced Analytics <sup>c</sup>	3
<b>Hours</b>		<b>3</b>
<b>Summer</b>		
Elective course <sup>d, e</sup>		3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
BAIS:6070	Data Science <sup>c</sup>	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
BAIS:6120	Analytics Experience <sup>f</sup>	3
<b>Hours</b>		<b>3</b>
<b>Summer</b>		
Elective course <sup>d, e</sup>		3
Final Exam <sup>g</sup>		

Complete Degree Application in MyUI<sup>h</sup>

<b>Hours</b>	<b>3</b>
<b>Total Hours</b>	<b>30</b>

- a Analytics courses are offered in an 11-week format in fall, spring and summer. Students may take up to 6 s.h. of business electives through the Professional MBA Program, including some courses which are offered in shorter formats. Consult with your advisor and/or the schedule for more details.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Core courses are not offered in person every semester, but additional online options may be available. Consult with your advisor and/or the schedule for more details.
- d Elective options are generally offered in person and online each session but selection and the number of electives offered varies. Consult with your advisor and/or the schedule for more details.
- e See the General Catalog for a list of approved courses.
- f Consists of a group project that solves a semester-long business problem. Students should take BAIS:6120 after they have completed the core courses and at least one elective course.
- g Successful completion of all degree requirements.
- h See Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor.

# Doctor of Philosophy

Graduate students in business analytics may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in business administration [p. 1243] in the Catalog and visit the Department of Business Analytics website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Learning Outcomes

- To demonstrate proficiency and knowledge in the specialization discipline, students will demonstrate expertise in reading and interpreting academic research articles in their specialized discipline. They will be knowledgeable in the major theoretical perspectives and prior research findings in their area and be able to integrate prior research from various streams of literature.
- To demonstrate the ability to conduct independent, original research that leads to publications, students will be able to identify important research questions, execute an appropriate research design, and summarize their efforts in a research paper. This includes being able to read and summarize existing research into their paper and understanding the prior literature in a variety of substantive areas, paradigms, and methodologies.
- To be effective teachers in their disciplines, students will demonstrate proficiency as instructors in courses in their specialized discipline. This includes preparing course syllabi, giving lectures, writing assignments and exams, and evaluating students on the various deliverables.
- To demonstrate effective communications skills, students will be effective at communicating ideas in academic writing and how these ideas relate to each other within the context of an academic paper. This includes the ability to establish a position, show why that position matters, and situate that position within a context that is determined by the appropriate audience. International students will demonstrate the ability to effectively lecture and communicate in English.



# Business Analytics, Graduate Certificate

Analytics—broadly defined as the scientific process of transforming data into insight for making better decisions—plays an increasingly critical role in business. Companies must be able to access and analyze this data intelligently. As the recognition of analytics has grown, so has the demand for analytics education.

The focus on business analytics entails a specific approach targeting the core business disciplines of business, including operations, information technology, finance, marketing, accounting, and human resources, among others.

## Requirements

The graduate Certificate in Business Analytics requires 15 s.h. of credit. Students may be allowed to apply up to 6 s.h. of previous graduate or professional coursework toward the certificate with program approval. A major g.p.a. and cumulative g.p.a. of at least 2.75 is required in order to complete the certificate.

Certificate courses are regularly offered online and at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and in Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

Applicants must meet the admission requirements of the Graduate College and the certificate in business analytics; see the Manual of Rules and Regulations on the Graduate College website and the certificate in business analytics admission guidelines on the Tippie College of Business website.

The Certificate in Business Analytics requires the following coursework.

Code	Title	Hours
One of these:		
BAIS:6040	Data Programming in Python	3
BAIS:6060	Data Programming in R	3
All of these:		
BAIS:6050	Data Management and Visual Analytics	3
BAIS:6070	Data Science	3
BAIS:9100	Data and Decisions	3
or MBA:8150	Data and Decisions	
BAIS:9110	Advanced Analytics	3

# Doctor of Philosophy

**Graduate degrees:** M.A. in business administration; Ph.D. in business administration

**Website:** <https://tippie.uiowa.edu/phd>

The Doctor of Philosophy program in business administration is an interdepartmental degree open to students in several Tippie College of Business departments. Basic requirements for the degree are detailed under "Requirements" in the Ph.D. in business administration [p. 1243] section of the Catalog. For additional information, see graduate programs in the accounting [p. 1202], business analytics [p. 1226], finance [p. 1274], management and entrepreneurship [p. 1295], and marketing [p. 1306] sections of the Catalog.

The Tippie College of Business also offers a Doctor of Philosophy in economics; see economics [p. 1249] in the Catalog.

## Programs

### Graduate Programs of Study

#### Majors

- Master of Arts in Business Administration

The M.A. in business administration is a terminal degree; students are admitted into the Ph.D. in business administration degree program.

- Doctor of Philosophy in Business Administration [p. 1243]

# Business Administration, Ph.D.

## Learning Outcomes

Learning outcomes for Ph.D. in business administration subprograms are included in each department's Doctor of Philosophy section of the Catalog.

## Requirements

The Doctor of Philosophy program in business administration requires a minimum of 72 s.h., including approved transfer credit. The program is flexible, permitting students to choose a specialization area according to their interests. Coursework and related experience enable students to achieve competence in economic theory, statistical methods, and behavioral science as well as expertise in a major and minor study area. Students also have opportunities to develop research and teaching skills.

Ph.D. coursework consists of prerequisites (as necessary), the Ph.D. core, major and minor study areas, and dissertation research, described in brief below. For more detailed information about Ph.D. requirements, contact the individual Tippie College of Business departments or visit their websites.

## Core Courses

Core courses develop research competence and provide background for specialized study. Doctoral students consult with their advisors to develop a study plan that reflects the individual student's background and interests and satisfies core requirements.

## Major Study Area

At least 12 s.h. of approved doctoral-level courses must be completed in one of the following areas: accounting, finance, human resource management, management information systems, marketing, operations management, organizational behavior, or quantitative methods.

## Minor Study Area

Students must complete a minimum of 9 s.h. of doctoral-level courses beyond the Ph.D. core course requirements in one of the major study areas listed above or in a concentration outside the Tippie College of Business.

## Comprehensive Examinations

Students must satisfactorily complete a comprehensive examination, consisting of written or oral parts or both, at the discretion of their major department.

## Dissertation

Students must present a dissertation proposal at a forum attended by dissertation committee members and open to interested faculty members and graduate students, as established by the student's major department. Researching and writing the dissertation typically require two years of full-time effort.

## Final Examination

Ph.D. candidates defend the dissertation in an oral examination attended by dissertation committee members

and open to interested faculty members and graduate students.

## Admission

Applicants to the Ph.D. program in business administration must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must take the Graduate Record Examination (GRE) General Test or the Graduate Management Admission Test (GMAT) and have their scores sent to the University in order to be considered for admission. The Departments of Business Analytics, Finance, Management and Entrepreneurship, and Marketing accept test scores for either the GRE or GMAT. The Department of Accounting accepts only GMAT scores. Required scores on these tests and their weight in admission decisions vary by department.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS) test, or the Duolingo English Test (DET) and have their scores sent to the University of Iowa. An IELTS total score of at least 7.0 with no subscore below 6.0 or a minimum score of at least 105 on the Duolingo English Test satisfies the English language requirement. Applicants who use the IELTS or Duolingo tests are required to take the on-campus English Proficiency Evaluation.

Admission is for fall entry. Completed applications should be submitted as early as possible and no later than the following deadlines.

- Accounting: January 15
- Business Analytics: January 15
- Finance: January 15
- Management and Entrepreneurship: January 15
- Marketing: January 15

Visit Ph.D. Programs on the Tippie College of Business website to learn more.

## Career Advancement

The Doctor of Philosophy program prepares students for research positions in business and government or for research and teaching positions at academic institutions.

## Academic Plans

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Business Administration, Ph.D.

- Accounting Subprogram [p. 1244]
- Business Analytics Subprogram [p. 1244]
- Finance Subprogram [p. 1245]
- Management Subprogram [p. 1246]
- Marketing Subprogram [p. 1247]

## Accounting Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Teaching Orientation		
Serve as Faculty Teaching Assistant		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
ACCT:7850	Seminar in Accounting Research	1
ACCT:7900	Seminar in Selected Accounting Topics	3
ECON:5115	Fundamentals of Microeconomics	3
ECON:5805	Statistics for Economics	3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
ACCT:7850	Seminar in Accounting Research	1
ACCT:7900	Seminar in Selected Accounting Topics	3
ECON:5800	Econometrics	3
FIN:7110	Finance Theory I	3
Research Design Fundamentals (Experimental Specialization) course <sup>b</sup>		3
<b>Hours</b>		<b>13</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Serve as Faculty Teaching Assistant		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
ACCT:7850	Seminar in Accounting Research	1
ACCT:7900	Seminar in Selected Accounting Topics	3
ECON:5810	Applied Econometrics	3
FIN:7120	Seminar in Corporate Finance	3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
ACCT:7850	Seminar in Accounting Research	3
ACCT:7900	Seminar in Selected Accounting Topics	3
Research Design Fundamentals (Archival Specialization) course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>
<b>Summer</b>		
Second Year Research Paper Manuscript and Presentation to Faculty <sup>d</sup>		
<b>Hours</b>		<b>0</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Teach Standalone Course <sup>e</sup>		
<b>Hours</b>		<b>0</b>

<b>Fall</b>		
ACCT:7850	Seminar in Accounting Research	3
ACCT:7975	Thesis: Accounting	6
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
ACCT:7850	Seminar in Accounting Research	3
ACCT:7975	Thesis: Accounting	6
<b>Hours</b>		<b>9</b>
<b>Winter</b>		
Comprehensive Exam <sup>f</sup>		
<b>Hours</b>		<b>0</b>
<b>Fourth Year</b>		
<b>Fall</b>		
ACCT:7850	Seminar in Accounting Research	1
ACCT:7975	Thesis: Accounting	3
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
Dissertation Proposal		
ACCT:7850	Seminar in Accounting Research	1
ACCT:7975	Thesis: Accounting	3
<b>Hours</b>		<b>4</b>
<b>Fifth Year</b>		
<b>Fall</b>		
ACCT:7850	Seminar in Accounting Research	1
ACCT:7975	Thesis: Accounting	1
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
ACCT:7850	Seminar in Accounting Research	1
ACCT:7975	Thesis: Accounting	1
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>2</b>
<b>Total Hours</b>		<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Choose from BIOS:5730, STAT:5201, STAT:6513, STAT:6514, STAT:6516, or work with faculty advisor to select an appropriate course.

c Choose from BIOS:5730, FIN:7140, STAT:5201, STAT:6513, STAT:6514, STAT:6516, or work with faculty advisor to select an appropriate course.

d May also complete during third year fall semester.

e May also complete during fourth or fifth year.

f May also complete during third year summer session.

g Dissertation defense.

## Business Analytics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

**First Year****Fall**

STAT:4100 or STAT:3100	Mathematical Statistics I or Introduction to Mathematical Statistics I	3
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Departmental core course <sup>b</sup>		3
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Major area course <sup>c</sup>		3
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<b>Hours</b>		<b>9</b>
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**Spring**

Major area course <sup>c</sup>		3
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Major area course <sup>c</sup>		3
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Research methodology course <sup>d</sup>		3
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<b>Hours</b>		<b>9</b>
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**Second Year****Fall**

Qualifying Exam		
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Departmental core course <sup>b</sup>		3
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Major area course <sup>c</sup>		3
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Research methodology course <sup>e</sup>		3
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<b>Hours</b>		<b>9</b>
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**Spring**

Minor area course <sup>f</sup>		3
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Minor area course <sup>f</sup>		3
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Minor area course <sup>f</sup>		3
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<b>Hours</b>		<b>9</b>
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**Summer**

Comprehensive Exam <sup>g</sup>		
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<b>Hours</b>		<b>0</b>
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**Third Year****Fall**

BAIS:7975	Thesis in Business Analytics <sup>e</sup>	3
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BAIS:7975	Thesis in Business Analytics <sup>e</sup>	3
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Interdepartmental core course <sup>h</sup>		3
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<b>Hours</b>		<b>9</b>
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**Spring**

BAIS:7975	Thesis in Business Analytics <sup>e</sup>	3
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BAIS:7975	Thesis in Business Analytics <sup>e</sup>	3
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BAIS:7975	Thesis in Business Analytics <sup>e</sup>	3
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<b>Hours</b>		<b>9</b>
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**Fourth Year****Fall**

Dissertation Proposal		
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BAIS:7975	Thesis in Business Analytics <sup>e</sup>	6
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<b>Hours</b>		<b>6</b>
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**Spring**

BAIS:7975	Thesis in Business Analytics <sup>e</sup>	6
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<b>Hours</b>		<b>6</b>
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**Fifth Year****Fall**

BAIS:7975	Thesis in Business Analytics <sup>e</sup>	3
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<b>Hours</b>		<b>3</b>
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**Spring**

BAIS:7975	Thesis in Business Analytics <sup>e</sup>	3
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Final Exam <sup>i</sup>		
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<b>Hours</b>		<b>3</b>
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<b>Total Hours</b>		<b>72</b>
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a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Choose an Information Systems course (BAIS:6480 or CS:4440) or an Operations Management/Quantitative Methods course (BAIS:6600 or BAIS:7900); other specialization area courses may be substituted with departmental approval.

c May not include a course taken as part of the departmental core or research methodology requirements; work with faculty advisor to determine appropriate coursework in one of the three tracks (Information Systems, Operations Management, Quantitative Methods). Other courses may be added or substituted with departmental approval.

d Work with faculty advisor to select a course from approved list of research methodology courses.

e Work with faculty advisor to determine appropriate coursework and sequence.

f Courses outside of the department or the Tippie College of Business are often acceptable; work with faculty advisor to determine appropriate coursework and sequence.

g Comprehensive Exam requires current session enrollment.

h Choose from ECON:5115, ECON:5800, FIN:7120, or MKTG:7850; other courses in these areas may be substituted with departmental approval.

i Dissertation defense.

**Finance Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.<sup>a</sup>

<b>Hours</b>	<b>0</b>
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**First Year****Any Semester**

First Year Paper <sup>b</sup>		
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Minor Qualifying Exams <sup>b</sup>		
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<b>Hours</b>	<b>0</b>
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**Fall**

ECON:5115	Fundamentals of Microeconomics	3
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ECON:5805	Statistics for Economics	3
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FIN:7850	Seminar in Finance	1
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STAT:4100	Mathematical Statistics I	3
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<b>Hours</b>	<b>10</b>
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**Spring**

ECON:5800	Econometrics	3
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FIN:7110	Finance Theory I	3
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FIN:7850	Seminar in Finance	1
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STAT:4101	Mathematical Statistics II	3
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<b>Hours</b>	<b>10</b>
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**Summer**

Writing Workshop		
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<b>Hours</b>	<b>0</b>
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**Second Year****Any Semester**Second Year Paper<sup>c</sup>

	Hours	
		<b>0</b>

**Fall**

ECON:5810	Applied Econometrics	3
FIN:7120	Seminar in Corporate Finance	3
FIN:7130	Finance Theory II	3
FIN:7850	Seminar in Finance	1
Elective course <sup>d</sup>		3

	Hours	
		<b>13</b>

**Spring**

FIN:7140	Advanced Empirical Finance	3
FIN:7850	Seminar in Finance	1
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

	Hours	
		<b>10</b>

**Summer**Comprehensive Exam<sup>e</sup>

Writing Workshop

	Hours	
		<b>0</b>

**Third Year****Any Semester**Third Year Research Paper<sup>f</sup>

	Hours	
		<b>0</b>

**Fall**

FIN:7120	Seminar in Corporate Finance <sup>g</sup>	3
FIN:7130	Finance Theory II <sup>g</sup>	3
FIN:7975	Thesis in Business	1
Elective course		3

	Hours	
		<b>10</b>

**Spring**

FIN:7140	Advanced Empirical Finance <sup>g</sup>	3
FIN:7975	Thesis in Business	3
Elective course <sup>d</sup>		3

	Hours	
		<b>9</b>

**Summer**

Writing Workshop

	Hours	
		<b>0</b>

**Fourth Year****Fall**

FIN:7975	Thesis in Business	6
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	Hours	
		<b>6</b>

**Spring**Dissertation Proposal<sup>h</sup>

FIN:7975	Thesis in Business	2
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	Hours	
		<b>2</b>

**Summer**

Writing Workshop

	Hours	
		<b>0</b>

**Fifth Year****Fall**

FIN:7975	Thesis in Business	1
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	Hours	
		<b>1</b>

**Spring**

FIN:7975	Thesis in Business	1
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Final Exam<sup>i</sup>

	Hours	
		<b>1</b>

	Total Hours	
		<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Completion required by end of first year.

c Completion required by end of second year.

d Work with faculty advisor to determine appropriate elective coursework and sequence.

e Comprehensive Exam requires current session enrollment.

f Completion required by end of third year.

g Students are encouraged to retake or sit in on FIN:7120 Seminar in Corporate Finance, FIN:7130 Finance Theory II, and FIN:7140 Advanced Empirical Finance, as the content of these three courses is refreshed each year.

h May also complete during fifth year fall semester.

i Dissertation defense.

**Management Subprogram**

Course	Title	Hours
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**Academic Career****Any Semester**

72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.<sup>a</sup>

	Hours	
		<b>0</b>

**First Year****Any Semester**

Mentored Research Presentation to Faculty

	Hours	
		<b>0</b>

**Fall**

MGMT:7360	Motivation and Attitudes (Ph.D.) <sup>b</sup>	3
or	or Leadership (Ph.D.)	
MGMT:7350		

MGMT:7700	Mentored Research	3
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MGMT:7900	Contemporary Topics in Management and Organizations	3
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Statistics course <sup>c</sup>		3
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	Hours	
		<b>12</b>

**Spring**

MGMT:7140	Meta-Analysis in Behavioral Social Sciences (Ph.D.) <sup>d</sup>	3
or	or Measurement Theory and Methods in the Behavioral and Social Sciences (Ph.D.)	
MGMT:7160		

MGMT:7340	Group Processes (Ph.D.) <sup>d</sup>	3
or	or Foundations of Human Resource Management	
MGMT:7800		

MGMT:7700	Mentored Research	3
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Statistics course <sup>c</sup>		3
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	Hours	
		<b>12</b>

	Hours	
		<b>12</b>

	Hours	
		<b>12</b>

**Second Year****Fall**

MGMT:7350	Leadership (Ph.D.) <sup>b</sup>	3
or	or Motivation and Attitudes (Ph.D.)	
MGMT:7360		

MGMT:7700	Mentored Research	2
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Statistics course <sup>c</sup>		3
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
MGMT:7160 or MGMT:7140	Measurement Theory and Methods in the Behavioral and Social Sciences (Ph.D.) <sup>d</sup> or Meta-Analysis in Behavioral Social Sciences (Ph.D.)	3
MGMT:7340 or MGMT:7800	Group Processes (Ph.D.) <sup>d</sup> or Foundations of Human Resource Management	3
MGMT:7700	Mentored Research	1
Statistics course <sup>c</sup>		3
<b>Hours</b>		<b>10</b>
<b>Summer</b>		
Comprehensive Exam <sup>e</sup>		
<b>Hours</b>		<b>0</b>
<b>Third Year</b>		
<b>Fall</b>		
MGMT:7975	Thesis in Management and Organizations	3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Third Year Paper and Presentation		
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
MGMT:7975	Thesis in Management and Organizations	3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
Dissertation Proposal Defense <sup>g</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
MGMT:7975	Thesis in Management and Organizations	8
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
MGMT:7975	Thesis in Management and Organizations	2
<b>Hours</b>		<b>2</b>
<b>Fifth Year</b>		
<b>Fall</b>		
MGMT:7975	Thesis in Management and Organizations	1
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
MGMT:7975	Thesis in Management and Organizations	1
Final Exam <sup>h</sup>		
<b>Hours</b>		<b>1</b>
<b>Total Hours</b>		<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Courses are typically offered once every two years.

c Refer to department handbook for list of approved courses; work with faculty advisor to determine appropriate coursework and sequence.

d Courses are typically offered on rotating basis.

e Comprehensive Exam requires current session enrollment.

f Work with faculty advisor to determine appropriate elective coursework.

g Complete in fall or spring of fourth year.

h Dissertation defense.

## Marketing Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MKTG:7800 or MKTG:7825	Seminar in Consumer Behavior - Ph.D. <sup>c</sup> or Problems and Solutions in Behavioral Research	3
Academic track course		3
Academic track course		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
MKTG:7850	Seminar in Marketing Models - Ph.D.	3
Academic track course		3
Academic track course		3
Academic track course		3
<b>Hours</b>		<b>12</b>
<b>Summer</b>		
Qualifying Exam		
<b>Hours</b>		<b>0</b>
<b>Second Year</b>		
<b>Fall</b>		
Present First Year Paper		
MKTG:7825 or MKTG:7800	Problems and Solutions in Behavioral Research <sup>c</sup> or Seminar in Consumer Behavior - Ph.D.	3
Academic track course		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
Present Second Year Paper		
MKTG:7850	Seminar in Marketing Models - Ph.D.	3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>

**Summer**

Comprehensive Exam <sup>e</sup>		
<b>Hours</b>		<b>0</b>

**Third Year****Fall**

MKTG:7975	Thesis in Marketing	3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>6</b>

**Spring**

MKTG:7975	Thesis in Marketing	3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>6</b>

**Fourth Year****Fall**

MKTG:7975	Thesis in Marketing	6
<b>Hours</b>		<b>6</b>

**Spring**

Dissertation Proposal Defense		
MKTG:7975	Thesis in Marketing	6
<b>Hours</b>		<b>6</b>

**Summer**

Summer Fellowship		
<b>Hours</b>		<b>0</b>

**Fifth Year****Fall**

MKTG:7975	Thesis in Marketing	3
<b>Hours</b>		<b>3</b>

**Spring**

MKTG:7975	Thesis in Marketing	3
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>3</b>

<b>Total Hours</b>		<b>72</b>
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a Curriculum will vary based on which academic track students choose: Quantitative Modeling (QM), Consumer Behavior (CB), or Marketing Strategy (MS). All students must meet the 72 semester hour requirement and complete the doctoral seminars and econometrics sequence. Beyond that, the program allows a fair amount of freedom based on research interests. Work with faculty advisor to determine appropriate coursework and sequence.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c MKTG:7800 is typically offered in fall semesters of odd years only; MKTG:7825 is typically offered in fall semesters of even years only.

d Work with faculty advisor to determine appropriate elective coursework and sequence.

e Comprehensive Exam requires current session enrollment.

f Dissertation defense.



# Economics

## Chair

- David J. Cooper

**Undergraduate major:** economics (B.A., B.S., B.B.A.)

**Undergraduate minor:** economics

**Graduate degrees:** M.A. in economics; Ph.D. in economics

**Faculty:** <https://tippie.uiowa.edu/people?department=Economics>

**Website:** <https://tippie.uiowa.edu/about/economics-department>

Economics is the study of how societies allocate limited resources to achieve competing ends. Using both empirical and deductive methods, economists analyze incentives, constraints, organizational forms, and market forces to understand patterns of production, exchange, and consumption of goods and services. Economics treats diverse issues such as wealth and poverty, government expenditures and taxation, prosperity and depression, inflation and unemployment, relations between management and labor, economic growth, environmental protection, health care delivery, the war on drug abuse, free trade versus protectionism, U.S. competitiveness in international markets, and the quality of American education.

The Department of Economics offers degree programs for undergraduates and for graduate students. It also partners with the Departments of Philosophy, Political Science, and Sociology and Criminology to offer the undergraduate major in ethics and public policy, an interdisciplinary program administered by the Department of Philosophy (College of Liberal Arts and Sciences); see Ethics and Public Policy [p. 505] in the Catalog.

## Special Seminar

Each year, the Department of Economics offers a seminar program that brings eminent economists from other universities and from government agencies to the University of Iowa campus. Presentations by department faculty members and students also are featured.

## Courses for Nonmajors

Students in the College of Liberal Arts and Sciences may wish to use economics courses as part of other majors or the GE CLAS Core [p. 20]. The introductory courses ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics are approved for the Social Sciences area of the GE CLAS Core; they introduce the field of economics and the specialized topics of upper-division courses. The intermediate theory courses ECON:3100 Intermediate Microeconomics and ECON:3150 Intermediate Macroeconomics provide a deeper foundation in the core theories and methods of the discipline. They serve as preparation for upper-division field courses or as terminal courses in an economics plan of study.

Coursework in economics relates to majors in many other fields. For example, political science majors could select ECON:3650 Policy Analysis; international studies majors, ECON:3345 Global Economics and Business; environmental policy and planning majors, ECON:3625 Environmental and Natural Resource Economics; pre-law students, ECON:3800 Law and Economics; and statistics majors, ECON:4800 Econometric Analysis.

## Related Certificate

### Transportation Planning

The Transportation Planning Program offers the Certificate in Transportation Planning. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The certificate is coordinated by the School of Planning and Public Affairs. See the Certificate in Transportation Planning [p. 1802] (Graduate College) in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Economics (Bachelor of Arts) [p. 1253]
- Major in Economics (Bachelor of Science) [p. 1256]
- Major in Economics (Bachelor of Business Administration) [p. 1259]

#### Minor

- Minor in Economics [p. 1263]

### Graduate Programs of Study

#### Majors

- Master of Arts in Economics [p. 1264]
- Doctor of Philosophy in Economics [p. 1265]

## Courses

Students may take ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics in either order or simultaneously. They are approved for the Social Sciences area of the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Qualified undergraduates may enroll in graduate-level courses with consent of the department chair.

## Economics Courses

### **ECON:1100 Principles of Microeconomics** **4 s.h.**

Organization, workings of modern economic systems; role of markets, prices, competition in efficient allocation of resources and promotion of economic welfare; international trade. Requirements: B.B.A. students cannot use this course for GE CLAS Core Social Sciences. GE: Social Sciences.

### **ECON:1200 Principles of Macroeconomics** **4 s.h.**

National income and output, unemployment, and inflation; economic growth and development; money and credit; monetary and fiscal policy; government finance; international finance. Requirements: B.B.A. students cannot use this course for GE CLAS Core Social Sciences. GE: Social Sciences.

### **ECON:1300 First-Year Seminar** **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**ECON:3100 Intermediate Microeconomics 3 s.h.**

Economic theory of the behavior of consumers, producers, and other economic agents; role of markets in coordinating economic activity; effects of government policies on market outcomes; conditions that markets require for efficient allocation of resources; market imperfections; strategic behavior of economic actors. Prerequisites: ECON:1100 and (MATH:1350 or MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860).

**ECON:3125 Intermediate Microeconomics: Advanced 3 s.h.**

Economic theory of the behavior of consumers, producers, and other economic agents; role of markets in coordinating economic activity; effects of government policies on market outcomes; conditions that markets require for efficient allocation of resources; market imperfections; strategic behavior of economic actors; similar to ECON:3100, but with more rigorous examination of topics and use of calculus. Prerequisites: ECON:1100 and MATH:1850 and MATH:1860.

**ECON:3150 Intermediate Macroeconomics 3 s.h.**

Measurement of macroeconomic indicators; economic growth and business cycles; use of macroeconomic models to study the role of government fiscal and monetary policies. Prerequisites: ECON:1200 and (MATH:1350 or MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860).

**ECON:3300 Introduction to Econometrics 3 s.h.**

Statistical tools used in economic analysis; regression models; estimation and hypothesis testing; causal effects; application to economic data and questions; use of statistical software. Prerequisites: STAT:1030 and (MATH:1350 or MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850 or MATH:1860).

**ECON:3325 Personnel Economics 3 s.h.**

Microeconomic analysis of labor markets with special emphasis on strategic personnel choices of the firm; labor supply decisions made by workers; labor demand decisions made by firms; labor market equilibrium; returns to education; hiring, job design, evaluation, and compensation. Prerequisites: ECON:1100.

**ECON:3335 Money, Banking, and Financial Markets 3 s.h.**

Role of money and financial institutions in determining domestic and international income, employment, and prices. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3345 Global Economics and Business 3 s.h.**

Modern theories of international trade and investment; impact of tariffs and other restrictions on international trade; effects of export and production subsidies; free trade agreements; exchange rates and foreign exchange markets; international monetary arrangements; balance of payments; international economic policy. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3350 Industry Analysis 3 s.h.**

Structural evolution; imperfect competition; resource allocation; development of public policy on monopoly; selected industries. Prerequisites: ECON:3100.

**ECON:3355 Economic and Business Forecasting 3 s.h.**

Development and utilization of forecasts of business and economic variables; application of modern statistical methods and software to quantitative forecasting problems. Prerequisites: ECON:1100 and ECON:1200 and (ECON:3300 or ECON:4800 or STAT:3200).

**ECON:3360 Experimental Economics 3 s.h.**

Experimental economics has significantly changed how economists think about many issues; techniques of experimental economics and major applications of these techniques; how to run an economic experiment; four major areas of economics that have been fundamentally changed by experimental economics include individual decision making, models of fairness and reciprocity, game theory and applications, and markets; student participation and presentations of student research projects. Prerequisites: ECON:1100.

**ECON:3380 Business and Government 3 s.h.**

Examination of relationship between government, private sector, and citizenry; legal, regulatory, market, and civic context in which private sector functions; how business owners and entrepreneurs have shaped political and economic outcomes in the United States; central theme of exploring and understanding the nature of government policy, how policy affects businesses, and how policy affects societal welfare. Prerequisites: ECON:1100.

**ECON:3620 Economic Growth and Development 3 s.h.**

Determinants of rising living standards; accumulation of physical and human capital; predictions of economic growth models compared to observed changes in living standards. Prerequisites: ECON:1100 and ECON:1200.

**ECON:3625 Environmental and Natural Resource Economics 3 s.h.**

Environmental and resource use problems; efficient mechanisms and other policies for environmental protection, management of common property resources. Prerequisites: ECON:1100 and ECON:1200. Same as URP:3135.

**ECON:3640 Regional and Urban Economics 3 s.h.**

Theory of location and regional development; central place theory; why cities exist and trade with one another; models of land use patterns, rents; empirical tests of models; policy applications. Prerequisites: ECON:1100. Same as URP:3134.

**ECON:3650 Policy Analysis 3 s.h.**

Economic functions of government in modern economies; effects of government expenditures and taxation on allocation of resources. Prerequisites: ECON:1100.

**ECON:3690 Sports Economics 3 s.h.**

Theory and literature of economic issues in professional sports; issues such as relative advantages of large-and small-market teams, city subsidies for baseball and football stadiums, star players' true value to their teams; ideas from introductory economics (such as demand and cost curves) combined with additional economic theory, statistical evidence, and information about particular sports. Prerequisites: ECON:1100.

**ECON:3750 Transportation Economics 3 s.h.**

Overview of transportation markets—intercity, rural, urban; transportation modes—rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Recommendations: ECON:1100 and ECON:1200. Same as GEOG:3940, URP:3350.

**ECON:3760 Health Economics 3 s.h.**

Externalities and health behaviors; government influence on health behaviors; overview of health insurance and health insurance markets; health care costs; public health insurance; health insurance reforms. Prerequisites: ECON:1100.

- ECON:3800 Law and Economics** 3 s.h.  
Law examined through analytic tools of microeconomics; impact of legal rules on resource allocation, risk bearing, distribution of economic well-being. Prerequisites: ECON:1100.
- ECON:3850 Behavioral Economics** 3 s.h.  
Behavioral economics is a relatively new field that applies insights gleaned from psychology to economics; standard economic theory assumes people are all *homo economicus*: we know exactly how to maximize our own utility, and we do it well; behavioral economists seek to improve microeconomic theory with more realistic assumptions about human behavior. Prerequisites: ECON:1100.
- ECON:3870 Federal Reserve Challenge** 1 s.h.  
Experience what Federal Reserve economists do every day: study the real U.S. economy, make forecasts and policy recommendations, defend their views to academic and professional economists; development of analytical skills, teamwork, how to build presentations. Prerequisites: ECON:3100 and ECON:3150.
- ECON:3875 Topics in Policy Economics** 3 s.h.  
Topics vary. Prerequisites: ECON:1100 and ECON:1200.
- ECON:4050 Readings and Independent Study in Economics** arr.
- ECON:4090 Natural Resource Economics** 3 s.h.  
Economics of natural resources; interaction between economic theory, empirical evidence, and public policy; land, water, fish, trees, minerals; externalities. Prerequisites: ECON:3100.
- ECON:4110 International Economics** 3 s.h.  
Neoclassical model of international trade; imperfect competition and international trade and investment; role of trade barriers; regional trade agreements and the World Trade Organization. Prerequisites: ECON:1100 and ECON:1200.
- ECON:4140 Labor Economics** 3 s.h.  
Labor supply and demand; investments in human capital; compensating wage differentials; discrimination; long-term contracts; occupational choice; family decisions; unions; immigration. Prerequisites: ECON:3100.
- ECON:4160 Public Sector Economics** 3 s.h.  
Economic functions of government; social welfare programs; income distribution; policies that address market failures; budgetary processes; effects of government expenditures; taxation. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4170 Monetary Economics** 3 s.h.  
Demand for and supply of money; money's role in economy; empirical studies of money's impact; problems with monetary control. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4180 Industrial Organization** 3 s.h.  
Market structure; effects of business practices, informational problems on market structure; appraisal of antitrust policies, government regulation of business. Prerequisites: ECON:3100.
- ECON:4190 Mathematical Economics** 3 s.h.  
Mathematical structure of economic principles, problems, systems; may include constrained optimization, choice under uncertainty, general equilibrium and welfare economics, dynamical systems and control theory, game theory. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4200 Game Theory** 3 s.h.  
Basic concepts of game theory including dominance, backward induction, Nash equilibrium, evolutionary stability, commitment, credibility, asymmetric information, adverse selection, signaling; provides students with a working understanding of game theory; examples drawn from economics and politics. Prerequisites: ECON:3100 and ECON:3150.
- ECON:4700 Topics in Analytical Economics** 3 s.h.  
Topics vary. Prerequisites: ECON:3150 and ECON:3100.
- ECON:4800 Econometric Analysis** 3 s.h.  
Linear regression models; causal effects; estimation and hypothesis testing; errors in variables; simultaneous equations; panel data; instrumental variables; limited dependent variables; emphasis on interpretation, methods, application of econometric modelling, and use of statistical software. Prerequisites: STAT:3101 or STAT:3120.
- ECON:4999 Honors Thesis in Economics** arr.  
Independent research project supervised by economics faculty member; culminates in thesis required for honors in the major. Prerequisites: ECON:3100 and ECON:3150 and (ECON:3300 or ECON:4800).
- ECON:5000 Economic Analysis I** 3 s.h.  
Basic metric topology, convex analysis, function spaces, measure theory and integration.
- ECON:5005 Real Analysis for Economics** 2 s.h.  
Basic metric topology, convex analysis, function spaces, measure theory, and integration.
- ECON:5010 Economic Analysis II** 3 s.h.  
Behavior under uncertainty, macroeconomic models; dynamic programming, asset pricing, saving, consumption.
- ECON:5015 Dynamic Programming** 2 s.h.  
Finite- and infinite-horizon, discrete-time dynamic programming; discrete-time stochastic dynamic programming, including computational methods and some economic applications; continuous-time control theory.
- ECON:5100 Microeconomics I** 3 s.h.  
Consumer choice theory, producer theory, choice under uncertainty, basic game theory. Offered fall semesters.
- ECON:5110 Microeconomics II** 3 s.h.  
General equilibrium and welfare analysis, adverse selection, the principal-agent problem, social choice, mechanism design. Offered spring semesters. Prerequisites: ECON:5100.
- ECON:5115 Fundamentals of Microeconomics** 3 s.h.  
Consumer theory, producer theory, partial equilibrium models, expected and unexpected utility theory.
- ECON:5125 Game Theory** 2 s.h.  
Noncooperative and cooperative games, games of perfect and imperfect information, matching games.
- ECON:5135 General Equilibrium** 2 s.h.  
Walrasian equilibrium and its properties, welfare economics, general equilibrium and perfect competition, general equilibrium with externalities, general equilibrium under asymmetric information.
- ECON:5145 Information Economics** 2 s.h.  
Markets with asymmetric information, allocation mechanisms, mechanism design.
- ECON:5200 Macroeconomics I** 3 s.h.  
Economic growth, business cycles, money and inflation. Offered fall semesters.

<b>ECON:5210 Macroeconomics II</b>	<b>3 s.h.</b>	<b>ECON:6350 Structural Methods in Econometrics</b>	<b>2 s.h.</b>
Dynamic macroeconomic models; stochastic macroeconomics; time consistency equilibrium business cycle theory. Offered spring semesters. Prerequisites: ECON:5200.		Introduction to structural econometric approaches which can be applied in labor economics, industrial organization, and elsewhere; theoretical frameworks used in this literature; identifying assumptions needed for model estimation and validation techniques; methods used for the estimation of structural models, including Maximum Likelihood, Method of Moments and simulation-based methods.	
<b>ECON:5215 Fundamentals of Macroeconomics I</b>	<b>2 s.h.</b>	<b>ECON:6420 Macroeconomics III</b>	<b>3 s.h.</b>
Infinite horizon endowment economies; neoclassical growth models and dynamic general equilibrium.		Current research in macroeconomics; development of research topics with emphasis on theoretical and empirical analysis. Prerequisites: ECON:5110 and ECON:5800.	
<b>ECON:5225 Fundamentals of Macroeconomics II</b>	<b>2 s.h.</b>	<b>ECON:6500 International Trade Theory</b>	<b>3 s.h.</b>
Real business cycle models; overlapping generations models.		The theory of international trade, including basic models of international trade; capital and labor mobility and trade; protection of international trade; the political economy of international trade; empirical applications of international trade.	
<b>ECON:5235 Fiscal Policy and Insurance in Macroeconomics</b>	<b>2 s.h.</b>	<b>ECON:6900 Contemporary Topics in Economics</b>	<b>3 s.h.</b>
Fiscal policies, optimal taxation, and endogenous growth; uncertainty and incomplete markets, limited commitment, private information.		Topics not offered in other courses.	
<b>ECON:5245 Monetary Economics and Search Theory</b>	<b>2 s.h.</b>	<b>ECON:7000 Seminar in Economic Theory</b>	<b>arr.</b>
Introduction to monetary and financial economics; search theory and applications to labor and money markets.		<b>ECON:7010 Seminar in Economic Theory II</b>	<b>arr.</b>
<b>ECON:5800 Econometrics</b>	<b>3 s.h.</b>	<b>ECON:7020 Seminar in Economics I</b>	<b>2 s.h.</b>
Statistical inference in single and multiple equation stochastic models, models with nonindependent or nonidentically distributed error structure, dynamic models; OLS, GLS, IV, ML estimation; asymptotic distribution theory; exact, asymptotic hypothesis tests. Prerequisites: STAT:4101.		<b>ECON:7030 Seminar in Economics II</b>	<b>2 s.h.</b>
<b>ECON:5805 Statistics for Economics</b>	<b>3 s.h.</b>	<b>ECON:7040 Seminar in Economics III</b>	<b>2 s.h.</b>
Probability theory, transformations and expectations, common families of distributions, multiple random variables, properties of a random sample, point estimation, hypothesis testing.		<b>ECON:7050 Seminar in Economics IV</b>	<b>2 s.h.</b>
<b>ECON:5810 Applied Econometrics</b>	<b>3 s.h.</b>	<b>ECON:7870 Workshop in Microeconomics</b>	<b>1 s.h.</b>
Empirical problems; multiple linear regression, nonlinear regression, maximum likelihood, hazard functions, univariate and multivariate time series, flexible functional forms. Prerequisites: ECON:5800.		<b>ECON:7880 Workshop in Macro and Monetary Economics</b>	<b>1 s.h.</b>
<b>ECON:5815 Theoretical Econometrics I</b>	<b>2 s.h.</b>	<b>ECON:7950 Readings in Economics</b>	<b>arr.</b>
Statistical inference in single and multiple equation stochastic models, models with nonindependent or nonidentically distributed error structure, dynamic models; OLS, GLS, IV, ML estimation; asymptotic distribution theory; exact, asymptotic hypothesis tests.		<b>ECON:7975 Thesis in Economics</b>	<b>arr.</b>
<b>ECON:5825 Theoretical Econometrics II</b>	<b>2 s.h.</b>		
Continuation of ECON:5815.			
<b>ECON:5855 Applied Econometrics I</b>	<b>2 s.h.</b>		
Empirical problems; multiple linear regression, nonlinear regression, maximum likelihood, hazard functions, univariate and multivariate time series, flexible functional forms.			
<b>ECON:5865 Applied Econometrics II</b>	<b>2 s.h.</b>		
Continuation of ECON:5855.			
<b>ECON:6310 Industrial Organization</b>	<b>3 s.h.</b>		
The firm, monopolistic competition, oligopoly and workable competition; industrial organization, nature of equilibrium under uncertainty. Prerequisites: ECON:5110.			
<b>ECON:6320 Labor Economics</b>	<b>3 s.h.</b>		
Problems and models, including intertemporal models of labor markets; uncertainty and labor market activity; retirement decisions, economic theories of fertility; economics of discrimination; job search models; economic models of unions; bargaining and strikes, public sector labor markets; determinants of income distribution; emphasis on empirical verification of theory. Prerequisites: ECON:5110 and (ECON:4800 or ECON:5800).			

# Economics, B.A.

The B.A. in economics incorporates a balance of economic theory, mathematical tools, and field applications.

Students who major in economics complete three sets of requirements for the major: mathematics and statistics courses that provide the skills needed for understanding economic theory and data; economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues.

The Bachelor of Arts degree is awarded by the College of Liberal Arts and Sciences [p. 17].

## Requirements

The Bachelor of Arts with a major in economics requires a minimum of 120 s.h. of coursework, including 40 s.h. of coursework for the major. To graduate, students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all coursework attempted at the University of Iowa, all college economics coursework attempted, and all economics coursework attempted at the University of Iowa. Coursework in the major may not be taken pass/nonpass. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students may be able to count a limited amount of transfer credit toward the economics major, but they are required to complete the following courses at the University of Iowa: ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, and three of the applied field courses.

The major requires courses in mathematics and statistics, economic theory, and in applied field courses. Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others.

The B.A. with a major in economics requires the following coursework.

Code	Title	Hours
	Mathematics and Statistics Courses	11
	Economic Theory Courses	14
	Applied Field Courses	15
<b>Total Hours</b>		<b>40</b>

## Mathematics and Statistics Courses

Code	Title	Hours
All of these:		
ECON:3300	Introduction to Econometrics	3
MATH:1350	Quantitative Reasoning for Business	4
STAT:1030	Statistics for Business	4

## Economic Theory Courses

Code	Title	Hours
All of these (ECON:3100 and ECON:3150 must be taken at the University of Iowa):		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4

ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3

## Applied Field Courses

Students complete five applied field courses (15 s.h.) selected from economics courses numbered ECON:3325 to ECON:3875, excluding ECON:3870 Federal Reserve Challenge. Three of the applied field courses must be taken at the University of Iowa.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Graduation with honors in economics recognizes high scholastic achievement based on grades and on completion of academic work beyond the requirements of the economics major. Students must have a cumulative g.p.a. of at least 3.50 in all college coursework attempted, all coursework attempted at the University of Iowa, all college economics coursework attempted, and all economics coursework attempted at the University of Iowa. They also must successfully complete an honors thesis under the supervision of a faculty member.

Students begin by completing BUS:1999 Introduction to Research in Business at least three semesters prior to graduation. This course introduces students to research in the college and provides an opportunity to develop thesis questions and meet Tippie College of Business faculty members engaged in research. They also must complete ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, and ECON:3300 Introduction to Econometrics before commencing thesis work.

After identifying a faculty member to advise them on their thesis and completing the coursework listed above, students register for ECON:4999 Honors Thesis in Economics for two semesters while they complete their research and write their thesis. In the second semester of their thesis, students present their research in a poster format at the Undergraduate Research Festival.

Students interested in graduating with honors in economics should visit the department's honors advisor at least three semesters prior to graduation.

## University of Iowa Honors Program

Completing the economics honors requirements also satisfies the experiential learning requirement for the University of Iowa Honors Program. To learn more about graduating with honors through the UI Honors Program, visit the Honors at Iowa website.

Membership in the UI Honors Program is not required to earn honors in the economics major.

## Career Advancement

The Bachelor of Arts degree provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. An undergraduate degree in economics also prepares students for the study of law and for graduate study in fields such as economics, public policy, business management, public administration, hospital and health administration, planning and public affairs, transportation, journalism, political science, and statistics.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit the Pomerantz Career Center website.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation.

**Before the fifth semester begins:** at least half of the semester hours required for graduation.

**Before the seventh semester begins:** ECON:1100 Principles of Microeconomics, ECON:1200 Principles of Macroeconomics, ECON:3100 Intermediate Microeconomics, ECON:3150 Intermediate Macroeconomics, MATH:1350 Quantitative Reasoning for Business, STAT:1030 Statistics for Business, ECON:3300 Introduction to Econometrics, and at least three-quarters of the semester hours required for graduation.

**Before the eighth semester begins:** at least two applied field courses.

**During the eighth semester:** all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Economics, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>

### First Year

#### Fall

ECON:1100	Principles of Microeconomics <sup>b</sup>	4
ENGL:1200	The Interpretation of Literature	3 - 4
	or RHET:1030 or Rhetoric	
GE CLAS Core: World Languages First Level Proficiency <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>15-17</b>

#### Spring

ECON:1200	Principles of Macroeconomics <sup>b</sup>	4
MATH:1350	Quantitative Reasoning for Business <sup>b, e</sup>	4
RHET:1030	Rhetoric	3 - 4
	or ENGL:1200 or The Interpretation of Literature	
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
<b>Hours</b>		<b>15-17</b>

### Second Year

#### Fall

ECON:3100	Intermediate Microeconomics <sup>f</sup>	3
	or ECON:3150 or Intermediate Macroeconomics	
STAT:1030	Statistics for Business <sup>b</sup>	4
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
GE CLAS Core: Diversity and Inclusion <sup>g</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>

#### Spring

ECON:3150	Intermediate Macroeconomics <sup>f</sup>	3
	or ECON:3100 or Intermediate Microeconomics	
ECON:3300	Introduction to Econometrics	3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>c</sup>		4 - 5
GE CLAS Core: Natural Sciences with Lab <sup>g</sup>		4
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>16-17</b>

### Third Year

#### Fall

Major: applied field course <sup>h, i</sup>	3	
Major: applied field course <sup>h, i</sup>	3	
GE CLAS Core: Historical Perspectives <sup>g</sup>	3	
Elective course <sup>d</sup>	3	
Elective course <sup>d</sup>	3	
<b>Hours</b>		<b>15</b>

#### Spring

Major: applied field course <sup>h, i</sup>	3	
GE CLAS Core: Natural Sciences without Lab <sup>g</sup>	3	
GE CLAS Core: International and Global Issues <sup>g</sup>	3	
Elective course <sup>d</sup>	3	
Elective course <sup>d</sup>	3	
<b>Hours</b>		<b>15</b>

### Fourth Year

#### Fall

Major: applied field course <sup>h, i</sup>	3
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GE CLAS Core: Values and Culture <sup>g</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
<b>Hours</b>	<b>15</b>
<b>Spring</b>	
Major: applied field course <sup>h, i</sup>	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>g</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Elective course <sup>d</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>	
<b>Hours</b>	<b>15</b>
<b>Total Hours</b>	<b>122-128</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Enrollment in math courses requires completion of a placement exam.

f Both ECON:3100 and ECON:3150 must be completed at the University of Iowa.

g GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

h At least three of the applied field courses must be completed at the University of Iowa.

i Students must complete five ECON courses (15 s.h.) numbered 3325-3875 with the exception of ECON:3870.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Economics, B.S.

The B.S. in economics incorporates a balance of economic theory, mathematical tools, and field applications while emphasizing the development of analytical skills.

Students who major in economics complete three sets of requirements for the major: mathematics and statistics courses that provide the skills needed for understanding economic theory and data; economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues.

The Bachelor of Science degree is awarded by the College of Liberal Arts and Sciences [p. 17].

### Requirements

The Bachelor of Science with a major in economics requires a minimum of 120 s.h. of coursework, including 41-43 s.h. of coursework for the major. To graduate, students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all coursework attempted at the University of Iowa, all college economics coursework attempted, and all economics coursework attempted at the University of Iowa. Coursework in the major may not be taken pass/nonpass. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students may be able to count a limited amount of transfer credit toward the economics major, but they are required to complete the following courses at the University of Iowa: ECON:3125 Intermediate Microeconomics: Advanced and ECON:3150 Intermediate Macroeconomics, and two of the applied field courses.

The major requires courses in mathematics and statistics, economic theory, and in applied field courses. Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others.

The B.S. program is ideal for students who plan to pursue a technical career in the public or private sector, a graduate degree in economics, or a law degree.

The B.S. with a major in economics requires the following coursework.

Code	Title	Hours
	Mathematics and Statistics Courses	15-17
	Economic Theory Courses	14
	Applied Field Courses	12
<b>Total Hours</b>		<b>41-43</b>

### Mathematics and Statistics Courses

The department recommends that students planning to pursue a graduate degree in economics take STAT:3100 Introduction to Mathematical Statistics I and STAT:3101 Introduction to Mathematical Statistics II rather than STAT:3120 Probability and Statistics. It also recommends that they complete additional coursework in mathematics, including MATH:2700 Introduction to Linear Algebra, MATH:2850 Calculus III, and MATH:3770 Fundamental Properties of Spaces and Functions I.

Code	Title	Hours
All of these:		
MATH:1850 & MATH:1860	Calculus I-II	8
ECON:4800	Econometric Analysis	3
One of these:		
STAT:3100-STAT:3101	Introduction to Mathematical Statistics I-II (both courses required)	6
STAT:3120	Probability and Statistics	4

### Economic Theory Courses

Code	Title	Hours
All of these (ECON:3125 and ECON:3150 must be taken at the University of Iowa):		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ECON:3125	Intermediate Microeconomics: Advanced	3
ECON:3150	Intermediate Macroeconomics	3

### Applied Field Courses

Students complete four applied field courses (12 s.h.) selected from economics courses numbered ECON:3325 to ECON:4700, excluding ECON:3870 Federal Reserve Challenge and ECON:4050 Readings and Independent Study in Economics. At least two courses must be numbered between ECON:4090 and ECON:4700. Two of the applied field courses must be taken at the University of Iowa.

### Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

### Honors

### Honors in the Major

Graduation with honors in economics recognizes high scholastic achievement based on grades and on completion of academic work beyond the requirements of the economics major. Students must have a cumulative g.p.a. of at least 3.50 in all college coursework attempted, all coursework attempted at the University of Iowa, all college economics coursework attempted, and all economics coursework attempted at the University of Iowa. They also must successfully complete an honors thesis under the supervision of a faculty member.

Students begin by completing BUS:1999 Introduction to Research in Business at least three semesters prior to graduation. This course introduces students to research in the college and provides an opportunity to develop thesis questions and meet Tippie College of Business faculty members engaged in research. They also must complete ECON:3125 Intermediate Microeconomics: Advanced,



ECON:3150 Intermediate Macroeconomics, and ECON:4800 Econometric Analysis before commencing thesis work.

After identifying a faculty member to advise them on their thesis and completing the coursework listed above, students register for ECON:4999 Honors Thesis in Economics for two semesters while they complete their research and write their thesis. In the second semester of their thesis, students present their research in a poster format at the Undergraduate Research Festival.

Students interested in graduating with honors in economics should visit the department's honors advisor at least three semesters prior to graduation.

## University of Iowa Honors Program

Completing the economics honors requirements also satisfies the experiential learning requirement for the University of Iowa Honors Program. To learn more about graduating with honors through the UI Honors Program, visit the Honors at Iowa website.

Membership in the UI Honors Program is not required to earn honors in the economics major.

### Career Advancement

The Bachelor of Science degree provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. An undergraduate degree in economics also prepares students for the study of law and for graduate study in fields such as economics, public policy, business management, public administration, hospital and health administration, urban and regional planning, transportation, journalism, political science, and statistics.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit the Pomerantz Career Center website.

### Academic Plans

#### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

**Before the third semester begins:** at least one-quarter of the semester hours required for graduation.

**Before the fourth semester begins:** MATH:1850 Calculus I.

**Before the fifth semester begins:** MATH:1860 Calculus II and at least half of the semester hours required for graduation.

**Before the sixth semester begins:** STAT:3100 Introduction to Mathematical Statistics I (if chosen statistics course).

**Before the seventh semester begins:** ECON:1100 Principles of Microeconomics, ECON:1200 Principles of Macroeconomics, ECON:3125 Intermediate Macroeconomics: Advanced, ECON:3150 Intermediate Macroeconomics, STAT:3101 Introduction to Mathematical Statistics II (if chosen statistics course), and at least three-quarters of the semester hours required for graduation.

**Before the eighth semester begins:** STAT:3120 Probability and Statistics (if chosen statistics course) and at least two applied field courses.

**During the eighth semester:** ECON:4800 Econometric Analysis, all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Economics, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ECON:1100	Principles of Microeconomics <sup>b</sup>	4
MATH:1850	Calculus I <sup>b, c</sup>	4
GE CLAS Core: World Languages First Level Proficiency <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
ECON:1200	Principles of Macroeconomics <sup>b</sup>	4
MATH:1860	Calculus II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency <sup>d</sup>		4 - 5
<b>Hours</b>		<b>15-17</b>
<b>Second Year</b>		
<b>Fall</b>		
ECON:3125 or ECON:3150	Intermediate Macroeconomics: Advanced <sup>f</sup> or Intermediate Macroeconomics	3
STAT:3100	Introduction to Mathematical Statistics I <sup>g, h</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency <sup>d</sup>		4 - 5
GE CLAS Core: Diversity and Inclusion <sup>i</sup>		3
<b>Hours</b>		<b>16-18</b>

**Spring**

ECON:3125	Intermediate Microeconomics:	3
or ECON:3150	Advanced <sup>f</sup> or Intermediate Macroeconomics	
STAT:3101	Introduction to Mathematical Statistics II <sup>g,j</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>d</sup>		4 - 5
GE CLAS Core: Natural Sciences with Lab <sup>i</sup>		4
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>16-17</b>

**Third Year****Fall**

STAT:3120	Probability and Statistics <sup>g</sup>	4
Major: applied field course <sup>k,l</sup>		3
GE CLAS Core: Historical Perspectives <sup>i</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>15</b>

**Spring**

ECON:4800	Econometric Analysis	3
Major: applied field course <sup>k,l</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>i</sup>		3
GE CLAS Core: International and Global Issues <sup>i</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

**Fourth Year****Fall**

Major: applied field course <sup>k,l</sup>		3
GE CLAS Core: Values and Culture <sup>i</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>15</b>

**Spring**

Major: applied field course <sup>k,l</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>i</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>m</sup>		
<b>Hours</b>		<b>15</b>

**Total Hours 123-129**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world

languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Both ECON:3125 and ECON:3150 must be completed at the University of Iowa.

g Students may choose to complete either STAT:3100-3101 or STAT:3120.

h Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.

i GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

j Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

k Students must complete four ECON courses (12 s.h.) numbered 3325-4700 excluding ECON:4090 and ECON:4700; at least two of the courses must be numbered 4090-4700.

l At least two of the applied field courses must be completed at the University of Iowa.

m Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Economics, B.B.A.

The B.B.A. in economics emphasizes the economic foundations of business fields—accounting, finance, marketing, business law, and management. Students who major in economics have the option to select the analytical track.

In addition to the common B.B.A. requirements [p. 1217], students complete three sets of requirements for the major: mathematics and statistics courses that provide the skills needed for understanding economic theory and data; economic theory courses that provide the tools needed for analyzing economic issues; and field courses that apply economic tools to business, social, or specialized analytical issues. The course requirements vary, depending on whether a student selects the analytical track.

The Bachelor of Business Administration degree is awarded by the Tippie College of Business.

### Requirements

The Bachelor of Business Administration with a major in economics requires a minimum of 120 s.h. of coursework, including at least 22 s.h. of coursework for the major. To graduate, students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all coursework attempted at the University of Iowa, all college business coursework attempted, all business coursework attempted at the University of Iowa, all college economics coursework attempted, and all economics coursework attempted at the University of Iowa. Coursework in the major may not be taken pass/nonpass. They also must complete all Tippie College of Business requirements for the Bachelor of Business Administration [p. 1217].

The B.B.A. program emphasizes the economic foundations of business fields—accounting, finance, marketing, business law, and management. B.B.A. students who major in economics have the option to select the analytical track. The major with no track is designed for students who seek employment in the public or private sectors or who plan to earn an M.B.A. degree after gaining necessary experience. The analytical track is designed for students interested in a more mathematically rigorous program. They will be well prepared for technical jobs in the public or private sectors as well as graduate study in economics and related fields.

The major requires a course in professional preparation, mathematics and statistics courses, economic theory courses, and applied field courses. Students in the analytical track take the mathematics and statistics courses required for the track but are not required to take MATH:1350 Quantitative Reasoning for Business or STAT:1030 Statistics for Business. Students should pay close attention to the order in which they take courses, since some courses are prerequisites for others.

Students may be able to count a limited amount of transfer credit toward the economics major, but they are required to complete the following courses at the University of Iowa: ECON:3100 Intermediate Microeconomics or ECON:3125 Intermediate Microeconomics: Advanced, ECON:3150 Intermediate Macroeconomics, and two of the applied field courses.

### B.B.A. Without Track

The B.B.A. with no track requires the following coursework.

Code	Title	Hours
	Professional Preparation Course	1-2
	Mathematics and Statistics Course	3
	Economic Theory Courses	6
	Applied Field Courses	12
<b>Total Hours</b>		<b>22-23</b>

### Professional Preparation Course

Code	Title	Hours
One of these:		
ACCT:3100	Professional Accounting Seminar	1
BAIS:3050	Business Analytics and Information Systems Professional Preparation	1
CCP:2001	Graduate Admissions 101	1
CCP:3102	Job Search Essentials	1
CCP:3104	Defining Your Career Path	2
CCP:3107	Social Media for Your Job Search	1
FIN:3020	Professional Finance Seminar	1
MGMT:3050	Professional Preparation for Management	1
MKTG:3050	Professional Preparation in Marketing	1

### Mathematics and Statistics Course

Code	Title	Hours
This course:		
ECON:3300	Introduction to Econometrics	3

### Economic Theory Courses

Code	Title	Hours
Both of these (must be taken at the University of Iowa):		
ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3

### Applied Field Courses

Students complete four applied field courses (12 s.h.) numbered between ECON:3325 and ECON:4700, excluding ECON:3870 Federal Reserve Challenge and ECON:4050 Readings and Independent Study in Economics. Two of the applied field courses must be taken at the University of Iowa.

### Analytical Track

The analytical track requires the following coursework.

Code	Title	Hours
	Professional Preparation Course	1-2
	Mathematics and Statistics Courses	15-17
	Economic Theory Courses	6
	Applied Field Courses	12
<b>Total Hours</b>		<b>34-37</b>

## Professional Preparation Course

Code	Title	Hours
One of these:		
ACCT:3100	Professional Accounting Seminar	1
BAIS:3050	Business Analytics and Information Systems Professional Preparation	1
CCP:2001	Graduate Admissions 101	1
CCP:3102	Job Search Essentials	1
CCP:3104	Defining Your Career Path	2
CCP:3107	Social Media for Your Job Search	1
FIN:3020	Professional Finance Seminar	1
MGMT:3050	Professional Preparation for Management	1
MKTG:3050	Professional Preparation in Marketing	1

## Mathematics and Statistics Courses

Code	Title	Hours
All of these:		
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
ECON:4800	Econometric Analysis	3
One of these:		
STAT:3100- STAT:3101	Introduction to Mathematical Statistics I-II (must take both of these)	6
STAT:3120	Probability and Statistics	4

## Economic Theory Courses

Code	Title	Hours
Both of these (must be taken at the University of Iowa):		
ECON:3125	Intermediate Microeconomics: Advanced	3
ECON:3150	Intermediate Macroeconomics	3

## Applied Field Courses

Students complete four applied field courses (12 s.h.) numbered ECON:3325 to ECON:4700, excluding ECON:3870 Federal Reserve Challenge and ECON:4050 Readings and Independent Study in Economics. At least two of the four classes must be numbered between ECON:4000 and ECON:4700. Two of the applied field courses must be taken at the University of Iowa.

## Honors

### Honors in the Major

Graduation with honors in economics recognizes high scholastic achievement based on grades and on completion of academic work beyond the requirements of the economics major. Students must have a cumulative g.p.a. of at least 3.50 in all college coursework attempted, all coursework attempted at the University of Iowa, all college business coursework attempted, and all business coursework attempted at the

University of Iowa. They also must successfully complete an honors thesis under the supervision of a faculty member.

Students begin by completing BUS:1999 Introduction to Research in Business at least three semesters prior to graduation. This course introduces students to research in the college and provides an opportunity to develop thesis questions and meet Tippie College of Business faculty members engaged in research. They also must complete ECON:3100 Intermediate Microeconomics if no track selected or ECON:3125 Intermediate Microeconomics: Advanced if analytical track selected, ECON:3150 Intermediate Macroeconomics, and ECON:3300 Introduction to Econometrics if no track selected or ECON:4800 Econometric Analysis if analytical track selected before commencing thesis work.

After identifying a faculty member to advise them on their thesis and completing the coursework listed above, students register for ECON:4999 Honors Thesis in Economics for two semesters while they complete their research and write their thesis. In the second semester of their thesis, students present their research in a poster format at the Undergraduate Research Festival.

Students interested in graduating with honors in economics should see Tippie Honors on the Tippie College of Business website.

## University of Iowa Honors Program

Completing the honors in economics requirements also satisfies the experiential learning requirement for the University of Iowa Honors Program. To learn more about graduating with honors through the UI Honors Program, visit the Honors at Iowa website.

Membership in the UI Honors Program is not required to earn honors in the economics major.

## Career Advancement

The Bachelor of Business Administration degree provides an excellent educational background for a variety of positions in business and government. Graduates find employment in banking, financial institutions, industrial firms, and trade organizations and in federal, state, and local government agencies dealing with economic policy, regulation, and analysis. An undergraduate degree in economics also prepares students for the study of law and for graduate study in fields such as economics, business management, public administration, hospital and health administration, urban and regional planning, transportation, journalism, political science, and statistics.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit the Pomerantz Career Center website.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan.

The following checkpoints are designed for students who enter the University as direct admission or pre-business students. In order to stay on the plan, pre-business students must maintain the grade-point averages required for admission to the Tippie College of Business and must apply for admission to the college the semester the four prerequisite courses will be completed, but no later than before the fifth semester begins. The Four-Year Graduation Plan is not available to students who choose to pursue a double major in the college or to those enrolled in a combined degree program.

Students must take BUS:3000 Business Communication and Protocol during their first year after admission to the Tippie College of Business, except direct admission students, who take the course during their second year.

### Students Without Track

**Before the third semester begins:** ECON:1100 Principles of Microeconomics, ECON:1200 Principles of Macroeconomics, MATH:1350 Quantitative Reasoning for Business, STAT:1030 Statistics for Business, and at least one-quarter of the semester hours required for graduation.

**Before the fifth semester begins:** ECON:3300 Introduction to Econometrics, ECON:3100 Intermediate Microeconomics, all General Education requirements, and at least half of the semester hours required for graduation.

**Before the seventh semester begins:** ECON:3150 Intermediate Macroeconomics, at least one applied field course, all business core requirements, and at least three-quarters of the semester hours required for graduation.

**Before the eighth semester begins:** at least two applied field courses.

**During the eighth semester:** all remaining coursework in the major and a sufficient number of semester hours to graduate.

### Students with Analytical Track

**Before the third semester begins:** ECON:1100 Principles of Microeconomics, ECON:1200 Principles of Macroeconomics, MATH:1850 Calculus I, MATH:1860 Calculus II, and at least one-quarter of the semester hours required for graduation.

**Before the fifth semester begins:** either STAT:3120 Probability and Statistics or both STAT:3100 and STAT:3101 Introduction to Mathematical Statistics II, all General Education requirements, and at least half of the semester hours required for graduation.

**Before the seventh semester begins:** ECON:3125 Intermediate Microeconomics: Advanced, ECON:3150 Intermediate Macroeconomics, at least one applied field course, all business core requirements, and at least three-quarters of the semester hours required for graduation.

**Before the eighth semester begins:** at least two applied field courses.

**During the eighth semester:** ECON:4800 Econometric Analysis, all remaining coursework in the major, and a sufficient number of semester hours to graduate.

### Iowa Degree in Three

Iowa Degree in Three is designed for students who are academically prepared to complete more semester hours per term than average or who come to the University of Iowa with completed college credits. It is a flexible, affordable option developed to meet the needs of highly motivated students.

Students sign an agreement during their first semester of enrollment; meet with an advisor at least once a semester to review their plans and progress; take courses during summer sessions, if necessary; meet specific course checkpoints; and maintain the grade-point average required for the major.

The Tippie College of Business makes several assumptions about candidates for the Iowa Degree in Three:

- students are prepared to enroll in MATH:1350 Quantitative Reasoning for Business during their first enrollment at the University of Iowa,
- students have fulfilled the General Education World Language requirement before matriculation,
- students are direct admits to the Tippie College of Business,
- students have earned at least 15 s.h. of college credit before matriculation, and
- students are not held for more than two English as a Second Language classes.

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Economics, B.B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students are required to complete 52 s.h. of non-business coursework. Courses with a prefix of ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, and MKTG will not count towards non-business hours. Check degree audit for non-business hours or confer with academic advisor.		
Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. World Language counts as non-business coursework.		
	To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. <sup>a</sup>	0 - 3
Students must satisfy the Tippie College of Business residence requirement: 45 s.h. of UI coursework after admission to Tippie.		
		<b>Hours</b>
		<b>0-3</b>
<b>First Year</b>		
<b>Fall</b>		
BAIS:1500	Business Computing Essentials	2

ECON:1100	Principles of Microeconomics	4
MATH:1350	Quantitative Reasoning for Business <sup>b</sup>	4
RHET:1030	Rhetoric	4
CSI:1600	Success at Iowa	2

**Hours 16**

### Spring

ACCT:2100	Introduction to Financial Accounting	3
ECON:1200	Principles of Macroeconomics	4
STAT:1030	Statistics for Business	4
ENGL:1200	The Interpretation of Literature	3
GE: Historical Perspectives <sup>c</sup>		3

**Hours 17**

### Second Year

#### Fall

BAIS:2800	Foundations of Business Analytics	3
BUS:2200	Foundations for Success in Business <sup>d</sup>	1
ECON:3100	Intermediate Microeconomics <sup>e</sup>	3
MGMT:2000	Introduction to Law	3
GE: Diversity and Inclusion <sup>c</sup>		3

**Hours 13**

#### Spring

BUS:3000	Business Communication and Protocol <sup>f</sup>	3
ECON:3150	Intermediate Macroeconomics <sup>e</sup>	3
ECON:3300	Introduction to Econometrics	3
Major: professional preparation course <sup>a</sup>		1 - 2
GE: Natural Sciences without Lab <sup>c</sup>		3

**Hours 13-14**

### Third Year

#### Fall

ACCT:2200	Managerial Accounting	3
MGMT:2100	Introduction to Management	3
Major: applied field course <sup>a, g</sup>		3
GE: International and Global Issues <sup>c</sup>		3
Minor, certificate, or non-business elective		3

**Hours 15**

#### Spring

BAIS:3000	Operations Management	2
BAIS:3005	Information Systems	2
Major: applied field course <sup>a, g</sup>		3
GE: Values and Culture <sup>c</sup>		3
GE: Social Sciences <sup>c</sup>		3
Minor, certificate, or non-business elective		3

**Hours 16**

### Fourth Year

#### Fall

MKTG:3000	Introduction to Marketing Strategy	3
Major: applied field course <sup>a, g</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3

**Hours 15**

### Spring

FIN:3000	Introductory Financial Management	3
Major: applied field course <sup>a, g</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>h</sup>

**Hours 15**

**Total Hours 120-124**

a See degree audit for course options.

b Enrollment in math courses requires completion of a placement exam.

c GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Complete BUS:2200 by the end of the second year, before enrolling in the Professional Preparation course for the major.

e Must be completed at the University of Iowa.

f Must be admitted to Tippie to enroll in BUS:3000. Generally completed during the second year, but should be taken no later than the third year.

g At least two of the applied field courses must be taken at the University of Iowa.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Economics, Minor

## Requirements

The undergraduate minor in economics requires a minimum of 15 s.h. of economics coursework, including 12 s.h. of coursework completed at the University of Iowa in economics courses (prefix ECON) numbered 3000 or above. A maximum of 6 s.h. of coursework used to satisfy another major, minor, or certificate may be applied toward the economics minor. Students must have a cumulative g.p.a. of at least 2.00 in all college economics coursework attempted and all economics coursework attempted at the University of Iowa. Coursework in the minor may not be taken pass/nonpass.

# Economics, M.A.

## Learning Outcomes

- To demonstrate proficiency and knowledge in the specialization discipline, students will demonstrate expertise in reading and interpreting academic research articles in their specialized discipline. They will be knowledgeable in the major theoretical perspectives and prior research findings in their area and be able to integrate prior research from various streams of literature.
- To demonstrate the ability to conduct independent, original research that leads to publications, students will be able to identify important research questions, provide theory-based reasoning to develop original hypotheses, execute an appropriate research design, and summarize their efforts in a working paper. This includes being able to read and summarize existing research into their paper and understanding the prior literature in a variety of substantive areas, paradigms, and methodologies.
- To be effective teachers in their disciplines, students will demonstrate proficiency as instructors in courses in their specialized discipline. This includes preparing course syllabi, giving lectures, writing assignments and exams, and evaluating students on the various deliverables.
- To demonstrate effective communication skills, students will be effective at communicating ideas in academic writing and how these ideas relate to each other within the context of an academic paper. This includes the ability to establish a position, show why that position matters, and situate that position within a context that is determined by the appropriate audience. International students will demonstrate the ability to effectively lecture and communicate in English.

## Requirements

The Master of Arts is offered only to students working toward a Ph.D. in economics.

The department participates in the M.B.A. program; see the Master of Business Administration Program [p. 1313] in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

All applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Applicants must submit a completed Application for Graduate Admission, official transcripts from all institutions they have attended, and all official test scores to the University of Iowa Office of Admissions.

Application deadline for admission and financial support is January 15 for fall entry.

## Career Advancement

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs; for more information about careers, visit the Pomerantz Career Center website.



# Economics, Ph.D.

## Learning Outcomes

- To demonstrate proficiency and knowledge in the specialization discipline, students will demonstrate expertise in reading and interpreting academic research articles in their specialized discipline. They will be knowledgeable in the major theoretical perspectives and prior research findings in their area and be able to integrate prior research from various streams of literature.
- To demonstrate the ability to conduct independent, original research that leads to publications, students will be able to identify important research questions, provide theory-based reasoning to develop original hypotheses, execute an appropriate research design, and summarize their efforts in a working paper. This includes being able to read and summarize existing research into their paper and understanding the prior literature in a variety of substantive areas, paradigms, and methodologies.
- To be effective teachers in their disciplines, students will demonstrate proficiency as instructors in courses in their specialized discipline. This includes preparing course syllabi, giving lectures, writing assignments and exams, and evaluating students on the various deliverables.
- To demonstrate effective communication skills, students will be effective at communicating ideas in academic writing and how these ideas relate to each other within the context of an academic paper. This includes the ability to establish a position, show why that position matters, and situate that position within a context that is determined by the appropriate audience. International students will demonstrate the ability to effectively lecture and communicate in English.

## Requirements

The Doctor of Philosophy program in economics requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. The program provides rigorous training in economic theory, econometrics, and applied economics. It has six components: a coordinated sequence of core courses, a qualifying examination, a research paper, a set of major field courses, a dissertation proposal and comprehensive examination, and a dissertation.

The department partners with the College of Law to offer a combined J.D./Ph.D. degree program; see Combined Programs [p. 1265] in this section of the Catalog. It also participates in the M.B.A. program; see the Master of Business Administration Program [p. 1313] in the Catalog.

The Ph.D. with a major in economics requires the following.

## Core Sequence

### First Semester

Code	Title	Hours
ECON:5115	Fundamentals of Microeconomics	3
ECON:5200	Macroeconomics I	3
ECON:5805	Statistics for Economics	3

### Second Semester

Code	Title	Hours
ECON:5110	Microeconomics II	3
ECON:5210	Macroeconomics II	3
ECON:5800	Econometrics	3

### Third Semester

Code	Title	Hours
ECON:5810	Applied Econometrics	3
ECON:6320	Labor Economics	3
ECON:6420	Macroeconomics III	3
ECON:6900	Contemporary Topics in Economics	3

## Qualifying Examination

The qualifying examination is normally taken the summer after the first year.

## Research Paper

The research paper is normally completed the summer after the second year.

## Major Field Courses

Students choose a major study area in addition to the core courses. The requirement for the major area is a minimum of 24 s.h. of intensive study in a field and in courses that enable students to understand the relationship between their specialty and related fields.

## Dissertation Proposal and Comprehensive Examination

Students must defend a dissertation proposal in a comprehensive examination within one year of completing the research paper requirement.

## Dissertation

Submission of the completed dissertation and an oral defense of the dissertation research completes the Ph.D. program.

## Combined Programs

### Ph.D./J.D.

The Department of Economics and the College of Law offer a combined Doctor of Philosophy/Juris Doctor program. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the J.D., see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must take the Graduate Record Examination (GRE) General Test and have their scores sent to the University. Those whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores

from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Applicants must submit a completed Application for Graduate Admission, official transcripts from all institutions they have attended, and all official test scores to the University of Iowa Office of Admissions.

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# Entrepreneurial Management

## Executive Director

- David K. Hensley (Management and Entrepreneurship)

## Director, Undergraduate Studies

- Kimm Harris (Management and Entrepreneurship)

**Undergraduate certificate:** entrepreneurial management

**Faculty:** <https://iowajpec.org/people>

**Website:** <https://iowajpec.org/entrepreneurial-management-certificate>

The Tippie College of Business and the John Pappajohn Entrepreneurial Center (Iowa JPEC) offer the Certificate in Entrepreneurial Management. They also work with other units on campus to offer entrepreneurship programs. The college collaborates with the College of Engineering to offer the Certificate in Technological Entrepreneurship [p. 1686]. The center partners with the Department of Management and Entrepreneurship [p. 1295] to offer the entrepreneurial management track for Bachelor of Business Administration students majoring in management. It collaborates with the College of Liberal Arts and Sciences to offer the B.A. in enterprise leadership [p. 466] and the minor in media management [p. 786].

Undergraduate entrepreneurship programs at the University of Iowa combine academic coursework and experiential learning with a focus on teaching entrepreneurial leadership, innovation and creativity, opportunity recognition and assessment, and strategic business planning. Students develop their critical thinking, professional communication, and leadership skills through accommodation of academic projects and cocurricular activities. Several of the programs are open to all University of Iowa undergraduates. To learn more, visit the John Pappajohn Entrepreneurial Center website.

The John Pappajohn Entrepreneurial Center also offers a wide variety of applied learning experiences designed to develop entrepreneurial-minded problem solvers. These programs range from professional internships with high-growth new ventures to business and strategic consulting services to existing businesses. For students who want to launch a business while in school, the Pappajohn Center directs a comprehensive accelerator program that includes space, training, mentoring, and access to capital.

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Entrepreneurial Management [p. 1272]

## Facilities

### John Pappajohn Entrepreneurial Center

The main office is located in the John Pappajohn Business Building. Students who would like information about undergraduate entrepreneurship-related academic

programs or are interested in learning more about resources and programs to support student entrepreneurship are encouraged to stop by and visit with a staff member.

## Bedell Entrepreneurship Learning Laboratory

The Bedell Entrepreneurship Learning Laboratory is an applied learning environment for University of Iowa students creating a new business. The laboratory provides dedicated office space for individual students and teams, enabling them to concentrate on developing their business concepts. Student entrepreneurs participate in the Hawkeye Startup Incubator, a student business acceleration program open to any student at the University of Iowa. This business incubator connects students with the resources to launch startups, and to grow them into sustainable businesses. Participants have access to a variety of resources including collaborative work space and equipment, workshops, training, networking, funding opportunities, and one-on-one mentoring from experienced professionals. Students also compete for capital in several campus and national pitch and business model competitions. They gain access to technical support, accounting, legal, engineering, and prototyping services, and are connected with potential investors and business partners.

Contact the John Pappajohn Entrepreneurial Center for information or visit the Startup Incubator website to apply.

## Courses

### Entrepreneurial Management Courses

#### **ENTR:1010 Exploring Entrepreneurship** 3 s.h.

Introduction to entrepreneurship, including identifying characteristics of the entrepreneur, evaluating opportunities, engaging in customer discovery, design thinking, feasibility, financing, and planning for success.

#### **ENTR:1020 Business Innovation** 3 s.h.

Overview of entrepreneurship, innovation, and project management concepts; work in teams with science, technology, engineering, and mathematics (STEM) industry mentors to develop innovative solutions to real-world problems.

#### **ENTR:1030 STEM Innovator** 3 s.h.

Work with science, technology, engineering, and mathematics (STEM) industry mentors to engage in innovation and entrepreneurship by employing conceptual understandings and practices of STEM within an entrepreneurship framework; students solve real-world STEM problems that are of interest to them and their community, acquire and demonstrate 21st-century skills working on authentic, meaningful, and cross-curricular projects; exposure to potential STEM careers and entrepreneurial pathways; preparation for success in postsecondary STEM majors, careers, and entrepreneurial ventures of the future. Requirements: enrollment in STEM Innovator program and consent of UI STEM innovator program administrators.

#### **ENTR:1300 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**ENTR:1350 Foundations in Entrepreneurship 3 s.h.**

Basic core business concepts faced by entrepreneurial managers in small business accounting, marketing, and business planning. Recommendations: non-business major interested in studying entrepreneurship.

**ENTR:1800 Innovation in Action: Sustainability 0-1 s.h.**

For businesses to successfully compete and thrive in a global marketplace, they must embrace innovation throughout their organizations, and one of the critical issues businesses face today is that of sustainability—how to most effectively acquire and utilize scarce resources while limiting their overall environmental impact; introduction to sustainability; focus on economic, social, and environmental issues facing organizations and society; project management fundamentals; students work in teams to identify a specific sustainability challenge, and prepare and present a strategic approach for addressing a sustainability problem.

**ENTR:2000 Entrepreneurship and Innovation 3 s.h.**

Integrated, cross-functional perspective on how organizations identify and evaluate opportunities and develop strategies to compete in a global marketplace; innovation and creativity, opportunity recognition, venture screening, characteristics of successful entrepreneurial leaders, feasibility analysis, strategic business planning; application of entrepreneurship practices for new business creation, corporate venturing, nonprofits. Duplicates ENTR:3350. Corequisites: ENTR:1350.

**ENTR:2800 Entrepreneurial Experience 1-3 s.h.**

Applied learning course designed to enhance innovation and opportunity recognition skills, develop customer discovery expertise, and foster team-building and leadership abilities.

**ENTR:3000 Practicum in Entrepreneurship 1-3 s.h.**

Applied, experiential learning opportunities designed to foster development of entrepreneurial leadership skills; opportunity recognition and assessment, strategic business planning, innovation and creativity, team leadership, professional communication skills, strategy development and execution.

**ENTR:3050 Professional Preparation for Enterprise Leadership and Entrepreneurship 1 s.h.**

Survey of career paths for students studying enterprise leadership and entrepreneurship; opportunities to build a professional network through regular interaction with business professionals and industry leaders; creating strategies for securing internships and full-time employment; developing professional soft skills to succeed in today's workplace.

**ENTR:3100 Entrepreneurial Finance 3 s.h.**

Understanding financial aspects of new and growing ventures; focus on preparing financial projections, analyzing financial performance, managing cash flow, and determining financial feasibility; detailed overview of various sources of capital available for start-up and growing ventures. Prerequisites: THTR:3520 or ENTR:2000 or ENTR:3350.

**ENTR:3200 Entrepreneurial Marketing 3 s.h.**

Practical marketing concepts for evaluating the market potential for new products, services, or business opportunities; how to obtain and evaluate market data, determine customer demand, analyze the competition, design effective promotions, develop and implement effective sales strategies, and write a successful marketing plan. Prerequisites: ENTR:2000 or ENTR:3350 or THTR:3520.

**ENTR:3350 Entrepreneurial Strategy 3 s.h.**

Synergistic effect of entrepreneurial attributes (e.g., innovation, creativity, opportunity recognition) and managerial attributes (e.g., strategic management, planning, budgeting) on profit and nonprofit organizations. Duplicates ENTR:2000.

**ENTR:3400 Strategic Management of Technology and Innovation 3 s.h.**

New technology innovation and commercialization; technology innovation process, identification of commercialization strategies, feasibility analysis, intellectual property issues. Prerequisites: ENTR:2000 or THTR:3520 or ENTR:3350.

**ENTR:3500 Social Entrepreneurship 3 s.h.**

Introduction to the growing field of social entrepreneurship; creation of ventures with dual missions of social benefit and return on investment; issues related to evaluating market opportunities; acquiring and managing scarce resources; sustainability; maximizing social and economic value. Prerequisites: ENTR:2000 or THTR:3520 or ENTR:3350.

**ENTR:3550 Commercializing New Technology I 3 s.h.**

Students work in teams to identify technology-based innovation opportunities arising from the validation of market needs or problems; application of design thinking, lean methodology, and business model canvas approaches; regular interaction with alumni entrepreneurs and industry experts; conduction of customer discovery to validate assumptions and identify product-market fit; creation of a minimal viable product for further customer discovery and initial testing; first of a two-course sequence. Prerequisites: ENTR:2000 or ENTR:3350. Corequisites: (ENTR:3200 or MKTG:3000) and (ENTR:3100 or ACCT:2100). Requirements: 75 s.h. completed.

**ENTR:3575 Commercializing New Technology II 3 s.h.**

Creation of a formal technology commercialization plan for a university-based discovery by student teams; team assignment to alumni entrepreneurial mentors, interaction with industry experts, and engagement with potential customers and partners; preparation of a formal strategic business plan, intellectual property assessment, and pitch deck; presentation of final plans to alumni angel investors and venture capitalists; second in a two-course sequence. Prerequisites: ENTR:3550. Requirements: 60 s.h. completed.

**ENTR:3595 Nonprofit Organizational Effectiveness I 3 s.h.**

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as MGMT:3500, MUSM:3500, NURS:3595, RELS:3700, SSW:3500.

**ENTR:3600 E-Commerce Strategies for Entrepreneurs 3 s.h.**

E-commerce opportunities and internet business strategies for entrepreneurial ventures; how to develop effective web business strategies, latest technologies and trends in e-commerce, methods for maximizing traffic, impact of a company's website. Prerequisites: ENTR:2000 or ENTR:3350 or THTR:3520.

**ENTR:3700 Sustainable Product Innovation and Management** 3 s.h.

Sustainability requirements in management of new product and process development from the perspective of the senior-level executive responsible for a firm's business and operational strategies; student teams will develop a new sustainable product or undertake applied field study projects to gain firsthand experience with sustainability practices and strategies within a company. Prerequisites: ENTR:2000 or THTR:3520 or ENTR:3350 or MKTG:3000. Requirements: 60 s.h. earned.

**ENTR:3800 Entrepreneurial Leadership Academy I** 3 s.h.

Students hone leadership and project management skills through weekly workshops, guest speakers, and course discussion; preparation to actively manage and lead all phases of a business project; topics include client management, advanced project management skills, how to have tough conversations at work, and how to structure and lead a meeting for optimal results; first in a two-course sequence. Prerequisites: MGMT:2100 or ENTR:2000 or ENTR:3350. Requirements: declared management and entrepreneurship major or enterprise leadership major, and 75 s.h. completed. Same as MGMT:3800.

**ENTR:3850 Entrepreneurial Leadership Academy II** 3 s.h.

Work in small groups to provide strategic management consulting services to Iowa-based companies; experienced entrepreneurs and C-level executives provide mentoring to teams; students independently communicate with their client, learn to employ the latest techniques for assessing competitive markets and identifying growth opportunities, and ultimately develop recommendations and prepare a final report for their client; second in a two-course sequence. Prerequisites: MGMT:3800 or ENTR:3800. Same as MGMT:3850.

**ENTR:4000 Topics in Entrepreneurship** 1-3 s.h.

Current topics in entrepreneurship. Prerequisites: ENTR:2000 or ENTR:3350 or THTR:3520.

**ENTR:4050 Directed Readings in Entrepreneurship** arr.

Independent study; topics and assignments approved by instructor.

**ENTR:4100 International Entrepreneurship, Culture, and Social Impact** 1-3 s.h.

International entrepreneurship and business strategy, foreign exchange, tariffs and trade, microfinance, economic conditions, and culture of destination countries; students travel abroad or utilize distance technology to complete real-world projects with international entrepreneurs and business leaders; group projects focus on evaluating entrepreneurial opportunities, identifying sustainable growth strategies, incorporating innovation throughout the organization, and understanding international business culture. Prerequisites: ENTR:2000 or THTR:3520 or ENTR:3350. Requirements: junior standing.

**ENTR:4200 Entrepreneurship: Business Consulting** 3 s.h.

Students provide strategic business consulting services to start-up and early-stage companies; exploration of consulting process (i.e., proposal development, data collection and analysis, team dynamics, communications with clients, developing recommendations, final report preparation and presentation); projects involving market research and analysis, financial analysis and projections, and strategic business and operations planning; may include online business consulting services to international companies and organizations or Iowa-based clients. Requirements: 60 s.h. completed.

**ENTR:4300 Entrepreneurship: Advanced Business Planning** arr.

Creation and launch of a new venture; completion of a detailed business plan, creating an elevator pitch, and formal presentation of plan.

**ENTR:4400 Managing the Growth Business** 3 s.h.

Preparation to effectively manage employees, customers, and suppliers; leadership for a growing entrepreneurial venture; opportunities to evaluate, practice, and refine critical professional management skills. Prerequisites: ENTR:2000 or THTR:3520 or ENTR:3350. Requirements: 75 s.h. earned.

**ENTR:4460 Entrepreneurship and Global Trade** 3 s.h.

Complex issues of business operations in a global economy; trade transactions related to importing and exporting, logistics, and ethical issues in international trade; global business management, global marketing, global supply chain management, and trade finance; preparation for work in global marketplace and for the Certified Global Business Professional certification exam offered by the North American Small Business International Trade Educators. Prerequisites: ENTR:2000 or ENTR:3350 or THTR:3520 or GEOG:2910.

**ENTR:4510 Arts Leadership Seminar** 3 s.h.

Performing arts management and administrative principles, practical applications, trends in arts leadership and advocacy. Prerequisites: THTR:3510 or ENTR:2000. Same as DPA:4510, INTD:4510, THTR:4510.

**ENTR:4900 Academic Internship** arr.

Professional internship experience with academic credit (e.g., paper, coursework).

**ENTR:4999 Honors Thesis in Entrepreneurial Studies** arr.

Independent study project directed by a faculty member or staff advisor, and culminating in a thesis that conforms to University of Iowa Honors Program guidelines; project includes empirical research, library research, applied projects. Requirements: honors standing, UI g.p.a. of at least 3.50, and enterprise leadership g.p.a. of 3.50.

**ENTR:9100 Entrepreneurship and Innovation** 3 s.h.

Entrepreneurial process from ideation to commercialization of innovations for new ventures, existing businesses, and nonprofit organizations; topics include innovation and creativity, opportunity recognition and assessment, venture screening, business modeling, resource identification and acquisition, entrepreneurial leadership, and strategic business planning.

**ENTR:9150 Venture School International arr.**

Innovative training focused on real-world experimentation, customer discovery, and lean methodologies; curriculum developed by the National Science Foundation I-Corps to help entrepreneurs and startups turn their ideas into reality; individual and team ideation, problem identification, and validation using real customer discovery interviews; students test their hypothesis by talking with customers, partners, and suppliers; encountering chaos and uncertainty of commercializing innovations and creating new ventures in a safe environment; creation of a business model that creates value.

**ENTR:9200 Entrepreneurial Finance 3 s.h.**

Financial aspects of launching and growing entrepreneurial ventures; topics include financial feasibility, financial forecasting and cashflow management, business valuation, sources of venture financing, deal structure, financing growth, and exit strategies. Prerequisites: MBA:8140.

**ENTR:9400 Evaluating Innovation Opportunities 2-3 s.h.**

Integrated, cross-functional perspective of how organizations identify and evaluate opportunities and develop strategies to compete in a global marketplace; innovation and creativity, opportunity recognition, venture screening, identification of resources, and strategic business planning.

**ENTR:9450 Strategic Management of Technology and Innovation 3 s.h.**

Role of technology in creation, growth, and survival of industries; processes, risks, and rewards of technological innovation and commercialization; successful approaches to developing technological strategy and products.

**ENTR:9500 Managing the Growth Business 3 s.h.**

Issues faced by new, rapidly growing businesses; adapting organizational structure as business expands, building a management team, hiring new employees, managing strategic growth of a business; case studies, particularly in technology sector.

**ENTR:9550 Commercializing New Technology 3 s.h.**

Hands-on experience with the process of technology commercialization; real-world opportunity in the form of a technology developed in an academic environment or in the private sector and creation of a plan to transfer that technology to the marketplace; identifying a specific application of that technology (the product); identifying and sizing relevant market segments; determining the appropriate business and financial model; designing a business plan; presentation of business plans/opportunities to simulated venture capitalists.

**ENTR:9600 Seminar in Entrepreneurship 1-3 s.h.**

Topics vary; franchising, business acquisition, real estate development, e-commerce, technology transfer.

**ENTR:9610 STEM Innovator I: Introduction to STEM Innovation and Entrepreneurial Thinking 1-3 s.h.**

Exploration of current best practices in problem/project-based learning with research-driven curriculum, instruction, and assessment to prepare all students to be future ready; introduction to skills and mindsets of STEM innovators and entrepreneurs; how a growth mindset and leveraging student strengths facilitates successful team projects; exploration of a problem identification strategy and establishing the value of solving a problem through the entrepreneurial process of customer discovery. Requirements: enrollment in STEM Innovator professional development program or approval of UI STEM Innovator instructor.

**ENTR:9620 STEM Innovator II: Skills, Mindsets, Practices, and Academic Knowledge of Problem-Based Learning 1-3 s.h.**

Introduction to STEM innovation, invention, and entrepreneurship academic language, activities, and reflective assessment to assist development of innovation skills, mindsets, and practices; engagement in the design thinking process to tackle STEM problems and develop sustainable solutions of value for potential users; strengths leveraged to form collaborative teams and engage in project development; exploration of prototype development research process with focus on implementation in the K-14 environment. Recommendations: ENTR:9610.

**ENTR:9630 STEM Innovator III: Lean Start-Up, Data Analysis, Prototyping, and Project Development 1-3 s.h.**

Exploration of STEM practices of Lean Start-Up methodology, quantitative and qualitative data analysis, prototype research and development, and project development frameworks; activities and reflective assessment to assist development of innovation skills, mindsets, and practices; advancement of a solution to a STEM problem and development of sustainable solutions of value for potential users; exploration of STEM practices and activities with focus on implementation in the K-14 environment. Requirements: enrollment in STEM Innovator professional development program or approval of UI STEM Innovator instructor. Recommendations: ENTR:9610.

**ENTR:9640 STEM Innovator IV: STEM Innovation Activities, Portfolio Assessment, and Community Engagement 1-3 s.h.**

Strategies to engage community mentors in assisting student innovation teams through technical and project management expertise; exploration of STEM Innovator Portfolio assessment tool to capture student innovation, invention, and entrepreneurial competencies over time; engagement with STEM Innovator curriculum toolkit to advance professional expertise and implement activities directly into classroom practice; activities and reflective assessment to assist development of innovation skills, mindsets, and practices; exploration of STEM practices and activities with focus on implementation in the K-14 environment. Requirements: enrollment in STEM Innovator professional development program or approval of UI STEM Innovator instructor. Recommendations: ENTR:9610.

**ENTR:9650 STEM Innovator V: STEM Innovator Tools to Create an Innovation Model for the Classroom 1-3 s.h.**

Utilization of STEM Innovator curriculum, instruction, and assessment tools to develop an implementation framework to infuse innovation, invention, and entrepreneurship into classroom practice; development of curriculum scope and sequence, align core K-14 content standards, secure community partnerships, and network with administrators, counselors, parents, and industry experts to build support during initial launch of the model; activities and reflective assessment to assist development of innovation skills, mindsets, and practices. Requirements: enrollment in STEM Innovator professional development program or approval of UI STEM Innovator instructor. Recommendations: ENTR:9610.

**ENTR:9660 STEM Innovator VI: Creating a STEM Innovation Pathway Across K-14 Learning Experiences** **1-3 s.h.**

Engagement in systems thinking to design a model K-14 STEM innovation, invention, and entrepreneurial pathway for students across a school or district; utilization of STEM Innovator portfolio assessment tool to demonstrate student growth in skills, mindsets, practices, and academic content knowledge in STEM; networking to leverage additional educators, administrators, and industry leaders to develop, promote, and implement a STEM pathway for the district to increase student participation. Requirements: enrollment in STEM Innovator professional development program or approval of UI STEM Innovator instructor. Recommendations: ENTR:9610.

**ENTR:9700 Entrepreneurship: Business Consulting** **3 s.h.**

Experience on teams providing consulting services to start-up and early-stage companies; the consulting process—proposal development, data collection and analysis, final report preparation and presentation; projects—marketing studies, financial projections, strategic planning.

**ENTR:9800 Entrepreneurship: Advanced Business Planning** **0-3 s.h.**

Mentoring for individuals in final stages of preparing to launch their own business or working with an entrepreneurial venture to grow their business.

# Entrepreneurial Management, Certificate

The entrepreneurial certificate is an excellent addition to a student's educational experience. It teaches students to apply innovative approaches to solve problems, create and communicate value, and impact the community. All businesses and nonprofits are seeking individuals with these skills, regardless of their size or type industry. Students may begin the certificate at any time during their college career.

Students who pursue the Certificate in Entrepreneurial Management develop a solid foundation in entrepreneurial management, professional leadership, and communication skills that prepare them for a variety of career opportunities or to start their own business. They are able to apply their innovative problem-solving and critical thinking skills to contemporary issues, to develop strategies to seize upon opportunities, and to build and lead successful teams.

Students learn from a select team of faculty members, business executives, and entrepreneurs who have distinguished themselves in the business world and have a unique ability to successfully teach theory and practice. Students will have the opportunity to meet successful alumni and entrepreneurial leaders to help them build their professional network. Several cocurricular programs also are available to help students develop additional marketable skills and strengthen their résumés for career success.

Students develop the following skills in the program: innovation and creativity, opportunity recognition, developing and executing business strategies, building and leading interdisciplinary teams, market assessments, financial forecasting and evaluation, professional communications, critical thinking, and problem solving.

## Requirements

The undergraduate Certificate in Entrepreneurial Management requires a minimum of 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate program is open to current University of Iowa undergraduate students and to individuals who have earned a bachelor's degree and are not enrolled in a UI graduate or professional degree program, except to students earning the B.B.A. in management (entrepreneurship management track) or the B.A. in enterprise leadership.

Undergraduate students must declare their intention to pursue the certificate. Business students should contact the Tippie College of Business Undergraduate Program office. Liberal arts and sciences students should contact the CLAS Undergraduate Programs office.

Students earning the certificate in conjunction with the Bachelor of Applied Studies [p. 2158] (University College) or the Bachelor of Liberal Studies [p. 2161] (University College) may complete the certificate's coursework by distance education.

Students may begin working toward the Certificate in Entrepreneurial Management during their sophomore year. They may count a maximum of 6 s.h. of transfer credit toward the certificate, with approval from the entrepreneurship program director. Credit earned in entrepreneurship courses

(prefix ENTR) is counted as semester hours earned in business.

The Certificate in Entrepreneurial Management requires the following coursework. Many certificate courses have prerequisites and other requirements for registration; students must complete a course's prerequisites and must meet its registration requirements before they may register for the course.

## Entrepreneurship Core

To begin work on the certificate, students should first enroll in ENTR:2000 or its equivalent; for non-business and non-engineering students, ENTR:1350 Foundations in Entrepreneurship must be taken prior to, or concurrently with ENTR:2000.

Code	Title	Hours
This course:		
ENTR:2000	Entrepreneurship and Innovation	3
All of these:		
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:4400	Managing the Growth Business	3

## Electives

Students earn an additional 6 s.h. in elective courses chosen from the following list. They have the option to choose electives in specialty areas based on their career interests. Students who wish to use a course not on the list must consult with the John Pappajohn Entrepreneurial Center's undergraduate studies director.

Code	Title	Hours
ENTR:1800	Innovation in Action: Sustainability	0-1
ENTR:2800	Entrepreneurial Experience	1-3
ENTR:3000	Practicum in Entrepreneurship	1-3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3550	Commercializing New Technology I	3
ENTR:3575	Commercializing New Technology II	3
ENTR:3595	Nonprofit Organizational Effectiveness I	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:3700	Sustainable Product Innovation and Management	3
ENTR:3800	Entrepreneurial Leadership Academy I	3
ENTR:3850	Entrepreneurial Leadership Academy II	3
ENTR:4000	Topics in Entrepreneurship	1-3
ENTR:4050	Directed Readings in Entrepreneurship	arr.
ENTR:4100	International Entrepreneurship, Culture, and Social Impact	1-3



ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4460	Entrepreneurship and Global Trade	3
ENTR:4510	Arts Leadership Seminar	3
ENTR:4900	Academic Internship	3
ENTR:4999	Honors Thesis in Entrepreneurial Studies	arr.
MGMT:4100	Dynamics of Negotiations	3

# Finance

## Chair

- Thomas A. Rietz

**Undergraduate major:** finance (B.B.A.)

**Graduate degrees:** M.S. in finance; finance subprogram for the Ph.D. in business administration

**Faculty:** <https://tippie.uiowa.edu/people?departments=170>

**Website:** <https://tippie.uiowa.edu/about/finance-department>

The Department of Finance is committed to delivering programs of study that integrate the technology and analytics of today's global financial community. The goal is to provide students with the technical skills they need to enhance their managerial effectiveness, whether they work in large corporations, small organizations, or private consulting.

The department offers the undergraduate major in finance, the Master of Science program in finance, and the subprogram in finance that leads to the Ph.D. in business administration. Additionally, they participate in the M.B.A. program; see the Master of Business Administration Program [p. 1313] in the Catalog. The department also partners with the Emmett J. Vaughan Institute of Risk Management and Insurance to offer the undergraduate Certificate in Risk Management and Insurance [p. 1329].

## Programs

### Undergraduate Program of Study

#### Major

- Major in Finance (Bachelor of Business Administration) [p. 1278]

### Graduate Programs of Study

#### Majors

- Master of Science in Finance [p. 1281]
- Finance subprogram for the Doctor of Philosophy [p. 1284] in Business Administration

## Courses

### Finance Courses

**FIN:1300 First-Year Seminar** **1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**FIN:1500 Introduction to Investment Banking** **1 s.h.**  
Overview of investment banking industry; nontechnical; inclusive environment to determine student interest in applying to the Hawkinson Institute—the Tippie College of Business undergraduate investment banking program; no prior knowledge of accounting and finance required. Requirements: UI cumulative g.p.a. of at least 3.40.

**FIN:3000 Introductory Financial Management** **3 s.h.**  
Financial management goals and decision making; time value of money; valuation of bonds and stocks, risk and return analysis, cost of capital, capital budgeting, cash flow estimation; financial statement analysis and financial planning. Prerequisites: ECON:1200 and ACCT:2100 and ECON:1100. Corequisites: for finance majors—FIN:3100. Requirements: 60 s.h. completed.

**FIN:3020 Professional Finance Seminar** **1 s.h.**  
Seminar topics include finance careers, curriculum, understanding of current events, internships, professional designations, ethics, and general finance acumen.

**FIN:3100 Financial Information Technology** **2 s.h.**  
Applications of commonly used financial software and data systems reviewed by student teams. Corequisites: FIN:3000.

**FIN:3200 Investment Management** **3 s.h.**  
Investment in marketable securities in domestic and international markets; financial markets, securities trading, evaluation of risk/return trade-off, formulation and implementation of investment strategies, efficient portfolio formation. Prerequisites: FIN:3000.

**FIN:3300 Corporate Finance** **3 s.h.**  
Advanced managerial decision making; corporate financial policy, dividend policy, agency theory, corporate restructuring, capital structure strategies, mergers and acquisitions, option pricing fundamentals, convertible debt, callable debt, warrants. Prerequisites: FIN:3000.

**FIN:3400 Principles of Risk Management and Insurance** **3 s.h.**  
Introduction to risk and insurance; risk identification and evaluation, demand for insurance, effects of limited liability, theory of moral hazard and adverse selection; business and personal risk; insurance as a risk management tool.

**FIN:3500 Hawkinson Scholar Seminar** **1 s.h.**  
Advanced skill and understanding required for pursuit of investment banking, management consulting careers; specialized résumé and interview training, industry presentations, relevant case assignments.

**FIN:3510 Hawkinson Scholar Seminar: Topics in Finance** **0 s.h.**  
Subsectors in the financial services industry, including hedge funds, investment banking, commercial banking; valuation techniques used in real-world mergers, acquisitions, equity offerings, debt financing, and so forth.

**FIN:4020 Topics in Finance** **3 s.h.**  
Contemporary issues in finance. Prerequisites: FIN:3000 and FIN:3100.

**FIN:4030 Securities Industry Essentials Exam Prep** **1 s.h.**  
Preparatory program for passage of the Securities Industry Essentials (SIE) exam and includes a voucher to take the exam upon completion; much of the material is provided online with additional meetings and review sessions; the SIE exam is for any professional who needs a Series 6, Series 7, or any other exam required by the Financial Industry Regulatory Authority (FINRA). Prerequisites: FIN:3000 or MBA:8180.

**FIN:4050 Directed Readings in Finance** **arr.**  
Individually guided readings in selected topics.

- FIN:4210 Futures and Options** 3 s.h.  
Use of options, futures, and other derivative securities in financial management; understanding types of derivative securities, markets, trading technology; applications of risk management and speculation; pricing relations with underlying securities. Prerequisites: FIN:3100 and FIN:3200.
- FIN:4220 Fixed Income Securities** 3 s.h.  
Theories of fixed income securities, term structure of interest rates; asset pricing models, valuation of fixed income securities and contingent claims, fixed income portfolio management, immunization strategies, yield curve analysis. Prerequisites: FIN:3000. Corequisites: FIN:3200.
- FIN:4230 Real Estate Process** 3 s.h.  
Fundamentals of real estate finance and investments; economic base analysis, asset analysis, market analysis, mortgage markets, underwriting, alternative mortgages, mortgage-backed securities, real estate securitization, land development, valuation principles, investment analysis, tax consideration, portfolio management. Prerequisites: FIN:3000.
- FIN:4240 International Finance** 3 s.h.  
International monetary systems, exchange rate determination, use of currency derivative in hedging and risk management, currency swaps, foreign direct investment, international corporate finance, international capital budgeting, international portfolio investment, Third World debt, privatization, joint ventures. Prerequisites: FIN:3000 and FIN:3200.
- FIN:4250 Applied Equity Valuation** 3 s.h.  
Equity valuation and portfolio management techniques by investment professionals; economic forecasting, industry analysis, financial statement analysis, spreadsheet modeling, cost of capital estimation, equity valuation and portfolio construction; students manage the University of Iowa's Krause Fund (an endowed equity portfolio that blends academic rigor with real-world portfolio management experience). Prerequisites: FIN:3000. Requirements: UI cumulative g.p.a. of at least 2.80.
- FIN:4310 Advanced Corporate Finance** 3 s.h.  
Understanding and evaluating major corporate actions (e.g., mergers and acquisitions, initial public offerings, spin offs, debt and equity issuance); introduction to venture capital and leveraged buyouts; includes a substantial experiential learning component to nudge students away from textbook-based learning towards acquiring practical skills needed to succeed in the corporate finance industry; students collect and evaluate financial information and are challenged to think beyond lecture material presented in the classroom. Prerequisites: FIN:3300. Corequisites: ACCT:3020 or ACCT:3200.
- FIN:4320 Commercial Banking** 3 s.h.  
Management of commercial banks and financial service firms; asset and liability management, credit policy, capital risk, liquidity planning, use of swaps and derivatives to hedge interest rate risk, global banking, investment strategies. Prerequisites: FIN:3000.
- FIN:4330 Investment Banking** 3 s.h.  
How investment banks fill critical roles in maintaining well-functioning financial markets and provide access to capital and strategic advice to companies and governments; recent global financial crisis; how banker's role as intermediary between companies and markets adds value and creates conflicts and risk. Prerequisites: FIN:3300 and FIN:3000.
- FIN:4340 Wealth Management** 3 s.h.  
Financial services for client wealth management; how to make personal investment decisions and build diversified, comprehensive investment portfolios; investment theory; common behavioral biases that lead to investment pitfalls, mistakes; wealth management objectives, portfolio risk and reward, asset allocation, portfolio diversification, tax shield structures, retirement plans, wealth protection, risk management, behavioral finance, psychology of investing. Prerequisites: FIN:3000.
- FIN:4350 Applied Wealth Management** 3 s.h.  
How wealth management relates to managing the financial well-being of individuals; process of determining goals and objectives for someone and assessing their risk tolerances; development of a strong financial plan involving a variety of steps and process including insurance needs, savings requirements, estate planning, budgeting, asset allocation, and portfolio development; experiential component where students make recommendations for real clients or a pool of funds. Prerequisites: FIN:3000 and FIN:3100.
- FIN:4410 Enterprise Risk Management** 3 s.h.  
Analysis and treatment of pure and financial risks faced by business organizations; development and implementation of the risk management process, application of varied risk management techniques to identified exposures; how businesses manage risk and how insurance is used to manage the cost of risk; case studies. Prerequisites: FIN:3400.
- FIN:4420 Property and Liability Insurance** 3 s.h.  
Fundamentals of commercial property and liability insurance; commercial property and liability contracts, functions of property and liability insurers; regulation and financial analysis of property and liability insurers; marketing, underwriting, rate making, claim settlements. Prerequisites: FIN:3400.
- FIN:4430 Life and Health Insurance** 3 s.h.  
Types of life insurance and annuity contracts and their uses; regulation of life and health insurers; development of financial plans using life insurance products; Social Security, group, and individual health insurance products, including major medical, disability income, long-term care policies; marketplace analysis; contractual provisions, determination of human life values, mathematics of life contingencies and pricing. Prerequisites: FIN:3400.
- FIN:4440 Employee Benefit Plans** 3 s.h.  
Management of employee benefit plans (e.g., group life and health insurance, retirement programs); design, administration, and financing of employee benefits; federal administration of employee benefit plans; funding requirements, financial alternatives; funding and vesting of retirement annuities; design and management of health care plans, including "cafeteria" approach and nonqualified deferred compensation arrangements; economic effects and financing employee benefits and retirement plans in private and public sectors. Prerequisites: FIN:3400.
- FIN:4450 Risk Modeling** 3 s.h.  
Theory used to solve real-life problems taken from a diverse set of risk management applications; varied areas where risk analysis has become important (i.e., finance, insurance, corporate risk management, personal financial planning); principles of probability theory, mathematical finance, and actuarial science developed for use in quantitative analysis of important risk management problems; spreadsheet-based course. Prerequisites: FIN:3000.

- FIN:4460 Insurer Operations and Captive Management** **3 s.h.**  
Fundamentals of insurer and captive operations; regulation, accounting, finance, marketing, underwriting, reinsurance, ratemaking, and claims management; students set up and manage a captive insurance company covering risk exposures of the University. Prerequisites: FIN:3400.
- FIN:4999 Honors Thesis in Finance** **arr.**  
Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University of Iowa Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: BUS:1999.
- FIN:7110 Finance Theory I** **3 s.h.**  
Consumption-based models of asset pricing; arbitrage, contingent claims; market efficiency and information economics, behavioral models; emphasis on theory. Requirements: Ph.D. enrollment.
- FIN:7120 Seminar in Corporate Finance** **3 s.h.**  
Valuation (DCF and CAPM); valuation under certainty, uncertainty; financial structure, cost of capital; dividend policy; firm investment in perfect, imperfect capital markets. Requirements: Ph.D. enrollment.
- FIN:7130 Finance Theory II** **3 s.h.**  
Continuous time theories of financial markets, including connection between an arbitrage-free pricing system and martingales; pricing of contingent claims, general equilibrium and term structure theory. Requirements: Ph.D. enrollment.
- FIN:7140 Advanced Empirical Finance** **3 s.h.**  
Market efficiency and term structure theory tests; tests of asset pricing models, dividend policy and financial structure issues. Requirements: Ph.D. enrollment.
- FIN:7850 Seminar in Finance** **1 s.h.**  
Requirements: Ph.D. enrollment.
- FIN:7950 Directed Reading in Finance - Ph.D.** **arr.**  
Requirements: Ph.D. enrollment.
- FIN:7975 Thesis in Business** **arr.**
- FIN:8130 Business Communication** **1-3 s.h.**  
Effective communication to become a successful business professional and leader; strengthen ability to speak and write confidently, competently, and effectively regardless of venue; varied team and individual presentation coaching, applied exercises. Requirements: admission to M.S. in finance program.
- FIN:9000 Directed Readings in Finance - M.B.A.** **arr.**
- FIN:9001 Directed Readings in Finance - Master of Science in Finance** **arr.**  
Coursework and topics negotiated between student and instructor on a case-by-case basis. Prerequisites: MBA:8180.
- FIN:9010 Contemporary Topics in Finance** **arr.**
- FIN:9140 Enterprise Risk Management** **2-3 s.h.**  
Analysis and treatment of risks faced by businesses; how risk management creates value in corporations, includes development and implementation of the risk management process, and explores the application of various risk management techniques to identified exposures; use of case studies to study how businesses manage risk, and how insurance and other risk management tools help reduce the cost of risk. Prerequisites: MBA:8180.
- FIN:9150 Financial Modeling and Firm Valuation 2-3 s.h.**  
How to model firm value from a discounted cash flow perspective; identify a company's key value drivers, create spreadsheet valuation models; projected financial valuation integrates projected pro forma accounting statements; forecasting, free cash flow estimation, industry competitive analysis. Prerequisites: MBA:8180.
- FIN:9160 Quantitative Finance and Deep Learning** **0,3 s.h.**  
Quantitative techniques in investment and trading with focus on machine learning approaches; introduction to quantitative approaches already popular in investment and trading including quantitative security selection, portfolio construction, statistical arbitrage, and algorithm trading; emerging machine learning techniques in financial industry including advanced regression methods, news sentiment analysis, and deep learning with applications in price forecasting and high frequency trading. Corequisites: BAIS:6060 or BAIS:6040, if not taken as a prerequisite.
- FIN:9200 Portfolio Management** **2-3 s.h.**  
Introduction to fundamental elements of modern portfolio theory, application to investment analysis; investment environment, instruments, types of investors; concepts of risk and return, broad perspective on historical risk and return of various asset classes; asset allocation decision, risk and return dynamics of a multiple securities portfolio; varied asset pricing models, how capital markets work for investors and users of capital. Prerequisites: MBA:8180.
- FIN:9210 Derivatives** **2-3 s.h.**  
Examination of the wide range of derivative securities that cover the financial landscape; the market place, trading, and investors; different derivative securities in existence, their relationship with the underlying securities, and pricing; applications of derivative securities to risk management and speculation; application of principles to fixed income, international finance, real estate, and securitization. Prerequisites: MBA:8180.
- FIN:9220 Fixed Income Securities** **2-3 s.h.**  
Conceptual framework and tools to undertake the valuation of fixed income securities and the management of fixed income portfolios; varied fixed income instruments and the markets in which they trade; introduction to basic building blocks of fixed income analysis, including concepts of duration, convexity, and term structure of interest rates; application of concepts in bond portfolio immunization strategies; use of interest rate derivatives in portfolio hedging applications. Prerequisites: MBA:8180.
- FIN:9225 Applied Fixed Income Analysis - Hart Fund** **3 s.h.**  
Management of fixed income fund portfolio; legal environment in which the fund operates; students analyze and recommend fixed income investments, implement controls to monitor fund's performance; decisions and investment recommendations are made by students; each student is assigned a specific fixed income asset class (i.e., high-yield debt) to monitor, analyze, and predict future investment returns; employment of historical and predictive analytics to estimate short term and long term returns for asset classes; and collectively determine the mean variance portfolio. Prerequisites: MBA:8180 and FIN:9220.

**FIN:9230 Real Estate Finance and Investments 2-3 s.h.**

In-depth understanding of concepts and techniques of real estate financial analysis, equity investment decision making; real estate investing from analysis of developments through the securitization of mortgages; mortgage markets and pricing, real estate finance and investments, mortgage-backed securities, development process, real estate valuation, tax effects, securitized real estate, real estate cycles, application of derivative instruments, strategic asset allocation. Prerequisites: MBA:8180.

**FIN:9240 International Finance 2-3 s.h.**

Introduction to structure and functioning of global financial markets; currency market, international equity markets; use of derivatives in currency risk management for corporate and investment needs; corporate investment decisions in an international context. Prerequisites: MBA:8180.

**FIN:9250 Applied Securities Analysis - Henry Fund I 3 s.h.**

Manage Henry Fund portfolio, learn legal environment in which the fund operates, analyze potential investments, implement controls to monitor the fund's performance; decisions and investment recommendations made by students; each student analyzes an economic sector and geographic region (i.e., utilities analyst and specialist in South East Asia); while the fund cannot currently invest directly in foreign listed stocks, it holds U.S. listed stocks with significant overseas interests and students are able to invest in a number of ADRs. Prerequisites: MBA:8180.

**FIN:9260 Applied Securities Analysis - Henry Fund II 3 s.h.**

Continuation of FIN:9250. Prerequisites: FIN:9250 and MBA:8180.

**FIN:9270 Security Analysis 3 s.h.**

Valuation of financial securities (primarily equities) using discounted cash flow model; industry, regulatory analysis; financial statement analysis; active portfolio management; value-based management techniques; valuation of firms outside the United States. Prerequisites: MBA:8180.

**FIN:9290 Alternative Investments and Portfolio Strategies 2-3 s.h.**

Alternative investments including hedge funds, private equity funds, and venture capital vehicles; purpose of alternative investment, including the risk/return profile of alternatives and correlations with traditional asset classes; specific hedge fund styles, strategies, risk profiles; portfolio strategy topics including diversification benefits, management of downside risk, international diversification, behavioral finance, performance measures, and performance attribution analysis. Prerequisites: MBA:8180.

**FIN:9300 Corporate Investment and Financing Decisions 2-3 s.h.**

Underpinnings and optimization of corporations' investment and financing decisions; firm-wide and project-specific cost of capital, optimal capital structure decisions; in-depth capital budgeting methods, including real options techniques; corporate investment module of the class includes simulation analysis using Crystal Ball; cost of capital, valuation techniques, advanced capital budgeting, capital structure and dividend policy, option pricing models applied to corporate finance. Prerequisites: MBA:8180.

**FIN:9310 Corporate Financial Strategy 2-3 s.h.**

Major strategic decisions within the corporate form; risk management, including why firms engage in it, their methods for doing so, and exercises in the simulation of uncertainty; dividends and repurchases under the payout policy decision; corporate governance topics, including executive compensation, board structure, and institutional monitoring; merger and acquisitions analysis, including regulation, valuation, anti-takeover devices, payment method, and LBOs; divestitures and other restructuring topics, including corporate diversification, spin-offs, carve-outs, private workouts, and Chapter 11. Prerequisites: MBA:8180.

**FIN:9330 Investment Banking 3 s.h.**

How investment banks fill critical roles in maintaining well-functioning financial markets and provide access to capital and strategic advice to companies and governments; recent global financial crisis; how banker's role as intermediary between companies and markets adds value and creates conflicts and risk. Prerequisites: MBA:8180.

**FIN:9350 Wealth Management 2-3 s.h.**

Rapid growth of the field of wealth management over several decades, driven by general increase in personal wealth and increased responsibility for individuals to manage their own wealth; knowledge and tools to enter the financial services industry; financial planning industry, client characteristics, tax shield structures, insurance, asset allocation plans, estate planning, behavioral finance. Prerequisites: MBA:8180.

**FIN:9390 Applied Financial Analysis: Industry Project 3 s.h.**

Hands-on practical experience in corporate finance or investments; work in teams on a corporate finance project or an investment project for a corporate or institutional client; partner companies identify financial issues, challenges, and opportunities for students to help solve; students work with the companies and a faculty member to provide an analysis of the situation and proposals of actions to be taken. Prerequisites: MBA:8180.

**FIN:9391 Thesis in Finance - Master of Science in Finance arr.**

Students conduct original research in finance, supervised by a Department of Finance faculty member. Prerequisites: MBA:8180.

**FIN:9400 Professional Development and Business Acumen 0-3 s.h.**

Preparation for postgraduate careers and exposure to relevant information that does not fit cleanly into academic work; how to grow a professional network and build depth of knowledge and breadth of business acumen; focus on helping students investigate various finance roles, land the all-important summer and postgraduate employment, and demonstrate professionalism in business; informational input on current trends/topics from outside business professionals, along with shared student experiences, are important cornerstones and require student preparation and participation. Requirements: admission to M.S. in finance.

# Finance, B.B.A.

## Requirements

The Bachelor of Business Administration with a major in finance requires a minimum of 120 s.h., including 22 s.h. of work for the major. Students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all college coursework attempted in business, all college coursework attempted in the major, all coursework attempted at the University of Iowa, all business coursework attempted at the University of Iowa, and all coursework in the major attempted at the University of Iowa.

The program provides a balance of theory, applications, and financial information technology that facilitates students' transition from classroom to workplace. Through fundamental finance principles and state-of-the-art financial market information technologies, students develop analytical abilities to interpret financial market data, implement the latest trading and investment strategies, and make effective managerial decisions in national as well as international settings.

With the goal of enhancing students' career development, the program stresses learning by doing, partnership with industry, and internships. Students receive a balanced education consistent with the globalization of business and the explosion in financial markets and information technology.

The Bachelor of Business Administration with a major in finance requires the following coursework. For B.B.A. common requirements, see the Bachelor of Business Administration [p. 1217] in the Catalog.

Code	Title	Hours
Finance Common Required Courses		10
Finance Required Electives		12
<b>Total Hours</b>		<b>22</b>

## Finance Common Required Courses

Code	Title	Hours
All of these:		
FIN:3020	Professional Finance Seminar	1
FIN:3200	Investment Management	3
FIN:3300	Corporate Finance	3
ACCT:3020	Financial Accounting and Reporting	3

## Finance Required Electives

Code	Title	Hours
12 s.h. from these:		
FIN:3400	Principles of Risk Management and Insurance	3
FIN:4020	Topics in Finance	3
FIN:4210	Futures and Options	3
FIN:4220	Fixed Income Securities	3
FIN:4230	Real Estate Process	3
FIN:4240	International Finance	3
FIN:4250	Applied Equity Valuation	3
FIN:4310	Advanced Corporate Finance	3

FIN:4320	Commercial Banking	3
FIN:4330	Investment Banking	3
FIN:4340	Wealth Management	3
or FIN:4350	Applied Wealth Management	
FIN:4450	Risk Modeling	3
May include 3 s.h. from these:		
FIN:4410	Enterprise Risk Management	3
FIN:4420	Property and Liability Insurance	3
FIN:4430	Life and Health Insurance	3
FIN:4440	Employee Benefit Plans	3
FIN:4460	Insurer Operations and Captive Management	3
May include 3 s.h. from these:		
FIN:3100	Financial Information Technology	2
FIN:4030	Securities Industry Essentials Exam Prep	1
FIN:4050	Directed Readings in Finance	1
ACCT:3300	Valuation of Financial Claims	3
BAIS:4150	Business Analytics and Information Systems Capstone	3
ECON:3355	Economic and Business Forecasting	3
MGMT:4325	Team and Project Management	3
MKTG:4500	Marketing Capstone	3

## Career Advancement

Careers for students majoring in finance include corporate treasury operations, cash management, mergers and acquisitions, investment banking, sales and security trading, security analysis, commercial banking and financial services, credit analysis, mortgage lending, financial planning, consulting, public administration, insurance roles, and real estate.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit the Pomerantz Career Center website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Finance, B.B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students are required to complete 52 s.h. of non-business coursework. Courses with a prefix of ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, and MKTG will not count towards non-business hours. Check degree audit for non-business hours or confer with academic advisor.		
Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. World Language counts as non-business coursework.		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. <sup>a</sup>		0 - 3
Students must satisfy the Tippie College of Business residence requirement: 45 s.h. of UI coursework after admission to Tippie.		
<b>Hours</b>		<b>0-3</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1350	Quantitative Reasoning for Business <sup>b</sup>	4
RHET:1030	Rhetoric	4
ECON:1100	Principles of Microeconomics	4
GE: Social Sciences <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
STAT:1030	Statistics for Business	4
ECON:1200	Principles of Macroeconomics	4
BAIS:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion <sup>c</sup>		3
<b>Hours</b>		<b>16</b>
<b>Second Year</b>		
<b>Fall</b>		
ACCT:2100	Introduction to Financial Accounting	3
BAIS:2800	Foundations of Business Analytics	3
MGMT:2000	Introduction to Law	3
BUS:2200	Foundations for Success in Business <sup>d</sup>	1
GE: Natural Sciences without Lab <sup>c</sup>		3
GE: Historical Perspectives <sup>c</sup>		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
FIN:3000	Introductory Financial Management <sup>e</sup>	3
FIN:3020	Professional Finance Seminar	1
ACCT:2200	Managerial Accounting	3
BAIS:3000	Operations Management	2
BAIS:3005	Information Systems	2

GE: International and Global Issues <sup>c</sup>		3
<b>Hours</b>		<b>14</b>
<b>Third Year</b>		
<b>Fall</b>		
FIN:3200	Investment Management	3
FIN:3300	Corporate Finance	3
ACCT:3020	Financial Accounting and Reporting	3
BUS:3000	Business Communication and Protocol <sup>f</sup>	3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
Major: Finance elective <sup>g</sup>		3
MGMT:2100	Introduction to Management	3
GE: Values and Culture <sup>c</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>15</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Major: Finance elective <sup>g</sup>		3
Major: Finance elective <sup>g</sup>		3
MKTG:3000	Introduction to Marketing Strategy	3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		2
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
Major: Finance elective <sup>g</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		1
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
<b>Hours</b>		<b>13</b>
<b>Total Hours</b>		<b>120-123</b>

a See degree audit for course options.

b Enrollment in math courses requires completion of a placement exam.

c GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d BUS:2200 should be completed in the second year before FIN:3020.

e This Accelerated Four-Year Plan outlines coursework to prepare for two finance internships after the second and third years. For a Standard Four-Year Plan, with one internship between the third and fourth years, see the Tippie College of Business website.

f Must be admitted to Tippie to enroll in BUS:3000. Generally completed during the second year, but should be taken no later than the third year.

g Select from list of approved courses in the General Catalog or on degree audit.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

timing, contact your academic advisor or Graduation Services.



# Finance, M.S.

## Learning Outcomes

### Core Competency

- Students acquire and exhibit knowledge about fundamental financial concepts.

### Business Applications

- Students acquire and exhibit knowledge about applying financial concepts in business and financial markets.

### Communication

- Students effectively communicate finance solutions to business problems.

### Team Work

- Students demonstrate the ability to be effective team members in a complex and diverse world.

## Requirements

The Master of Science program in finance requires a minimum of 45 s.h. of graduate credit. A major g.p.a. and a cumulative g.p.a. of at least 2.75 is required in all coursework.

The M.S. with a major in finance requires the following coursework.

## Core Courses

Students should consult their academic advisor about the possibility of waiving a core course if they have a major g.p.a. of at least 3.30 in the subject area (consult advisor) or have passed the Certified Public Accountant (CPA) or Chartered Financial Analyst (CFA, Level 1) Examination.

Code	Title	Hours
FIN:8130	Business Communication (taken spring and fall semesters for 1 s.h. each)	2
FIN:9150	Financial Modeling and Firm Valuation	2
FIN:9200	Portfolio Management	3
FIN:9210	Derivatives	3
FIN:9220	Fixed Income Securities	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9400	Professional Development and Business Acumen (taken fall and spring semesters for 1 s.h. each)	2
BAIS:9100	Data and Decisions	3
MBA:8140	Corporate Financial Reporting	3
MBA:8170	International Economic Environment of the Firm	3
MBA:8180	Managerial Finance	3
<b>Total Hours</b>		<b>30</b>

## Electives

Elective credit varies for students. The following elective coursework is possible. Students should consult their advisor.

Code	Title	Hours
All students must complete one experiential elective option from these:		
FIN:9225	Applied Fixed Income Analysis - Hart Fund	3
FIN:9250 & FIN:9260	Applied Securities Analysis - Henry Fund I-II	6
FIN:9390	Applied Financial Analysis: Industry Project	3
FIN:9391	Thesis in Finance - Master of Science in Finance	arr.
Any of these:		
FIN:4030	Securities Industry Essentials Exam Prep	1
FIN:9140	Enterprise Risk Management	3
FIN:9160	Quantitative Finance and Deep Learning	3
FIN:9230	Real Estate Finance and Investments	3
FIN:9240	International Finance	3
FIN:9290	Alternative Investments and Portfolio Strategies	2-3
FIN:9310	Corporate Financial Strategy	3
FIN:9330	Investment Banking	3
FIN:9350	Wealth Management	3
ACCT:9030	Financial Accounting Standards and Analysis	3
ACCT:9050	Taxes and Business Strategy	3
ACCT:9120	Design and Use of Cost Management Systems	3
ACCT:9130	Financial Reporting: Theory and Practice	3
ACCT:9170	Advanced Accounting Analytics	3
BAIS:6040	Data Programming in Python	3
BAIS:6050	Data Management and Visual Analytics	3
BAIS:6060	Data Programming in R	3
BAIS:6070	Data Science	3
BAIS:6140	Information Visualization	3
BAIS:9110	Advanced Analytics	3
BAIS:9210	Introduction to Modeling with VBA	3
CS:4400	Database Systems	3
CS:5110	Introduction to Informatics	3
ECON:4800	Econometric Analysis	3
ECON:5800	Econometrics	3
ISE:6760	Pattern Recognition for Financial Data	3
ISE:6780	Financial Engineering and Optimization	3
STAT:4100	Mathematical Statistics I	3
STAT:4101	Mathematical Statistics II	3

Additional elective credit possible for courses in analytics, computer science, engineering, mathematics, physics, statistics, or actuarial science (e.g., quantitative/technical) with advisor approval

## Combined Programs

### M.S./J.D.

The combined Master of Science in finance/Juris Doctor program allows students to pursue two degrees simultaneously, earning both more quickly than they would if the degrees were pursued separately. The Department of Finance collaborates with the College of Law to offer the combined program.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined program. For more information, see the Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

### M.S./M.S. in Business Analytics (Career Subprogram)

The combined Master of Science in finance/Master of Science in business analytics with a career subprogram allows students to pursue two degrees simultaneously, earning both more quickly than they would if the degrees were pursued separately. The Department of Finance collaborates with the Department of Business Analytics to offer the combined program.

A single admission application is available for the combined degree program. For more information, see the M.S. in business analytics (career) [p. 1233] in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must:

- have earned a bachelor's degree from a U.S. college or university, or have earned an equivalent degree from another country;
- submit unofficial transcripts with their application and official transcripts for admission;
- have earned a minimum g.p.a. of at least 3.00 or the international equivalent;
- submit a current résumé that includes information about employment (if applicable), education, extracurricular activities, and community involvement; and
- submit a statement of purpose with a maximum length of 500 words.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Applicants who use the IELTS or DET test are required to take the on-campus English Proficiency Examination.

Application deadlines are as follows.

- Priority deadline: December 15
- International student deadline: March 15
- Domestic student deadline: June 15

The M.S. in finance program has articulation agreements with Central College, Coe College, Cornell College, Grinnell College, and the University of Northern Iowa that permit conditional graduate admission pending all application requirements are met upon completion of the undergraduate degree. For full details, contact Graduate Management Programs in the Tippie College of Business.

## Career Advancement

Careers for M.S. graduates in finance include corporate treasury operations, cash management, mergers and acquisitions, investment banking, sales and security trading, security analysis, commercial banking and financial services, credit analysis, mortgage lending, financial planning, consulting, public administration, insurance roles, and real estate.

The Career Services team offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Finance, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
45 s.h. of graduate level coursework must be completed; up to 6 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Maintain at least a 2.75 cumulative and program GPA.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Meet with your Career Management coach and Professional Director.		
Attend Career Management Center sessions offered.		
Apply to and secure a summer internship or arrange a summer research project.		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
BAIS:9100	Data and Decisions	3
FIN:9220	Fixed Income Securities	3
FIN:9400	Professional Development and Business Acumen <sup>b</sup>	1
MBA:8140	Corporate Financial Reporting	3
MBA:8170	International Economic Environment of the Firm	3
MBA:8180	Managerial Finance	3
Arrange for the Career Management Center to review updated resume, then upload to Handshake.		
<b>Hours</b>		<b>16</b>

**Spring**

FIN:9150	Financial Modeling and Firm Valuation	2
FIN:9200	Portfolio Management	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9400	Professional Development and Business Acumen <sup>b</sup>	1
FIN:8130	Business Communication <sup>c</sup>	1
Elective course <sup>d</sup>		3
Elective or experiential elective <sup>d, e</sup>		3
Complete end of semester employment placement survey as directed by Career Management.		
<b>Hours</b>		<b>16</b>

**Summer**

Internship: complete a summer internship <sup>f</sup>		
Research: complete a summer research project <sup>f</sup>		
<b>Hours</b>		<b>0</b>

**Second Year****Fall**

FIN:9210	Derivatives	3
FIN:8130	Business Communication <sup>c</sup>	1
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective or experiential elective <sup>d, e</sup>		3
Complete end of semester employment placement survey as directed by Career Management.		
Meet with your Career Management coach and Professional Director.		
Attend Career Management Center sessions offered.		
Verify completion of all degree requirements with program administrator.		
Apply to and secure post-graduation employment.		
<b>Hours</b>		<b>13</b>
<b>Total Hours</b>		<b>45</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b FIN:9400 is taken during both fall and spring of the first year for a total of 2 s.h.

c FIN:8130 is taken during both first year spring and second year fall for a total of 2 s.h.

d Choose electives from a pre-approved list or with departmental approval.

e Spring experiential electives: FIN:9225, FIN:9391, or FIN:9250 (must also take FIN:9260 in fall). Fall experiential electives: FIN:9225, FIN:9391, FIN:9390, FIN:9260 (must have taken FIN:9250 in spring).

f Apply to and secure a summer internship or arrange a summer research project.

# Doctor of Philosophy

Graduate students in finance may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in business administration [p. 1243] in the Catalog and visit the Department of Finance website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Learning Outcomes

Students will:

- master the core knowledge and research tools in the field of finance,
- develop the ability to conduct independent research that constitutes significant contribution to the field of finance,
- develop the ability to effectively communicate research ideas and outcomes, and
- be prepared to effectively teach undergraduate and graduate courses in finance.

# International Business

## Coordinators

- Karmen Berger (College of Liberal Arts and Sciences),  
Dimy Doresca (Tippie College of Business)

**Undergraduate certificate:** international business

**Website:** <https://students.tippie.uiowa.edu/undergraduates/academics/certificates/international-business-certificate>

The Tippie College of Business and the College of Liberal Arts and Sciences offer the undergraduate Certificate in International Business. The program is designed for students who intend to pursue careers in international business as well as those interested in gaining a better understanding of the global economy and a broader awareness of the political, historical, and social environment in which international business operates.

## Programs

### Undergraduate Program of Study Certificate

- Certificate in International Business [p. 1286]

# International Business, Certificate

## Requirements

The undergraduate Certificate in International Business requires a minimum of 29 s.h. and satisfaction of the certificate's world language or study abroad requirement (total credit depends on a student's choice of world language or study abroad experience). In addition to a world language or study abroad, the program includes study of international business and economics, international relations and institutions, and the contemporary art, literature, culture, and/or politics of one of several geographical regions (Asia, Europe, Latin America, Middle East/Africa, or Russia/Eastern Europe). The range of courses permits students to tailor areas of specialization suited to their individual interests and to complement majors in business and in liberal arts and sciences.

Students must maintain a g.p.a. of at least 2.00 in work for the certificate. Certificate courses may not be taken pass/nonpass. A course may not be used to satisfy more than one certificate requirement. The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Students should declare their intention to earn the certificate as early as possible, talk with an advisor about certificate requirements, and work to create an individual plan of study. Tippie College of Business students should talk with the advising staff at the college's Undergraduate Program Office; College of Liberal Arts and Sciences students should talk with a Certificate in International Business advisor at the Academic Advising Center. Individuals who hold a bachelor's degree from another institution should contact the University of Iowa Office of Admissions.

A minimum of 20 s.h. of certificate coursework (other than language courses) must be completed at the University of Iowa or in approved study abroad programs. Students who plan to count study abroad credit toward the certificate should consult a Certificate in International Business advisor before leaving campus.

The Certificate in International Business requires the following coursework.

Code	Title	Hours
	International Business Courses	17
	International Relations and Institutions Courses	6
	One of these:	0-20
	World Language (0-20 s.h., depending on student's background)	
	Study Abroad Experience (3 s.h. not used in another area for the certificate)	
	Area Studies Courses	6
<b>Total Hours</b>		<b>29-49</b>

## International Business

These courses provide students with an essential understanding of economics, which is central to all business

operation. They also help students develop knowledge of the functional areas of international business.

Code	Title	Hours
Both of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
Three of these (total of 9 s.h.):		
BUS:2550	International Business in Asia Pacific	3
ECON:3345	Global Economics and Business	3
ECON:3620	Economic Growth and Development	3
ECON:4110	International Economics	3
ENTR:4460	Entrepreneurship and Global Trade	3
FIN:4240	International Finance	3
MGMT:3450	International Business Environment	3
MGMT:4500	Strategy, Innovation and Global Competition	3
MKTG:4300	International Marketing	3
LAW:8631	International Trade Law: Basic Norms and Regulations	3
One of these may be counted toward the 9 s.h. requirement above:		
CHIN:3103	Business Chinese I	3
FREN:3410	Business French	3
GRMN:3214	Business German	3
JPNS:3500	Japanese for Professional Purposes I	3
SPAN:2080	Business Spanish	4
SPAN:3080	Spanish for International Business	3

Tippie study abroad programs may be applicable, including London winter program; International Business in Sydney, Australia; International Business in Italy; Business and Culture in China; Tippie global internships; and more. Credit only applies in one area of the certificate. Students should consult their advisor to determine where their experience will apply.

## International Relations and Institutions

These courses familiarize students with comparative politics, social geography, foreign policy, and issues related to world population and the environment—topics relevant to decision making in the international business world.

Code	Title	Hours
Two of these (6 s.h.):		
ANTH:1040/ LING:1040	Language Rights	3
ANTH:1046/ GEOG:1046/ GWSS:1046/ SJUS:1046	Environmental Politics in India	3

ANTH:2100	Anthropology and Contemporary World Problems	3	GHS:4001	Social Entrepreneurship and Global Health	3
ANTH:2103/ GHS:2000	Introduction to Global Health Studies	3	GWSS:2571/ ENGL:2571/ SJUS:2571	Visualizing Human Rights	3
ANTH:2120/ GWSS:2120	Gender and Technology	3	GWSS:2650/ GHS:2650	Global Reproduction	3
ANTH:2136	Race, Place, and Power: Urban Anthropology	3	GWSS:2900/ ANTH:2191	Love, Sex, and Money: Sexuality and Exchange Across Cultures	3
ANTH:2151/ GWSS:2151/IS:2151	Global Migration in the Contemporary World	3	HIST:1101	The Modern World	3
ANTH:2190/ GWSS:2190/IS:2190	Love Rules: Law and the Family Across Cultures	3	HIST:3126	History of Globalization	3
ANTH:3103	Environment and Culture	3	HIST:3128	Topics in Global Environmental History	3
ANTH:3131	Anthropology and Human Rights	3	HIST:3143	International Politics: The History of the Present	3-4
ANTH:3190/ IS:3190/SJUS:3190	Global Debt	3	HIST:3145	Europe and the United States in the Twentieth Century	3
ANTH:3199/ GHS:3199/IS:3198	Anthropology and Global Health Policy	3	HIST:3155	The World Since 1945	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3	HIST:3157/ GWSS:3157	Gender, Sexuality, and Human Rights	3
ARAB:2006/ WLLC:2006	Transnational Solidarities	3-4	HIST:3162/ GHS:3162	History of Global Health	3
ARTH:1025	Buyer Beware! Fakes, Thefts, and the Global Art Market	3	HIST:3242	The United States in World Affairs	3-4
COMM:2042/ IS:2042/SSW:2042	Intercultural Communication	3	HIST:4101	History of Human Rights	3
COMM:4131/ IS:4131	Globalization and Culture	3	HRTS:2115/IS:2115	Introduction to Human Rights	3
CRIM:3415	Global Criminology	3	HRTS:3903/IS:3903	Technology and Human Rights	1-3
CRIM:4680/ SOC:4680	Corruption: The Social Scientific Perspectives	3	HRTS:3904/IS:3904	Business, Labor, and Human Rights	1-3
GEOG:1090	Globalization and Geographic Diversity	3	HRTS:3905/IS:3905	Topics in Human Rights	1-3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3	HRTS:3906	Global Crises and Human Rights	3
GEOG:2410	Environment and Development	3	HRTS:3908/IS:3908	Governance and Human Rights	1-3
GEOG:2910	The Global Economy	3	HRTS:3910/IS:3910	Human Rights Advocacy	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3	IS:2000	Introduction to International Studies	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3	IS:2020	World Events Today!	3
GEOG:3331	Human Dimensions of Climate	3	IS:3199	Global Environmental Politics	3
GEOG:4000/ SDG:4000	The United Nations Sustainable Development Goals: A Blueprint for a Sustainable Future	3	IS:3200	Sustainable Development	3
GEOG:4200/ SUST:4200	Sustainability as a System Science	3	IS:3565	Global Perspectives on Negotiation, Persuasion, and Communication	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3	JMC:3116/IS:3116	Media and Global Cultures	3
GHS:3180	Climate Change and Health	3	JMC:3142/IS:3142	Social Media for Social Change	3
GHS:3325	Global Epidemics	3	PHIL:2429	War, Terrorism, and Torture	3
GHS:3620	Global Health and Human Rights	2-3	PHIL:3430	Philosophy of Human Rights	3
			POLI:1400	Introduction to Comparative Politics	3
			POLI:1401	Introduction to Russian Politics	3
			POLI:1500	Introduction to International Relations	3
			POLI:1501	Introduction to American Foreign Policy	3

POLI:1510	International Relations of Environmental Issues	3
POLI:1800	Introduction to the Politics of Class and Inequality	3
POLI:2417	Comparative Environmental Policy	3
POLI:3350	Games of Politics	3
POLI:3400	Political Economy	3
POLI:3405	Authoritarian Politics	3
POLI:3411	Democracy: Global Trends and Struggles	3
POLI:3424	Global Development	3
POLI:3426	Outliers: Comparing Odd Countries	3
POLI:3450	Problems in Comparative Politics	3
POLI:3503	Politics of Terrorism	3
POLI:3504	Globalization	3
POLI:3505	Civil Wars	3
POLI:3506	Consequences of War	3
POLI:3509	International Courts: The Intersection of Law and Politics	3
POLI:3512	International Conflict	3
POLI:3514	Regional Peace and Security	3
POLI:3516	The Politics of International Economics	3
POLI:3517	Global Justice	3
POLI:3518	Water Wars: Conflict and Cooperation	3
POLI:3522	Ending Wars and Keeping Peace	3
POLI:3524	Politics and Multinational Enterprises	3
POLI:3550	Problems of International Politics	3
RELS:1015	Global Religious Conflict and Diversity	3
RELS:2041/ ASIA:2041/IS:2041	Understanding "The Muslim World"	3
RELS:2330	Wealth, Inequality, and Islam	3
URP:4760	Sustainable Urban Development: The Hong Kong Experience	3

## World Language or Study Abroad Experience

Certificate students gain insight into the culture of another world region and deepen their understanding of their own language and culture by learning a world language or completing a study abroad experience.

Students who choose language study are required to develop intermediate-level competence in a language that is spoken in one of several geographic regions (Asia, Europe, Latin America, Middle East/Africa, or Russia/Eastern Europe) by completing one of the approved language sequences below.

Students who choose to complete a study abroad experience are expected to coordinate it with the coursework they use to fulfill the certificate's area studies requirement (see "Area

Studies" below). They must earn at least 3 s.h. of graded credit for the study abroad experience that is not used in another area of the certificate.

For questions about languages not listed or about study abroad coursework, see a Certificate in International Business advisor.

## Arabic

Code	Title	Hours
All of these:		
ARAB:1001- ARAB:1002	Elementary Modern Standard Arabic I-II	10
ARAB:2001- ARAB:2002	Intermediate Modern Standard Arabic I-II	10

## Chinese

Code	Title	Hours
This sequence:		
CHIN:1111- CHIN:1112	First-Year Chinese: First Semester - First-Year Chinese: Second Semester	10
One of these sequences:		
CHIN:2101- CHIN:2102	Second-Year Chinese: First Semester - Second-Year Chinese: Second Semester (both courses)	10
CHIN:2103- CHIN:2104	Accelerated Second-Year Chinese: First Semester - Accelerated Second-Year Chinese: Second Semester (both courses)	6

## French

Code	Title	Hours
One of these:		
FREN:1001- FREN:1002	Elementary French I-II (both courses)	10
FREN:1010	First-Year French Review	5
All of these:		
FREN:2001- FREN:2002	Intermediate French I-II (both courses)	10
One course for which FREN:2002 is prerequisite (may include Iowa Regents Program credit)		

## German

Code	Title	Hours
One of these:		
GRMN:1001- GRMN:1002	Elementary German I-II (both courses)	8
GRMN:1010	First-Year German Review	5
One of these:		
GRMN:2001- GRMN:2002	Intermediate German I-II (both courses)	8
GRMN:2020	Intensive Intermediate German	6

And:

One course for which GRMN:2002 or GRMN:2020 is prerequisite



## Italian

Code	Title	Hours
One of these:		
ITAL:1101- ITAL:1102	Elementary Italian I-II (both courses)	10
ITAL:1103	Intensive Elementary Italian	6
All of these:		
ITAL:2203- ITAL:2204	Intermediate Italian I-II (both courses)	8
One course for which ITAL:2204 is prerequisite		

## Japanese

Code	Title	Hours
All of these:		
JPNS:1001- JPNS:1002	First-Year Japanese: First Semester - First-Year Japanese: Second Semester	10
JPNS:2001- JPNS:2002	Second-Year Japanese: First Semester - Second-Year Japanese: Second Semester	10

## Korean

Code	Title	Hours
All of these:		
KORE:1101- KORE:1102	First-Year Korean: First Semester - First-Year Korean: Second Semester	8
KORE:2101- KORE:2102	Second-Year Korean: First Semester - Second-Year Korean: Second Semester	8

## Portuguese

Code	Title	Hours
One of these:		
PORT:2000	Accelerated Elementary Portuguese	5
PORT:2010 & PORT:2015	Elementary Portuguese I-II (both courses)	6
PORT:3050	Intensive Portuguese for Spanish Speakers	4
And this course, unless PORT:3050 is taken:		
PORT:2500	Accelerated Intermediate Portuguese	5

And:

One course for which PORT:2500 or PORT:3050 is prerequisite

## Russian

Code	Title	Hours
All of these:		
RUSS:1111- RUSS:1112	First-Year Russian I-II	10
RUSS:2111- RUSS:2112	Second-Year Russian I-II	8
And:		
One course for which RUSS:2112 is prerequisite		

## Spanish

Code	Title	Hours
One of these:		
SPAN:1001- SPAN:1002	Elementary Spanish I-II (both courses)	8
SPAN:1003	Elementary Spanish Review	5
SPAN:1004	Accelerated Elementary Spanish	6
One of these:		
SPAN:1501- SPAN:1502	Intermediate Spanish I-II (both courses)	8
SPAN:1503	Accelerated Intermediate Spanish	6
SPAN:1505	Intermediate Spanish for Heritage Speakers	5
And:		
One course taught in Spanish for which SPAN:1502, SPAN:1503, or a higher-level course is prerequisite		

## Swahili

Code	Title	Hours
All of these:		
SWAH:1001- SWAH:1002	Elementary Swahili I-II	8
SWAH:2001- SWAH:2002	Intermediate Swahili I-II	8

## Area Studies

Area studies topics are critical to students' understanding of how society and culture influence the people with whom they share the world—and with whom they may conduct business. The following courses help students learn about the culture, contemporary history, art, literature, and politics of a specific geographic region.

Students complete 6 s.h. from one geographic region. They should select a region that is related to their chosen world language or study abroad experience.

## Asia

Appropriate for these languages: Chinese, Japanese, or Korean.

Code	Title	Hours
ANTH:2108/ GWSS:2108	Gendering India	3
ANTH:2160/ GHS:2160	Culture, Health, and Wellness: Southeast Asia in Focus	3
ANTH:2175/ JPNS:2175	Japanese Society and Culture	3
ANTH:3121/ GWSS:3121	Love, Marriage, and Family in India	3
ANTH:3171	Voices of Islam in Southeast Asia	3
ANTH:3172/ ASIA:3172	Chinese Marriage and Family in Comparative Perspective	3
ARTH:1070	Asian Art and Culture	3
ARTH:2220/ ASIA:2231	Introduction to the Art of China	3

ARTH:2250/ JPNS:2250	Introduction to the Art of Japan	3	JMC:2150	News and Knowledge: Chinese Culture, History, and Journalism	1
ARTH:3225	Contemporary Art and Culture in China	3	JPNS:1506	Asian Humanities: Japan	3
ARTH:3230/ ASIA:3220	Chinese Painting I: Pagodas and Palaces	3	JPNS:3202	Traditional Japanese Literature in Translation	3
ARTH:3270/ ASIA:3270	Themes in Asian Art History	3	JPNS:3203	Modern Japanese Fiction in Translation	3
ARTH:3275/ ASIA:3275	Garden Culture in East Asia	3	JPNS:3205	Major Authors in Modern Japanese Literature	3
ASIA:2444	Envision India	3	JPNS:3206	Warriors' Dreams	3
ASIA:2450	India Beat: The Aesthetics and Politics of India Today	3	JPNS:3207	Japan Illuminated: Japanese Literature and Visual Culture	3
ASIA:2500	Cold War Cultures in Korea	3	JPNS:3208	Japanese Film	3
ASIA:4508	Asian Studies	arr.	JPNS:3401	Language in Japanese Society	3
CHIN:1504	Asian Humanities: China	3	JPNS:3402	Japan: Culture and Communication	3
CHIN:1702	Chinese Popular Culture	3	JPNS:3601	Contemporary Japanese Culture	3
CHIN:3341	Chinese Literature: Poetry	3	KORE:1135	Korean Language and Contemporary Pop Culture	3
CHIN:4203	Modern Chinese Writers	3	KORE:1500	Asian Humanities: Korea	3
CHIN:4206	Transnational Chinese Cinemas	3	PHIL:2343	Philosophy East and West	3
ENGL:3540	Literature of the Indian Subcontinent	3	PHIL:3845/ RELS:3645	Buddhist Philosophy	3
GEOG:1060	Geography of Asia: From Japan to Pakistan	3	POLI:1410	Introduction to Asian International Relations	3
GHS:3192	Environment and Health in Modern India	3	POLI:1445	Introduction to Asian Politics: China	3
GWSS:1070	Asian American Women Writers	3	POLI:3408	Chinese Politics and Society	3
HIST:1602/ ASIA:1602	Civilizations of Asia: China from the 17th Century to the Present	3	POLI:3420	Southeast Asia: Politics and Development	3
HIST:1604/ ASIA:1604	Civilizations of Asia: Japan	3-4	RELS:1404/ ASIA:1040/ HIST:1610	Living Religions of the East	3
HIST:1606/ ASIA:1606/ RELS:1606	Civilizations of Asia: South Asia	3-4	RELS:1506/ ASIA:1060/ HIST:1612	Introduction to Buddhism	3
HIST:1607/ ASIA:1607	Civilizations of Asia: Korea	3-4	RELS:1670/ ASIA:1670/ KORE:1670	Korea in the World	3
HIST:1609/ ASIA:1609	India Now! Surveying the World's Largest Democracy	3-4	RELS:3055/ ASIA:3055	Death, Dying, and Beyond in Asian Religions	3
HIST:2684/ ASIA:2684	Korean War: Local and Global History	3	RELS:3431/ ASIA:3431/ GWSS:3131	Gender and Sexuality in East Asia	3
HIST:2687/ ASIA:2887	Perspectives on Korea	3	RELS:3655/ ASIA:3655/ HIST:3655	Zen Buddhism	3
HIST:3644/ RELS:3644/ SOAS:3644	Gandhi and His Legacy	3	RUSS:2050/ WLLC:2050	Women from an Unknown Land: The Fight for Independence	3
HIST:3652/ ASIA:3652	Twentieth-Century China	3	SOAS:1502/ ASIA:1502/ RELS:1502	Asian Humanities: India	3
HIST:3685/ ASIA:3685	Modern Korean History	3	SOAS:1550	Sex, Music, and Pop Culture in India	3
HIST:4610/ JPNS:4610	Japan - Age of the Samurai	3	WLLC:3700/ ASIA:3700/ JPNS:3700/ TRNS:3700	Topics in Global Cinema	3
HIST:4615/ JPNS:4615	Modern Japan	3			
HIST:4616	Japanese History and Society: World War II to the Twenty-First Century	3			
HIST:4620/ JPNS:4620	Japan-U.S. Relations	3			

## Europe

Appropriate for these languages: French, German, Italian, Portuguese, or Spanish.

Code	Title	Hours
ARTH:3020	Paris and the Art of Urban Life	3
ENGL:2330	Topics in Modern British Literature After 1900	3
ENGL:2360	Twentieth-Century British Literature	3
ENGL:2361	Twenty-first-Century British Literature	3
ENGL:3320	Modern British Drama	3
ENGL:3350	Literature and Culture of 20th- and 21st-Century Britain	3
FREN:1510	Cultural Misunderstandings: France and U.S.A.	3
FREN:3120	French Civilization	3
FREN:3130	French-Speaking Cultures	3
FREN:3225	Studies in Modern France	3
FREN:3240	Media French	3
FREN:4015	Francophone Cinema	3-4
FREN:4026/ GWSS:4026	French Women Writers	3-4
FREN:4080	Post-Colonial Literature in France	3
FREN:4100	French Cinema	3-4
FREN:4433/ HIST:4433	France Under Nazi Occupation, 1940-1944	3-4
GRMN:2275	Scandinavian Crime Fiction	3
GRMN:2550/ WLLC:2550	Mardi Gras and More: Cultures of Carnival	3-4
GRMN:2618/ WLLC:2618	Film and Literature of the Holocaust	3
GRMN:2620/ WLLC:2620	Anne Frank and Her Story	3-4
GRMN:2630	German Cinema: Greatest Hits	3-4
GRMN:2655/IS:2600	Muslim Minorities in the West	3-4
GRMN:2650	German Nationalism from Enlightenment to Present	3-4
GRMN:2675	The Politics of Memory: Holocaust, Genocide, and 9/11	3-4
GRMN:2720/ HIST:2420	Germany in the World	3
GRMN:3236	German Film	3
GRMN:3405	German Cultural History	3
GRMN:3501	German Writers Engaged	3
GRMN:3550	The Politics of Remembrance in German Multicultural Literature and Film	3
GRMN:3850	Twentieth- and Twenty-first-Century German Children's Literature	3
GRMN:3860/ LING:3860	German Language and Society	3
GRMN:4315	German Society Today	3
GRMN:4540	Literature in Film	3
HIST:1403	The West and the World: Modern	3
HIST:2465	Europe Since 1945	3
HIST:3145	Europe and the United States in the Twentieth Century	3
HIST:3416	Modern Britain: War and Empire in the Twentieth Century	3
HIST:3470	France from 1815 to Present	3
HIST:3475	Germany's Twentieth Century	3-4
HIST:4438	Modern European Imperialism	3
HIST:4440	Artists, Intellectuals, and Politics in 20th-Century Europe	3
HIST:4465	Modern France 1870-Present	3
HIST:4478	Holocaust in History and Memory	3
ITAL:1050	Italy Live	3
ITAL:2440	Italian Arts for International Success	3
ITAL:2550	Images of Modern Italy	3
ITAL:2770	The Mafia and the Movies	3
ITAL:2880	Italian Food Culture	3
ITAL:4667	Modern Italian Fiction	3
ITAL:4668	Modern Italian Poetry and Theater	3
POLI:1449	Introduction to European Politics	3
SPAN:2400	Readings in Spanish Literature	3
SPAN:2810	Screening Spain	3
SPAN:2901	Diversity and Cultures in Spain	3
SPAN:3600	Cultures of Spain	3
SPAN:3620	Madrid	3
SPAN:3630	Spanish Youth Culture	3
SPAN:3820	Modern and Contemporary Spanish Literature	3
SPAN:3840	Contemporary Spanish Short Story	3
SPAN:4830	The Hispanic World in the Digital Era	3

## Latin America

Appropriate for these languages: Portuguese or Spanish.

Code	Title	Hours
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3
ENGL:3530	Caribbean Literature and Culture	3
ENGL:3535/ LAS:3535	Topics in Literature and Culture of the Americas	3
GRMN:2550/ WLLC:2550	Mardi Gras and More: Cultures of Carnival	3-4

HIST:2288	Latina/o/x History from Conquest to the Present	3
HIST:3217/ LAS:3217/ LATS:3217	Latina/o/x Immigration	3
HIST:3501/ LAS:3501	Rebel Island: A History of Cuba	3
HIST:3508/ GHS:3508/LAS:3508	Disease and Health in Latin American History	3
HIST:3515/ LAS:3515	Introduction to Modern Latin America	3
HIST:4216/ LAS:4216	Mexican American History	3
HIST:4502/ LAS:4502/ NAIS:4502	History of Mexico	3
HIST:4505	Topics in Latin American History	3
LAS:2700/ COMM:2800/ IS:2700/PORT:2700/ SPAN:2700	Introduction to Latin American Studies	3
LAS:4700/ ANTH:4700/ HIST:4504/ PORT:4700/ SPAN:4900	Latin American Studies Seminar	3-4
MUS:2311/ LAS:2311	Music of Latin America and the Caribbean	3
POLI:2415/ LAS:2415	Latin American Politics	3
PORT:2850/ LAS:2850/ SPAN:2850	Brazilian Narrative in Translation	3
PORT:3400	Brazilian Literature After 1900	3
PORT:3850/ SPAN:3850	Topics in Cultural Studies	3
PORT:4000	Topics in Luso-Brazilian Literature	3
SPAN:1800	Contemporary Spanish American Narrative	3
SPAN:2200/ LAS:2200	Introduction to Spanish American Cultures	3
SPAN:2500	Readings in Spanish American Literature	3
SPAN:2800/ LAS:2800	Screening Latin America	3
SPAN:2900/ LAS:2900	Music of the Hispanic World	3
SPAN:3200	Latin American Cultural Studies	3
SPAN:3210	Cultural Storytelling	3
SPAN:3215/ LAS:3215	Medellin	3
SPAN:3225/ LAS:3225	Latin American Women Writers	3
SPAN:3230	Modern Mexico	3
SPAN:3290	Topics in Cinema and Society	3
SPAN:3310/ LAS:3310	Spanish American Short Story	3

SPAN:3320	Spanish American Poetry	3
SPAN:3350	Contemporary Spanish American Literature	3
SPAN:3440/ LATS:3440	Topics in Latina/o/x Literature and Culture	3
SPAN:4820/ AMST:4800/ LATS:4800	Latina/o/x Popular Culture	3
SPAN:4830	The Hispanic World in the Digital Era	3
SPAN:4880	Comic Books and Graphic Novels in the Hispanic World	3

## Middle East/Africa

Appropriate for these languages: Arabic, Swahili, or proficiency in another contemporary Middle Eastern or African language.

Code	Title	Hours
ANTH:2182/ GHS:2182	Africa: Health and Society	3
ARAB:2025	Study Abroad: Culture and Society	1
ARAB:2050	Topics in Middle East/Muslim World Studies	3
ARAB:3005	Culture and Resistance: The Modern Middle East	3-4
ARAB:3030	Media Arabic	3
ARTH:1040	Arts of Africa	3
ARTH:2120	Art and Architecture of the Islamic World	3
ARTH:3325	Kings, Gods, and Heroes: Art of the Ancient Near East	3
ASIA:1770	Asian Humanities: Middle East	3
ASIA:3120	Autobiography in Islamic Literary Cultures	3
ASIA:3550	Islam, Secularity, Modernity	3
ENGL:3550/ AFAM:3550	African Literature	3
ENGL:3555/ AFAM:3555	Topics in African Cinema	3
FREN:3130	French-Speaking Cultures	3
FREN:4015	Francophone Cinema	3-4
FREN:4110	Francophone Literature of the African Diaspora	3
GHS:3555/ HIST:3755/IS:3555	Understanding Health and Disease in Africa	3
HIST:1708	Civilizations of Africa	3
HIST:2802	Gender, Religion, and Social Identities in the Modern Middle East	3
HIST:2810	The Modern Middle East: 1914 to Present	3
HIST:3760/ AFAM:3760	The Making of Modern Africa	3
HIST:3808	Art, Power, and Resistance in the Modern Middle East and North Africa	3
HIST:3810	History of the Modern Middle East	3

POLI:3418	Governance in the Middle East	3
POLI:3422	Horn of Africa: Politics and Transnational Issues	arr.
POLI:3423	The Middle East: Policy and Diplomacy	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:2041/ ASIA:2041/IS:2041	Understanding "The Muslim World"	3
RELS:2330	Wealth, Inequality, and Islam	3
RELS:2486	Religious Coexistence and Conflict in the Middle East	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
RELS:3267	Dissent and Rebellion in Islamic Societies: Was There an Arab Spring?	3
RELS:3855/IS:3855	Human Rights and Islam	3
RUSS:2050/ WLLC:2050	Women from an Unknown Land: The Fight for Independence	3
SWAH:3010	Kiswahili for Business	3
SWAH:4050	Kiswahili in Cyberspace	3

## Russia/Eastern Europe

Appropriate for these languages: Russian, or proficiency in a modern Slavic language.

Code	Title	Hours
POLI:1401	Introduction to Russian Politics	3
POLI:3405	Authoritarian Politics	3
POLI:3410	Russian Foreign Policy	3
RUSS:1082	Youth Subcultures After Socialism	3
RUSS:1131/ WLLC:1131	Introduction to Russian Culture	3
RUSS:1132	Russia Today	3
RUSS:1500	Ukraine, a Country at the Crossroads: An Interdisciplinary Seminar on Ukrainian History and Culture	3
RUSS:1531	Slavic Folklore	3
RUSS:1532	Traces of Ancient Russian Culture (IX-XVII Centuries): Vikings, Mongols, and Tsars	3
RUSS:2050/ WLLC:2050	Women from an Unknown Land: The Fight for Independence	3
RUSS:2100	Russian Mindset: Sex, Business, and Politics	3
RUSS:2110	Russian Sports: Politics, Scandal, Glory	3
RUSS:2232	Romani (Gypsy) Cultures of Eastern Europe	3
RUSS:3122/ TRNS:3122/ WLLC:3122	Tolstoy and Dostoevsky	3-4
RUSS:3202/ HIST:3492/	Russian Literature in Translation 1860-1917	3

TRNS:3203/  
WLLC:3202

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### International Business, Certificate

Course	Title	Hours
<b>First Year</b>		
<b>Any Semester</b>		
Determine if pursuing study abroad or world language to satisfy international business certificate requirements. This sample plan is for the world language option.		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
ECON:1100	Principles of Microeconomics	4
Certificate: world language level one <sup>a</sup>		4 - 5
<b>Hours</b>		<b>8-9</b>
<b>Spring</b>		
ECON:1200	Principles of Macroeconomics	4
Certificate: area studies category course <sup>b</sup>		3
Certificate: world language level two <sup>a</sup>		4 - 5
<b>Hours</b>		<b>11-12</b>
<b>Second Year</b>		
<b>Fall</b>		
Certificate: international relations category course <sup>c</sup>		3
Certificate: world language level three <sup>a</sup>		4 - 5
<b>Hours</b>		<b>7-8</b>
<b>Spring</b>		
Certificate: international relations category course <sup>c</sup>		3
Certificate: world language level four <sup>a</sup>		4 - 5
<b>Hours</b>		<b>7-8</b>
<b>Third Year</b>		
<b>Fall</b>		
Certificate: area studies category course <sup>b</sup>		3
Certificate: world language level five <sup>a</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
Certificate: international business category course <sup>c</sup>		3
<b>Hours</b>		<b>3</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Certificate: international business category course <sup>c</sup>		3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
Certificate: international business category course <sup>c</sup>		3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>48-52</b>

<sup>a</sup> If completing world language proficiency instead of study abroad. Students who choose this option are required to develop intermediate-level competence in a language by

completing an approved language sequence. See General Catalog for details.

b Area studies courses must align with world language or study abroad geographic region.

c See General Catalog for a list of approved courses.

# Management and Entrepreneurship

## Chair

- Greg L. Stewart

## Director, Undergraduate Program

- Andrew Hosmanek

## Director, Ph.D. Program

- Jennifer Nahrgang Craig

**Undergraduate major:** management (B.B.A.)

**Graduate degree:** management subprogram for the Ph.D. in business administration

**Faculty:** <https://tippie.uiowa.edu/people?department=Management%20and%20Entrepreneurship>

**Website:** <https://tippie.uiowa.edu/about/management-and-entrepreneurship-department>

The Department of Management and Entrepreneurship has strengths in the areas of leadership, entrepreneurship, and human resource management. It provides evidence-based instruction that prepares students to pursue a career in human resource management, start their own business, or lead projects, teams, and organizations.

The department offers the undergraduate major in management and the subprogram in management that leads to the Ph.D. in business administration. Additionally, the Department of Management and Entrepreneurship contributes to the M.B.A. program; see the Master of Business Administration Program [p. 1313] in the Catalog.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Management (Bachelor of Business Administration) [p. 1300]

### Graduate Program of Study

#### Major

- Management subprogram for the Doctor of Philosophy [p. 1305] in Business Administration

## Courses

### Management and Entrepreneurship Courses

**MGMT:1300 First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**MGMT:2000 Introduction to Law** 3 s.h.

Legal issues surrounding start-up and day-to-day management of a business; contract law, standard business formations, tort law, employment law, business ethics, and alternative dispute resolution. Requirements: sophomore standing.

**MGMT:2100 Introduction to Management** 3 s.h.

Principles of management, organizational structure, decision making, leadership, line-staff relationships, and administration of organizations; overview of the demands and challenges facing managers, behaviors of effective managers, management theory, personal effectiveness, decision making, team skills, and leadership skills. Requirements: sophomore standing.

**MGMT:3050 Professional Preparation for Management** 1 s.h.

Survey of career paths in the field of management through discussions with individuals working in human resources, management consulting, entrepreneurial endeavors, and more; hands-on activities for students to hone the skills required to succeed in today's workplace.

**MGMT:3200 Individuals, Teams, and Organizations** 3 s.h.

Theories of organizational behavior applied to current business trends for individuals, teams, organizations; personality, managing diversity, work-family conflict, self-managed teams, charismatic leadership, work motivation, managing conflict, organizational culture. Prerequisites: MGMT:2000 and MGMT:2100.

**MGMT:3250 Leading Innovation** 3 s.h.

Knowledge and skills needed to lead teams and organizations—formally or informally—to achieve sustainable innovation culture, strategy, execution, and outcomes; how to navigate corporate innovation challenges from culture to management and resourcing, in order to successfully lead innovation efforts; problem definition, critical thinking, metrics, design thinking, and entrepreneurial business model development; innovation prerequisites, roles, leadership skills, and strategy. Prerequisites: MGMT:2000 and MGMT:2100.

**MGMT:3300 Strategic Human Resource Management** 3 s.h.

People management activities, policies, and practices that promote effective organizations; how changes in technology, business restructuring, legal and social concerns, other issues affect human resource management. Prerequisites: MGMT:2000 and MGMT:2100.

**MGMT:3400 Employment Law** 3 s.h.

Laws affecting employers and employees, such as regulatory health and safety policies, unemployment and retirement benefits, and employment discrimination including hiring, termination, testing issues. Prerequisites: MGMT:2000 and MGMT:2100.

**MGMT:3450 International Business Environment** 3 s.h.

Differences in international and domestic business; cultural, legal, political factors for managers. Requirements: junior or higher standing.

**MGMT:3500 Nonprofit Organizational Effectiveness I** 3 s.h.

Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MUSM:3500, NURS:3595, RELS:3700, SSW:3500.

**MGMT:3600 Nonprofit Organizational Effectiveness II 3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as NURS:3600, RELS:3701, SSW:3600.

**MGMT:3700 Field Experience: Nonprofit Leadership and Philanthropy 3 s.h.**

Faculty-supervised professional work experience with a nonprofit organization with associated academic content.

**MGMT:3800 Entrepreneurial Leadership Academy I 3 s.h.**

Students hone leadership and project management skills through weekly workshops, guest speakers, and course discussion; preparation to actively manage and lead all phases of a business project; topics include client management, advanced project management skills, how to have tough conversations at work, and how to structure and lead a meeting for optimal results; first in a two-course sequence. Prerequisites: MGMT:2100 or ENTR:2000 or ENTR:3350. Requirements: declared management and entrepreneurship major or enterprise leadership major, and 75 s.h. completed. Same as ENTR:3800.

**MGMT:3850 Entrepreneurial Leadership Academy II 3 s.h.**

Work in small groups to provide strategic management consulting services to lowa-based companies; experienced entrepreneurs and C-level executives provide mentoring to teams; students independently communicate with their client, learn to employ the latest techniques for assessing competitive markets and identifying growth opportunities, and ultimately develop recommendations and prepare a final report for their client; second in a two-course sequence. Prerequisites: MGMT:3800 or ENTR:3800. Same as ENTR:3850.

**MGMT:3999 CIMBA Italy Experiential Leadership 1-3 s.h.**

Leadership Initiative for Excellence (LIFE) includes a three-day training that enhances key leadership competencies including effective communication, decision making, teamwork, focus, and interpersonal skills; Learn, Enrich, Achieve, Perform (LEAP) includes and builds upon concepts in LIFE, and is a semester-long professional development program that utilizes self-assessment, one-on-one and group coaching, and developmental seminars; for students enrolled in the CIMBA Italy Program.

**MGMT:4000 Topics in Management 1-3 s.h.**

Topics not regularly offered in other courses. Prerequisites: MGMT:2100.

**MGMT:4050 Directed Readings in Management and Organizations arr.****MGMT:4100 Dynamics of Negotiations 3 s.h.**

Predictable aspects and dynamics of bargaining experiences; simulations, experiential exercises to foster skills needed for effective negotiation in almost any situation. Requirements: 60 s.h. completed.

**MGMT:4200 Staffing and Talent Management 3 s.h.**

Staffing processes; external influences such as labor markets, the legal environment; support activities such as job analysis, employment planning; staffing activities such as internal and external recruiting, selection. Prerequisites: MGMT:3300 and MGMT:3200. Corequisites: MGMT:3400.

**MGMT:4300 Leadership and Personal Development 3 s.h.**

Practical development and application of leadership and managerial skills to enhance individual and organizational effectiveness.

**MGMT:4325 Team and Project Management 3 s.h.**

Fundamentals of managing teams and group projects; emphasis on practical application, using case studies, and interactive and experiential exercises. Prerequisites: MGMT:3200 and MGMT:3300.

**MGMT:4350 Performance Management and Strategic Rewards 3 s.h.**

Role of pay and other rewards on organizational objectives; compensation's impact on employee behavior and performance; mix of pay and benefits in compensation systems; legal environment regulating pay and benefits; nonmonetary forms of reward; the role of performance management, pay, and other rewards on employee performance and organizational objectives is examined; includes performance appraisals, coaching, performance feedback, incentive systems, the mix of pay and benefits in compensation systems, and the legal environment regulating pay and benefits. Prerequisites: MGMT:3300 and MGMT:3200.

**MGMT:4500 Strategy, Innovation and Global Competition 3 s.h.**

Development of skills for firm strategy formation in a complex and technology-driven global economy; analytical tools that are essential to any consultant, manager, or entrepreneur facing dynamic industry environments. Prerequisites: MGMT:2100.

**MGMT:4600 Nonprofit Ethics and Governance 3 s.h.**

Tools to help identify, understand, and resolve ethical issues in nonprofit sectors; how individual beliefs and societal standards shape ethical decision making; application of ethical frameworks to classic and contemporary ethical dilemmas; how various forms of governance shape ethical behavior in organizations; case studies, readings, lectures, and guest speakers.

**MGMT:4999 Honors Thesis in Management arr.**

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University of Iowa Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: BUS:1999.

**MGMT:7120 Methods for Field Research (Ph.D.) 2 s.h.**

Field methods commonly used in behavioral research with emphasis on surveys; different types of field research designs; evaluation of advantages and disadvantages of different research approaches; practice generating research questions and hypotheses appropriate for field survey designs; issues related to levels of analysis; develop and administer surveys to maximize response rates; identify appropriate samples; brief introduction to statistical approaches for analyzing survey data.

**MGMT:7124 Methods for Qualitative Research 2 s.h.**

Qualitative methods available to researchers; role and contributions of qualitative methods in research; reasons why qualitative research papers get rejected by journals and strategies to avoiding them; work with qualitative data; philosophy of science, formulating research questions, sampling and gaining access, alternative qualitative data collection methods, ways of coding and analyzing qualitative data, building theory from qualitative data.



- MGMT:7128 Methods for Experimental Research 2 s.h.**  
Nature of research and principles of experimental design, including laboratory and field experiments (quasi-experiments), event sampling, and methods of small-group research; analysis of variance (ANOVA), analysis of covariance (ANCOVA), multi-attribute analysis of variance (MANOVA); orthogonal, planned and unplanned comparisons, factorial experiments including repeated measures, nested-factors design, Latin square designs; analysis of data sets with SPSS.
- MGMT:7140 Meta-Analysis in Behavioral Social Sciences (Ph.D.) 3 s.h.**  
Methods for quantitative integration of findings in behavioral and social sciences; overall effect size or correlation, whether conflicting findings documented in research literature are due to moderators (interactions) or statistical and measurement artifacts.
- MGMT:7160 Measurement Theory and Methods in the Behavioral and Social Sciences (Ph.D.) 3 s.h.**  
Measurement and statistical methods needed for conduct of methodologically sound, publishable research; kinds and levels of measurement; role of measurement in theory development and cumulative research knowledge; theory of measurement error; types of reliability and their estimation; corrections for bias in research results due to measurement error; basic scaling methods; criterion-related, content, and construct validity; cross-validation and shrinkage formulas; factor analysis; statistical power in research studies; introduction to meta-analysis; item analysis and scale construction; structural equation modeling. Requirements: basic statistical methods course.
- MGMT:7320 Organizational Theory Ph.D. 2 s.h.**  
Organizational theory; effect of changing environment and technological factors on organizational structure and effectiveness; resource dependency and power, conflict, interorganizational network, population ecology, economic theories of organization, institutional theory.
- MGMT:7323 Foundations of Organizational Theorizing 2-3 s.h.**  
Examination of the field of micro-organizational behavior (micro-OB); development of ability to evaluate and generate papers that make a theoretical contribution to the field; classic and contemporary research related to prevailing theories; students engage in weekly writing, including a series of theory building exercises and peer reviewing; objectives include supporting peers in generating new theoretical questions, models, and/or frameworks, and providing an overview of theoretical contributions in several important areas in organizational behavior.
- MGMT:7328 Academic Writing 2-3 s.h.**  
Development of critical thinking skills and practices associated with successful academic writing; students learn and practice how to write stylized sections of a social science paper effectively (e.g., literature review, hypothesis development); how to write for impact; research-supported productive writing habits, including how to give and receive feedback on early drafts of writing; writing style/mechanics (e.g., using active voice); writing assignments include a combination of step-by-step revisions to an existing, self-selected paper and shorter hands-on exercises targeted at specific writing skills.
- MGMT:7340 Group Processes (Ph.D.) 3 s.h.**  
In-depth understanding of how work groups and teams can be made more effective in organizations; team design issues (i.e., task type, interdependence, leadership, member composition); process issues including power, influence, communications, conflict, collective memory, and intergroup relations.
- MGMT:7350 Leadership (Ph.D.) 3 s.h.**  
Understanding and preparation for implementing leadership in organizations; focus on reading and analysis of basic research-related leadership theories; contrast "great person" theories, traditional behavioral and situational theories, and transformational leadership theory.
- MGMT:7360 Motivation and Attitudes (Ph.D.) 3 s.h.**  
Motivational processes, attitudes, communication and interorganizational networks; emphasis on motivational antecedents and consequences, theoretical implications for models of work performance.
- MGMT:7370 Reward Systems (Ph.D.) 2 s.h.**  
Compensation systems, government influences, equity in compensation and individual wage determination; research-based examination of performance evaluation and appraisal, theories of work performance.
- MGMT:7385 Social and Human Capital 2 s.h.**  
Theory, research, and methods for understanding social capital as a resource available to individuals resulting from the social structure which they are located; readings focus on application of social networks to various content areas at individual, team, and organizational units of analysis; examination of relationships among social and human capital on individual and team outcomes; emphasis on understanding existing theory and empirical findings; social network research in terms of study design and analysis through software programs including UCINET and R.
- MGMT:7700 Mentored Research arr.**  
Management research conducted by doctoral students under faculty supervision; culminates in second-year research paper.
- MGMT:7800 Foundations of Human Resource Management 2-3 s.h.**  
Broad survey of foundational topics in human resource management, particularly from a micro perspective, interspersed with special topics of growing interest within the field; introduction to foundational theoretical and empirical research on topics of staffing, training and development, performance management and compensation, including an examination of trending topics of interest in these areas; students develop skills necessary to evaluate, criticize, and contribute to literature on human resource management.
- MGMT:7900 Contemporary Topics in Management and Organizations arr.**  
Research topics in human resources and organizational behavior.
- MGMT:7950 Directed Readings in Management and Organizations arr.**
- MGMT:7975 Thesis in Management and Organizations arr.**  
Management research conducted by doctoral students under faculty supervision; culminates in dissertation.

**MGMT:8000 Healthcare Business Leadership 1-2 s.h.**

Explaining, predicting, and influencing human behavior in healthcare organizations and settings; topics include high-performance leadership, strategic hiring of employees, decision making, negotiations, entrepreneurship, and basic finance/accounting for clinicians. Requirements: acceptance into pharmacy Healthcare Business Leadership (HBL) Program, and full-time student status (12 s.h.) in each semester enrolled in the HBL program not including hours tied to this course.

**MGMT:9090 Influence and Constructive Persuasion 3 s.h.**

Exploration of methods of persuasion and the science behind why and how influence works in a contemporary business setting; leadership as a function of consensus building, convincing, and motivating in today's team-based, knowledge-centric enterprises; how leaders select from a variety of influence techniques to get others' commitment to a course of action rather than commanding others; persuasion—using solid evidence coupled with emotional appeal—as capacity to present a message in a way that leads others to support it; how persuasion, when used effectively, creates a sense of freedom—others freely choose your perspective and support it.

**MGMT:9091 Corporate Social Responsibility and Sustainability 2-3 s.h.**

Introduction to main corporate social responsibility (CSR) and sustainability issues; current debates; costs and benefits of CSR/sustainability; relationship between leadership, innovation, and CSR; CSR's effects on companies' ability to attract and retain good employees; numerous cases studies ranging from small to large companies from various sectors including food and agriculture, manufacturing, finance, mining, energy, retail, transportation; students read and debate articles and case studies written by leading business experts, academics, and CEOs; individual or teamwork on a CSR change analysis.

**MGMT:9092 Effective Managerial Communication 2-3 s.h.**

Decisive personal and organizational skills for business leaders and entrepreneurs; at individual level, students will refresh writing, listening, speaking, and interpersonal skills for business settings; at the organizational level, course provides crucial managerial skills—how to conduct an effective meeting, questioning skills for employment selection, engaging in small talk, and communication during a crisis.

**MGMT:9093 Communication and Digital Strategy 3 s.h.**

Fundamentals of applied communication skills—written, verbal, and presentations.

**MGMT:9110 Dynamics of Negotiations 2-3 s.h.**

Predictable aspects and dynamics of bargaining experiences; simulations, experiential exercises to foster skills needed for effective negotiation in almost any situation. Requirements: M.B.A. enrollment.

**MGMT:9120 Leadership and Personal Development 2-3 s.h.**

Major theories; determinants of leader effectiveness, personal and career success; practical development of leadership, managerial skills to enhance individual, organizational effectiveness.

**MGMT:9130 Strategic Management of Change 3 s.h.**

How congruence in organizational strategy, structure and culture, job design, and employee characteristics produces effective organizations; emphasis on managing organizational change, implementing and working in teams, project management. Recommendations: completion of MBA:8120.

**MGMT:9150 Nonprofit Organizational Effectiveness I 3 s.h.**

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, PBAF:6278, RELS:6070, SPST:6010, SSW:6247, URP:6278.

**MGMT:9160 Nonprofit Organizational Effectiveness II 3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, PBAF:6279, RELS:6075, SPST:6020, SSW:6248, URP:6279.

**MGMT:9185 Project Management 2-3 s.h.**

Preparation for managing projects and project portfolios; project selection, project planning and budgeting, scheduling, resource allocation, project control; integration of project planning tools, including project management software.

**MGMT:9210 Law and Ethics 2-3 s.h.**

Legal issues surrounding start-up and day-to-day management of a business; contract law, standard business formations, tort law, employment law, business ethics, and alternative dispute resolution; exploration of the ways in which ethics and law intersect as well as the ways in which law reflects various ethical judgments; consideration and comparison of the roles of law and the role of ethics in our society.

**MGMT:9220 Maximizing Team Performance 3 s.h.**

Current approaches to implementing effective teams within organizations; team selection and formation, group dynamics, facilitation skills, performance and obstacle management.

**MGMT:9230 Managing and Preventing Conflict 3 s.h.**

Skills for management of high-conflict situations in the workplace and for long-term business success and job satisfaction; experience developing mediation-based skills and communication techniques to prevent and resolve workplace conflicts.

**MGMT:9240 Inclusive Leadership 3 s.h.**

Skills to develop a more inclusive leadership style including leading productive conversations about diversity, transforming diversity-related conflicts into opportunities for learning and growth, evaluating diversity initiatives for potential effectiveness, and developing a change management plan for increasing inclusion in an organization; exploration of foundations for inclusive leadership behaviors and team cultures through self-assessments, case studies, and group activities. Prerequisites: MBA:8120.

**MGMT:9250 Managing Employee Performance 3 s.h.**

Concepts and practices to effectively manage, measure, and improve employee performance; establishing and communicating organizational expectations, the manager as coach and motivator, measurement methodologies, and performance improvement methods; concepts and practices to effectively manage, measure, and improve employee performance; establishing and communicating organizational expectations; the manager as coach and motivator, performance improvement methods, and designing more effective reward practices.

**MGMT:9260 Strategic Employee Development 3 s.h.**

Concepts, practices in training and development; strategic issues affecting the design, implementation, and evaluation of training programs and of career management and organizational development activities.

**MGMT:9270 Human Resource Management 3 s.h.**

Systematic approach to managing human resources through practices consistent with validated theories and empirical research; human resources practices and business strategies; human resources strategy, recruitment and selection, training and development, employment law, international human resources, career management, compensation.

**MGMT:9290 Global Business Management 3 s.h.**

Theoretical knowledge and practical skills that are critical to successfully compete in the global marketplace and to make sound management decisions in international contexts; economic, political, legal, and social aspects of a business environment in foreign markets; multinational companies' winning moves in entering and growing in these markets; best practices in managing people in different cultural settings.

# Management, B.B.A.

## Requirements

The Bachelor of Business Administration with a major in management requires a minimum of 120 s.h., including 22 s.h. of work for the major. To graduate, students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all coursework attempted at the University of Iowa, all college business coursework attempted, all business coursework attempted at the University of Iowa, all college management and entrepreneurship coursework attempted, and all management and entrepreneurship coursework attempted at the University of Iowa.

The program is designed to give students a thorough background in the department's study areas as well as an understanding of their application to real-life situations. Specific courses, research projects, and other experiences, such as simulations, are blended to include both theoretical and pragmatic aspects of the field.

All B.B.A. students majoring in management choose one of three tracks: entrepreneurial management, human resource management, or leadership and management. The entrepreneurial management track is intended for students who plan to start their own business or work in a small business. The human resource management track prepares students to pursue careers in human resources or to earn a degree in law. The leadership and management track focuses on the skills and competencies needed to lead a project, a team, or an organization; it is best suited for students considering management or consulting careers. Each track provides a solid background in general management principles in addition to a specialized focus.

The B.B.A. with a major in management requires the following coursework. To view the common B.B.A. requirements, see the Bachelor of Business Administration [p. 1217] in the Catalog.

## Entrepreneurial Management Track Courses

Students in this track are not eligible to earn the B.A. in enterprise leadership or the Certificate in Entrepreneurial Management.

Students in the entrepreneurial management track complete the following coursework.

Code	Title	Hours
All of these:		
MGMT:3050	Professional Preparation for Management	1
or ENTR:3050	Professional Preparation for Enterprise Leadership and Entrepreneurship	
MGMT:3250	Leading Innovation	3
MGMT:3800	Entrepreneurial Leadership Academy I	3
or ENTR:4200	Entrepreneurship: Business Consulting	
MGMT:4100	Dynamics of Negotiations	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3350	Entrepreneurial Strategy	3
ENTR:4400	Managing the Growth Business	3

And 3 s.h. from these:

MGMT:3850	Entrepreneurial Leadership Academy II	3
ENTR:3000	Practicum in Entrepreneurship	3
ENTR:4100	International Entrepreneurship, Culture, and Social Impact	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4900	Academic Internship	3

## Human Resource Management Track Courses

Students in the human resource management track complete the following coursework.

Code	Title	Hours
All of these:		
MGMT:3050	Professional Preparation for Management	1
MGMT:3200	Individuals, Teams, and Organizations	3
MGMT:3300	Strategic Human Resource Management	3
MGMT:3400	Employment Law	3
MGMT:4100	Dynamics of Negotiations	3
MGMT:4200	Staffing and Talent Management	3
MGMT:4350	Performance Management and Strategic Rewards	3

And 3 s.h. from these:

MGMT:3450	International Business Environment	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600	Nonprofit Organizational Effectiveness II	3
MGMT:3800	Entrepreneurial Leadership Academy I	3
MGMT:3999	CIMBA Italy Experiential Leadership	3
or MGMT:4300	Leadership and Personal Development	
MGMT:4325	Team and Project Management	3
MGMT:4500	Strategy, Innovation and Global Competition	3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4400	Managing the Growth Business	3

## Leadership and Management Track Courses

Students in the leadership and management track complete the following coursework.

Code	Title	Hours
All of these:		
MGMT:3050	Professional Preparation for Management	1

MGMT:3200	Individuals, Teams, and Organizations	3
MGMT:3300	Strategic Human Resource Management	3
MGMT:3800	Entrepreneurial Leadership Academy I	3
or MGMT:4325	Team and Project Management	
MGMT:3999	CIMBA Italy Experiential Leadership	3
or MGMT:4300	Leadership and Personal Development	
MGMT:4100	Dynamics of Negotiations	3
MGMT:4500	Strategy, Innovation and Global Competition	3
And 3 s.h. from these:		
MGMT:3400	Employment Law	3
MGMT:3450	International Business Environment	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600	Nonprofit Organizational Effectiveness II	3
MGMT:3850	Entrepreneurial Leadership Academy II	3
MGMT:4200	Staffing and Talent Management	3
MGMT:4350	Performance Management and Strategic Rewards	3
ENTR:3350	Entrepreneurial Strategy	3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4400	Managing the Growth Business	3

## Career Advancement

Recent graduates have found jobs as team leads, project managers, people managers, human resource managers, and entrepreneurs at a range of organizations.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment six months after graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information, visit the Pomerantz Career Center website.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Management, B.B.A.

- Entrepreneurial Management Track [p. 1301]
- Human Resource Management Track [p. 1302]
- Leadership and Management Track [p. 1303]

## Entrepreneurial Management Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Students are required to complete 52 s.h. of non-business coursework. Courses with a prefix of ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, and MKTG will not count towards non-business hours. Check degree audit for non-business hours or confer with academic advisor.

Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. World Language counts as non-business coursework.

To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course.<sup>a</sup>

Students must satisfy the Tippie College of Business residence requirement: 45 s.h. of UI coursework after admission to Tippie.

Hours		0-3
<b>First Year</b>		
<b>Fall</b>		
MATH:1350	Quantitative Reasoning for Business <sup>b</sup>	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives <sup>c</sup>		3
GE: Social Sciences <sup>c</sup>		3
CSI:1600	Success at Iowa	2
Hours		<b>16</b>
<b>Spring</b>		
STAT:1030	Statistics for Business	4
ECON:1100	Principles of Microeconomics	4
BAIS:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion <sup>c</sup>		3
Hours		<b>16</b>
<b>Second Year</b>		
<b>Fall</b>		
ACCT:2100	Introduction to Financial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MGMT:2100	Introduction to Management <sup>d</sup>	3
GE: Natural Sciences without Lab <sup>c</sup>		3
BUS:2200	Foundations for Success in Business	1
Hours		<b>14</b>
<b>Spring</b>		
MGMT:3050 or ENTR:3050	Professional Preparation for Management or Professional Preparation for Enterprise Leadership and Entrepreneurship	1
BUS:3000	Business Communication and Protocol <sup>e</sup>	3
MGMT:2000	Introduction to Law <sup>d</sup>	3
BAIS:2800	Foundations of Business Analytics	3

GE: International and Global Issues <sup>c</sup>	3
GE: Values and Culture <sup>c</sup>	3
<b>Hours</b>	<b>16</b>

**Third Year****Fall**

ACCT:2200	Managerial Accounting	3
MGMT:3250	Leading Innovation	3
BAIS:3000	Operations Management	2
BAIS:3005	Information Systems	2
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3

**Hours** **16**

**Spring**

ENTR:3350	Entrepreneurial Strategy	3
ENTR:3100	Entrepreneurial Finance	3
MKTG:3000	Introduction to Marketing Strategy	3
FIN:3000	Introductory Financial Management	3
Minor, certificate, or non-business elective		3

**Hours** **15**

**Fourth Year****Fall**

ENTR:4400	Managing the Growth Business	3
ENTR:3800 or ENTR:4200	Entrepreneurial Leadership Academy I or Entrepreneurship: Business Consulting	3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		1

**Hours** **13**

**Spring**

MGMT:4100	Dynamics of Negotiations	3
Major: Entrepreneurial Management track course <sup>f</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>g</sup>		

**Hours** **14**

**Total Hours** **120-123**

a See degree audit for course options.

b Enrollment in math courses requires completion of a placement exam.

c GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d MGMT:2000 and MGMT:2100 should both be taken during second year; may be taken in either order.

e Must be admitted to Tippie to enroll in BUS:3000. Generally completed during the second year, but should be taken no later than the third year.

f Select 3 s.h. course from list of approved Entrepreneurial Management track electives.

g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

timing, contact your academic advisor or Graduation Services.

**Human Resource Management Track**

Course	Title	Hours
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**Academic Career****Any Semester**

Students are required to complete 52 s.h. of non-business coursework. Courses with a prefix of ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, and MKTG will not count towards non-business hours. Check degree audit for non-business hours or confer with academic advisor.

Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. World Language counts as non-business coursework.

To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. <sup>a</sup> 0 - 3

Students must satisfy the Tippie College of Business residence requirement: 45 s.h. of UI coursework after admission to Tippie.

**Hours** **0-3**

**First Year****Fall**

MATH:1350	Quantitative Reasoning for Business <sup>b</sup>	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives <sup>c</sup>		3
GE: Social Sciences <sup>c</sup>		3
CSI:1600	Success at Iowa	2

**Hours** **16**

**Spring**

STAT:1030	Statistics for Business	4
ECON:1100	Principles of Microeconomics	4
BAIS:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion <sup>c</sup>		3

**Hours** **16**

**Second Year****Fall**

ACCT:2100	Introduction to Financial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MGMT:2100	Introduction to Management <sup>d</sup>	3
GE: Natural Sciences without Lab <sup>c</sup>		3
BUS:2200	Foundations for Success in Business	1

**Hours** **14**

**Spring**

MGMT:3050	Professional Preparation for Management	1
BUS:3000	Business Communication and Protocol <sup>e</sup>	3
MGMT:2000	Introduction to Law <sup>d</sup>	3

BAIS:2800	Foundations of Business Analytics	3
GE: International and Global Issues <sup>c</sup>		3
GE: Values and Culture <sup>c</sup>		3
<b>Hours</b>		<b>16</b>
<b>Third Year</b>		
<b>Fall</b>		
ACCT:2200	Managerial Accounting	3
MGMT:3200	Individuals, Teams, and Organizations <sup>f</sup>	3
BAIS:3000	Operations Management	2
BAIS:3005	Information Systems	2
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
MGMT:3300	Strategic Human Resource Management <sup>f</sup>	3
Major: Human Resource Management track course <sup>g</sup>		3
FIN:3000	Introductory Financial Management	3
MKTG:3000	Introduction to Marketing Strategy	3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>15</b>
<b>Fourth Year</b>		
<b>Fall</b>		
MGMT:4100	Dynamics of Negotiations	3
Major: Human Resource Management track course <sup>g</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		1
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
Major: Human Resource Management track course <sup>g</sup>		3
Major: Human Resource Management track course <sup>g</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
<b>Hours</b>		<b>14</b>
<b>Total Hours</b>		<b>120-123</b>

a See degree audit for course options.

b Enrollment in math courses requires completion of a placement exam.

c GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d MGMT:2000 and MGMT:2100 should both be taken during second year; may be taken in either order.

e Must be admitted to Tippie to enroll in BUS:3000. Generally completed during the second year, but should be taken no later than the third year.

f MGMT:3200 and MGMT:3300 should be taken before the end of the third year; may be taken in either order or concurrently.

g Select MGMT:3400, MGMT:4200, MGMT:4350 and 3 s.h. course from Human Resource Management track list.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Leadership and Management Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students are required to complete 52 s.h. of non-business coursework. Courses with a prefix of ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, and MKTG will not count towards non-business hours. Check degree audit for non-business hours or confer with academic advisor.		
Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. World Language counts as non-business coursework.		
To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course. <sup>a</sup>		0 - 3
Students must satisfy the Tippie College of Business residence requirement: 45 s.h. of UI coursework after admission to Tippie.		
<b>Hours</b>		<b>0-3</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1350	Quantitative Reasoning for Business <sup>b</sup>	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives <sup>c</sup>		3
GE: Social Sciences <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
STAT:1030	Statistics for Business	4
ECON:1100	Principles of Microeconomics	4
BAIS:1500	Business Computing Essentials	2
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion <sup>c</sup>		3
<b>Hours</b>		<b>16</b>
<b>Second Year</b>		
<b>Fall</b>		
ACCT:2100	Introduction to Financial Accounting	3
ECON:1200	Principles of Macroeconomics	4
MGMT:2100	Introduction to Management <sup>d</sup>	3
GE: Natural Sciences without Lab <sup>c</sup>		3
BUS:2200	Foundations for Success in Business	1
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
MGMT:3050	Professional Preparation for Management	1

BUS:3000	Business Communication and Protocol <sup>e</sup>	3
MGMT:2000	Introduction to Law <sup>d</sup>	3
BAIS:2800	Foundations of Business Analytics	3
GE: International and Global Issues <sup>c</sup>		3
GE: Values and Culture <sup>c</sup>		3

**Hours 16**

### Third Year

#### Fall

ACCT:2200	Managerial Accounting	3
MGMT:3200	Individuals, Teams, and Organizations	3
BAIS:3000	Operations Management	2
BAIS:3005	Information Systems	2
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3

**Hours 16**

#### Spring

MGMT:3999 or MGMT:4300	CIMBA Italy Experiential Leadership or Leadership and Personal Development	3
MGMT:3300	Strategic Human Resource Management <sup>f</sup>	3
MKTG:3000	Introduction to Marketing Strategy	3
FIN:3000	Introductory Financial Management	3
Minor, certificate, or non-business elective		3

**Hours 15**

### Fourth Year

#### Fall

MGMT:4100	Dynamics of Negotiations	3
Major: Leadership and Management track course <sup>g</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		2
Minor, certificate, or non-business elective		2

**Hours 13**

#### Spring

Major: Leadership and Management track course <sup>g</sup>		3
Major: Leadership and Management track course <sup>g</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		

**Hours 14**

**Total Hours 120-123**

f MGMT:3200 and MGMT:3300 should be taken before the end of the third year; may be taken in either order or concurrently.

g Take either MGMT:3800 or MGMT:4325, MGMT:4500, and 3 additional s.h. from Leadership and Management track list.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

a See degree audit for course options.

b Enrollment in math courses requires completion of a placement exam.

c GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d MGMT:2000 and MGMT:2100 should both be taken during second year; may be taken in either order.

e Must be admitted to Tippie to enroll in BUS:3000. Generally completed during the second year, but should be taken no later than the third year.



# Doctor of Philosophy

Graduate students in management and entrepreneurship may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in business administration [p. 1243] in the Catalog and visit the Department of Management and Entrepreneurship website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Learning Outcomes

- To demonstrate proficiency and knowledge in the specialization discipline, students will demonstrate expertise in reading and interpreting academic research articles in their specialized discipline. They will be knowledgeable in the major theoretical perspectives and prior research findings in their area and be able to integrate prior research from various streams of literature.
- To demonstrate the ability to conduct independent, original research that leads to publications, students will be able to identify important research questions, provide theory-based reasoning to develop original hypotheses, execute an appropriate research design, and summarize their efforts in a working paper. This includes being able to read and summarize existing research into their paper and understanding the prior literature in a variety of substantive areas, paradigms, and methodologies.
- To be effective teachers in their disciplines, students will demonstrate proficiency as instructors in courses in their specialized discipline. This includes preparing course syllabi, giving lectures, writing assignments and exams, and evaluating students on the various deliverables.
- To demonstrate effective communications skills, students will be effective at communicating ideas in academic writing and how these ideas relate to each other within the context of an academic paper. This includes the ability to establish a position, show why that position matters, and situate that position within a context that is determined by the appropriate audience. International students will demonstrate the ability to effectively lecture and communicate in English.

# Marketing

## Chair

- Dhananjay Nayakankuppam

**Undergraduate major:** marketing (B.B.A.)

**Graduate degree:** marketing subprogram for the Ph.D. in business administration

**Faculty:** [https://tippie.uiowa.edu/people?](https://tippie.uiowa.edu/people?keywords=&departments=176&category=All)

[keywords=&departments=176&category=All](https://tippie.uiowa.edu/people?keywords=&departments=176&category=All)

**Website:** <https://tippie.uiowa.edu/about/marketing-department>

The study of marketing concerns itself with all activities related to the marketing and distribution of goods and services, from producers to consumers. The goal of the department is to make strong contributions to marketing practice and marketing theory with innovative teaching, cutting-edge research, and active community outreach. The marketing curriculum provides a broad foundation in marketing concepts along with opportunities to specialize in areas of vocational interests. The department utilizes multiple teaching methods, including experiential learning, research experiences, case analyses, and online and face-to-face classroom training to prepare students to solve a variety of marketing problems that arise in our increasingly complex global economy.

The Department of Marketing offers the undergraduate major in marketing and the subprogram in marketing that leads to the Ph.D. in business administration. Additionally, the department participates in the M.B.A. program; see Master of Business Administration Program [p. 1313] in the Catalog.

## Related Certificate

### Event Management

The Department of Marketing (Tippie College of Business), the Departments of Communication Studies and Health and Human Physiology, and the School of Journalism and Mass Communication (College of Liberal Arts and Sciences) collaborate to offer the undergraduate Certificate in Event Management. Students who earn the certificate will know and be able to demonstrate the basic principles of organizing a successful event. They will gain a robust understanding of the diverse field of event management and careers in the event management industry. For information about the certificate, see the Certificate in Event Management [p. 512] in the Catalog.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Marketing (Bachelor of Business Administration) [p. 1310]

### Graduate Program of Study

#### Major

- Marketing subprogram for the Doctor of Philosophy [p. 1312] in Business Administration

## Courses

### Marketing Courses

#### **MKTG:1300 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

#### **MKTG:3000 Introduction to Marketing Strategy 3 s.h.**

Philosophy and activities of marketing; marketing environment of an organization; strategies with respect to marketing decisions, buyer behavior; spreadsheet analysis of marketing problems.

#### **MKTG:3050 Professional Preparation in Marketing 1 s.h.**

Overview of alternative marketing careers; required skills and personal characteristics that drives success in these fields; hard and soft skills required in major types of marketing careers; development of a professional brand identity and strategy to find marketing internships and permanent employment opportunities; marketing's relationship to other business and organizational functions and to external environment. Corequisites: MKTG:3000.

#### **MKTG:3055 Career Preparation for Marketing 1 s.h.**

Finding and successfully competing for career opportunities in marketing; online exercises, interactions with executives, and participation in a national organization representing professionals. Prerequisites: MKTG:3000 and MKTG:3050 and (MKTG:3100 or MKTG:3200). Requirements: 90 s.h. completed.

#### **MKTG:3100 Marketing Research 3 s.h.**

Marketing, research methods; role of marketing research information as a tool in management decision making. Prerequisites: MKTG:3000 and (BAIS:2800 or STAT:2020 with a minimum grade of B or ECON:4800 or STAT:4101).

#### **MKTG:3101 Marketing Metrics 3 s.h.**

Identifying and measuring key metrics that are the focus for marketing plans and the backbone for evaluating marketing performance (e.g., penetration, share of requirements, customer satisfaction, churn rates, click-through rates, and customer lifetime value); relationship between conceptual models of business-to-business and business-to-consumer behaviors and the selection of appropriate metrics; emphasis on use of metrics as basic inputs for goal setting, marketing decision making, and evaluation. Prerequisites: MKTG:3000 and MKTG:3100.

#### **MKTG:3102 Marketing Analytics 3 s.h.**

Marketing science models used in strategic and tactical marketing decisions; application of consumer behavior in the development of quantitative models that inform marketing mix decisions (advertising, pricing, and salesforce effort), new product development, product line management, and category management; topics may include product mapping, latent class (segmentation) analysis, conjoint analysis, choice modeling (binary and multinomial logic), diffusion models (word-of-mouth), decision-calculus ("models and manager" technology), churn analysis and web analytics. Prerequisites: MKTG:3000 and MKTG:3100.

#### **MKTG:3103 Advanced Marketing Research 3 s.h.**

Traditional and nontraditional research techniques to address business problems that have a relationship to basic research; primary focus on hands-on experience and peer-based learning. Prerequisites: MKTG:3000 and MKTG:3100.

- MKTG:3200 Consumer Behavior** 3 s.h.  
Behavioral and social aspects of marketing; research methods and findings from behavioral sciences, their relation to production, consumption, and marketing of products, services. Prerequisites: MKTG:3000.
- MKTG:3300 Web Business Strategy** 3 s.h.  
Introduction to World Wide Web business and marketing; concepts, methods, and applications associated with doing business on the web; web page construction and design; case studies and/or entrepreneurial projects. Prerequisites: MKTG:3000.
- MKTG:3400 Retail Strategies** 3 s.h.  
Strategies for retail site selection, store design, supply chain management, customer relationship management/customer service; merchandising management strategies for planning merchandise assortments, buying systems, buying merchandise, pricing, promotion. Prerequisites: MKTG:3000.
- MKTG:3401 Merchandise Management** 3 s.h.  
Merchandise and service mix strategies for alternative retail concepts, including various store and online formats; topics include national brands versus private label, multi-channel distribution, logistics, replenishment strategies, pricing, promotion, product assortment, store layout, and point-of-sale and in-store merchandising. Prerequisites: MKTG:3000.
- MKTG:3600 Product and Pricing** 3 s.h.  
Create and capture value through product and service design, including stage-gate evaluation models; implementation of pricing strategy for new products and existing product lines. Prerequisites: MKTG:3000.
- MKTG:3605 Strategic Brand Positioning** 3 s.h.  
Strategic decisions, research processes, and tactics managers undertake to create effective brand strategies; students examine how to conduct strategic analyses of customers, competitors, and the company to identify attractive markets and sustainable competitive positions; sustainable competitive positions serve as the foundation for subsequent discussions regarding brand naming, identity, architecture, equity, and audits. Prerequisites: MKTG:3000.
- MKTG:3700 Marketing Institute Seminar I** 2 s.h.  
Soft skills and professional expertise to succeed in marketing and consulting careers; résumé and interview training, industry presentations, business case assignments, lectures. Prerequisites: MKTG:3000. Requirements: admission to the Marketing Institute.
- MKTG:3701 Marketing Institute Field Studies** 2 s.h.  
Plan, design, carry out, and report on a marketing research project for a profit or nonprofit client organization; communicate with managers, apply knowledge of marketing research, meet deadlines, and convert research findings into actionable recommendations for management. Prerequisites: MKTG:3000 and MKTG:3700. Requirements: admission to the Marketing Institute.
- MKTG:3702 Marketing Institute Seminar II** 2 s.h.  
Development of soft skills and professional expertise to succeed in marketing and consulting careers; résumé and interview training, industry presentations, business case assignments, lectures; mentor students in marketing institute seminar. Prerequisites: MKTG:3000 and MKTG:3700 and MKTG:3701. Requirements: admission to the Marketing Institute.
- MKTG:4000 Contemporary Topics in Marketing** 3 s.h.  
Topics not regularly offered in other courses. Prerequisites: MKTG:3000.
- MKTG:4050 Directed Readings in Marketing** arr.
- MKTG:4101 Integrated Marketing Communications** 3 s.h.  
Making marketing communication decisions and understanding how marketing communications work; planning and evaluation of marketing communications; theories, models, and tools to make better marketing communication decisions; course uses an Integrated Marketing Communications perspective, which involves understanding the role of the different promotional mix elements and coordinating them to develop effective marketing communication programs. Prerequisites: MKTG:3000.
- MKTG:4200 Sales Management** 3 s.h.  
Personal selling, management of sales force; emphasis on recruitment, selection, training of sales representatives; problems in allocation of sales effort, supervision, control. Prerequisites: MKTG:3000.
- MKTG:4201 Professional Selling** 3 s.h.  
Personal selling function in overall business strategy and professional selling process that underlies successful sales careers; emphasis on hands-on experiences in developing practical skills in sales strategy, analytics, and communications skills; students develop and make sales presentations, engage in role-playing exercises, and complete applied selling exercises as individuals or in sales teams; focus is on professional selling in a business environment, but students will also apply course concepts in other interpersonal business communications settings. Prerequisites: MKTG:3000.
- MKTG:4250 Marketing and Sustainability** 3 s.h.  
Concepts for developing and implementing sustainable marketing strategies; developing more environmentally friendly products, more sustainable logistical systems, socially responsible pricing, and promoting sustainable products in a socially responsible way. Prerequisites: MKTG:3000.
- MKTG:4275 Social Media Marketing** 3 s.h.  
Fundamentals of social media in a marketing context; establishing clear organizational goals, developing appropriate marketing strategies, and determining key campaign logistics (who, when, where); guest speakers and hands-on projects involving social media. Prerequisites: MKTG:3000.
- MKTG:4300 International Marketing** 3 s.h.  
Differences in global environment: how cultural considerations, political, legal, and economic conditions affect market entry strategies and marketing mix decisions; development of marketing plan for non-U.S. environments. Prerequisites: MKTG:3000.
- MKTG:4400 Digital Marketing** 3 s.h.  
Foundational understanding of digital marketing and how successful (and unsuccessful) marketing campaigns use online and mobile platforms; fundamentals of digital marketing including internet marketing strategies, user-generated content, search engine optimization, website design and management, inbound marketing, email marketing, social media marketing, and data analytics. Prerequisites: MKTG:3000.

**MKTG:4405 Marketing Sales and Promotion 3 s.h.**

While there will always be some need for selling, the aim of marketing is to know the customer so well that a product or service sells itself—marketing done well should result in customers ready to buy; starting with the customer and working backwards, students gain insight into common customer pain points, and how companies improve customer experience and produce what customers will purchase; use of case studies to analyze real-world marketing problems; discussion of strategies and tactics to increase sales and compete successfully in today's challenging business environment. Prerequisites: MKTG:3000.

**MKTG:4410 Customer Relationship Management 3 s.h.**

Analytical approaches to customer relationship management; issues, techniques, and terminology associated with database marketing and data mining; analysis of customer databases; assessing lifetime valuation (LTV) of customers, identifying "high potential" customers, estimating return on marketing investment, and building predictive models to estimate the probability of response to a marketing campaign. Prerequisites: MKTG:3000.

**MKTG:4500 Marketing Capstone 3 s.h.**

Marketing problems of organizations; emphasis on marketing manager's role in developing, presenting goal-oriented marketing strategies; application of marketing concepts to real business situations. Prerequisites: MKTG:3000 and MKTG:3050 and MKTG:3100 and MKTG:3200 and (MKTG:3101 or MKTG:3102 or MKTG:3103 or MKTG:3300 or MKTG:3400 or MKTG:3401 or MKTG:3600 or MKTG:3605 or MKTG:3701 or MKTG:4000 or MKTG:4101 or MKTG:4200 or MKTG:4201 or MKTG:4250 or MKTG:4275 or MKTG:4300 or MKTG:4400 or MKTG:4405 or MKTG:4410 or MKTG:4800). Requirements: completion of 90 s.h.

**MKTG:4800 Marketing Consulting Project 3 s.h.**

Experience in planning, designing, carrying out, reporting on a marketing research project for a profit or nonprofit client organization; communication with managers, application of marketing research, meeting deadlines, converting research findings into action recommendations for management. Prerequisites: MKTG:3000 and MKTG:3100.

**MKTG:4999 Honors Thesis in Marketing arr.**

Independent student project directed by faculty or staff advisor; culminates in thesis that conforms to University Honors Program guidelines; may include empirical research, library research, applied projects. Prerequisites: BUS:1999.

**MKTG:7800 Seminar in Consumer Behavior - Ph.D. 3 s.h.**

Key facets of consumer behavior—information processing, perception, memory, learning, attitude formation, attitude change, decision making, emotion; behavioral research methods.

**MKTG:7825 Problems and Solutions in Behavioral Research 3 s.h.**

Cultivation of Ph.D. students' ability to be independent scholars with regard to theory building, testing, and assessing contributions; heavy focus on theory development and construction of nomological nets with an emphasis on behavioral research.

**MKTG:7850 Seminar in Marketing Models - Ph.D. 3 s.h.**

Theoretical, operational models in marketing, with emphasis on recent advances; in-depth criticism of models, participation in model development project.

**MKTG:7950 Directed Readings in Marketing - Ph.D. arr.****MKTG:7975 Thesis in Marketing arr.****MKTG:9000 Directed Readings in Marketing arr.****MKTG:9010 Contemporary Topics in Marketing 1-3 s.h.**

Topics not regularly offered in other courses. Prerequisites: MBA:8110.

**MKTG:9015 Social Media Marketing for Business 3 s.h.**

Fundamentals of social media marketing; establishing clear organizational goals for engaging in social media to market a product or service, developing solid strategies for implementation, and determining other key campaign logistics. Prerequisites: MBA:8110.

**MKTG:9110 Category Management 3 s.h.**

Marketing strategy related to manufacturing product line interactions, retailer product assortment, consumer response; category definition, product line pricing and branding, cross-category promotions, channel coordination, efficient consumer response, loyalty programs, database marketing. Prerequisites: MBA:8110.

**MKTG:9120 Customer Relationship Management 3 s.h.**

Analytical approaches to customer relationship management; issues, techniques and terminology associated with database marketing and data mining; analysis of customer databases; assessing lifetime valuation (LTV) of customers, identifying "high potential" customers, estimating return on marketing investment, building predictive models to estimate the probability of response to a marketing campaign. Prerequisites: MBA:8110.

**MKTG:9150 Brand Management 3 s.h.**

Strategies for building, leveraging, and defending brands; principles of consumer behavior, how they relate to building brand identity and equity; branding of consumer goods and services. Prerequisites: MBA:8110.

**MKTG:9155 Digital Marketing Insights, Strategies, and Applications 3 s.h.**

Introduction and examination of foundational, strategic and operational concepts of digital marketing through a combination of interactive lectures, case discussion, and project work; materials taught from a business-to-business (B2B) and business-to-consumer (B2C) perspective and considers marketplace dynamics, emerging technology, consumer insights, and data driven digital channels that inform a corporate vision for digital, a go-to-market strategy, and executional roadmap; introduction and knowledge advancement of tools and levers of digital marketing, followed by application to real world scenarios. Prerequisites: MBA:8110.

**MKTG:9165 Digital Marketing Analytics 3 s.h.**

Comprehensive introduction to current analytic tools and technologies used in digital marketing; hands-on analyses with JMP, a state-of-the-art visually stunning data analysis software; strategic applications of marketing analytics to data from B2C and B2B cases. Prerequisites: (MBA:8150 or BAIS:9100) and MBA:8110.

**MKTG:9170 Business to Business Marketing 3 s.h.**

Industrial buyer behavior, buyer-seller relationships, interactive product policy and market segmentation, distribution and selling systems; skill development in market strategy formulation for industrial products and services, and in solving problems and making decisions about industrial marketing. Prerequisites: MBA:8110.

**MKTG:9190 International Marketing 3 s.h.**

Domestic versus international perspective; identification and evaluation of opportunities and risks in non-U.S. markets; research problems in global markets; effects of international organizations, foreign exchange, macroeconomic policies, local law, and cultural differences on consumer behavior and marketing decisions; multinational versus global marketing strategies (entry, product adaptation, channel logistics, pricing, promotion); emphasis on practical applications. Prerequisites: MBA:8110.

**MKTG:9200 Field Studies in Marketing 3 s.h.**

Experience in planning, designing, carrying out, reporting on a marketing research project for a profit or nonprofit client organization; communication with managers, application of marketing research, meeting deadlines, converting research findings into action recommendations for management. Prerequisites: MBA:8110 and MBA:8150.

**MKTG:9300 Applied Marketing Research 2-3 s.h.**

Research design, survey design, sampling, data analysis, qualitative research methods, research project management. Prerequisites: MBA:8110 and MBA:8150.

**MKTG:9310 Marketing Analytics 2-3 s.h.**

Quantitative tools to support marketing planning decisions, including forecasting, elasticity analysis, conjoint analysis, and customer LTV; analysis of syndicated data. Prerequisites: BAIS:9100 or MBA:8150.

**MKTG:9320 Strategic Brand Positioning 2-3 s.h.**

Define market boundaries; use customer and competitor analyses to create sustainable market positions; create and manage brand identities; brand architecture, brand equity measurement. Prerequisites: MBA:8110.

**MKTG:9330 Product and Pricing Management 2-3 s.h.**

Create and capture value through product and service design, including stage-gate evaluation models; implement pricing strategy for new products and existing product lines. Prerequisites: MBA:8110.

**MKTG:9340 Customer Analysis 2-3 s.h.**

Use customer insights to support successful marketing programs; organizational, individual, and joint decision making; post sale satisfaction behaviors. Prerequisites: MBA:8110.

**MKTG:9350 Marketing Communication and Promotions 2-3 s.h.**

Develop effective communication programs for business and consumer markets; manage agency relationships; integrate media/vehicle platforms; track and evaluate investments in communications and promotions. Prerequisites: MBA:8110.

**MKTG:9360 Category Management 2-3 s.h.**

Manufacturer-retailer relationships, product line planning, efficient consumer response, cross-category marketing strategies, competition between national brands and store labels, retailer positioning, customer loyalty.

# Marketing, B.B.A.

Several decades ago, the study of marketing dealt almost exclusively with business activities involved in the flow of goods from production to consumption. Today it includes principles that are more widely applicable; they are as relevant to the success of arts, sports, and social programs as they are to firms selling goods and services. A major in marketing includes study in the behavioral sciences, communications, statistical analysis, and computer methods as well as marketing decision making.

## Requirements

The Bachelor of Business Administration with a major in marketing requires a minimum of 120 s.h., including 22 s.h. of work for the major. Students must have a cumulative g.p.a. of at least 2.00 in all college coursework attempted, all college coursework attempted in business, all college coursework attempted in the major, all coursework attempted at the University of Iowa, all business coursework attempted at the University of Iowa, and all coursework in the major attempted at the University of Iowa.

The program is designed to provide undergraduate students with an understanding of the business, social, and economic roles of marketing and to prepare them for marketing careers.

The B.B.A. with a major in marketing requires the following coursework. To view the common B.B.A. requirements, see the Bachelor of Business Administration [p. 1217] in the Catalog.

Code	Title	Hours
	Marketing Common Required Courses	10
	Marketing Elective Courses	12
<b>Total Hours</b>		<b>22</b>

Some of these courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course.

## Marketing Common Required Courses

Code	Title	Hours
All of these:		
MKTG:3050	Professional Preparation in Marketing	1
MKTG:3100	Marketing Research	3
MKTG:3200	Consumer Behavior	3
MKTG:4500	Marketing Capstone (must be taken at the University of Iowa)	3

## Marketing Elective Courses

Code	Title	Hours
Four of these:		
MKTG:3101	Marketing Metrics	3
MKTG:3102	Marketing Analytics	3
MKTG:3103	Advanced Marketing Research	3
MKTG:3300	Web Business Strategy	3
MKTG:3400	Retail Strategies	3
MKTG:3401	Merchandise Management	3

MKTG:3600	Product and Pricing	3
MKTG:3605	Strategic Brand Positioning	3
MKTG:3701	Marketing Institute Field Studies	2
MKTG:4000	Contemporary Topics in Marketing	3
MKTG:4101	Integrated Marketing Communications	3
MKTG:4200	Sales Management	3
MKTG:4201	Professional Selling	3
MKTG:4250	Marketing and Sustainability	3
MKTG:4300	International Marketing	3
MKTG:4400	Digital Marketing	3
MKTG:4405	Marketing Sales and Promotion	3
MKTG:4410	Customer Relationship Management	3
MKTG:4800	Marketing Consulting Project	3

## Career Advancement

The Bachelor of Business Administration (B.B.A.) program in marketing prepares students for positions in sales, market research, retailing, purchasing, or advertising. Employment opportunities exist for positions as market analysts, merchandise managers, buyers, purchasing agents, advertising managers, brand managers, consultants, and sales representatives in a variety of for-profit and nonprofit organizations.

Over 90 percent of students reported that they found permanent employment, were accepted to graduate school, or were not seeking employment within six months of graduation.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs. For more information about careers, visit the Pomerantz Career Center website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Marketing, B.B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Students are required to complete 52 s.h. of non-business coursework. Courses with a prefix of ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, and MKTG will not count towards non-business hours. Check degree audit for non-business hours or confer with academic advisor.

Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. World Language counts as non-business coursework.

To fulfill the Tippie RISE experiential learning requirement, complete an approved course in at least one of the following categories: research with faculty, internship course, study abroad, experiential course.<sup>a</sup>

Students must satisfy the Tippie College of Business residence requirement: 45 s.h. of UI coursework after admission to Tippie.

<b>Hours</b>		<b>0-3</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1350	Quantitative Reasoning for Business <sup>b</sup>	4
RHET:1030	Rhetoric	4
GE: Historical Perspectives <sup>c</sup>		3
GE: Social Sciences <sup>c</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
BAIS:1500	Business Computing Essentials	2
ECON:1100	Principles of Microeconomics	4
STAT:1030	Statistics for Business	4
ENGL:1200	The Interpretation of Literature	3
GE: Diversity and Inclusion <sup>c</sup>		3
<b>Hours</b>		<b>16</b>
<b>Second Year</b>		
<b>Fall</b>		
ACCT:2100	Introduction to Financial Accounting	3
BUS:2200	Foundations for Success in Business <sup>d</sup>	1
ECON:1200	Principles of Macroeconomics	4
MGMT:2000	Introduction to Law	3
GE: Natural Sciences without Lab <sup>c</sup>		3
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
ACCT:2200	Managerial Accounting	3
BAIS:2800	Foundations of Business Analytics	3
MKTG:3000	Introduction to Marketing Strategy	3
GE: International and Global Issues <sup>c</sup>		3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>15</b>
<b>Third Year</b>		
<b>Fall</b>		
BUS:3000	Business Communication and Protocol <sup>e</sup>	3
MKTG:3050	Professional Preparation in Marketing	1
MKTG:3100	Marketing Research <sup>f</sup>	3
MKTG:3200	Consumer Behavior	3
GE: Values and Culture <sup>c</sup>		3
Minor, certificate, or non-business elective		2
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
BAIS:3000	Operations Management	2
BAIS:3005	Information Systems	2
MGMT:2100	Introduction to Management	3
Major: Marketing elective <sup>g</sup>		3

Major: Marketing elective <sup>g</sup>		3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>16</b>
<b>Fourth Year</b>		
<b>Fall</b>		
FIN:3000	Introductory Financial Management	3
Major: Marketing elective <sup>g</sup>		3
Major: Marketing elective <sup>g</sup>		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
MKTG:4500	Marketing Capstone <sup>h, i</sup>	3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		3
Minor, certificate, or non-business elective		2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		
<b>Hours</b>		<b>14</b>
<b>Total Hours</b>		<b>121-124</b>

a See degree audit for course options.

b Enrollment in math courses requires completion of a placement exam.

c GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d Complete BUS:2200 by the end of the second year, before enrolling in MKTG:3050.

e Must be admitted to Tippie to enroll in BUS:3000. Generally completed during the second year, but should be taken no later than the third year.

f BAIS:2800 and MKTG:3000 are required prerequisite courses.

g Select from list of approved courses in the General Catalog or on degree audit.

h MKTG:3000, MKTG:3050, MKTG:3100, MKTG:3200, and one additional MKTG course numbered above 3100 are required prerequisite courses.

i Must be taken at the University of Iowa.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Doctor of Philosophy

Graduate students in marketing may earn a Doctor of Philosophy in business administration. For a description of the Ph.D. program and requirements, see the Ph.D. in business administration [p. 1243] in the Catalog and visit the Department of Marketing website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Learning Outcomes

- To demonstrate proficiency and knowledge in the specialization discipline, students will demonstrate expertise in reading and interpreting academic research articles in their specialized discipline. They will be knowledgeable in the major theoretical perspectives and prior research findings in their area and be able to integrate prior research from various streams of literature.
- To demonstrate the ability to conduct independent, original research that leads to publications, students will be able to identify important research questions, provide theory-based reasoning to develop original hypotheses, execute an appropriate research design, and summarize their efforts in a working paper. This includes being able to read and summarize existing research into their paper and understanding the prior literature in a variety of substantive areas, paradigms, and methodologies.
- To be effective teachers in their disciplines, students will demonstrate proficiency as instructors in courses in their specialized discipline. This includes preparing course syllabi, giving lectures, writing assignments and exams, and evaluating students on the various deliverables.
- To demonstrate effective communications skills, students will be effective at communicating ideas in academic writing and how these ideas relate to each other within the context of an academic paper. This includes the ability to establish a position, show why that position matters, and situate that position within a context that is determined by the appropriate audience. International students will demonstrate the ability to effectively lecture and communicate in English.



# Master of Business Administration Program

## Associate Dean, Graduate Management Programs

- Jennifer J. Blackhurst

## Assistant Deans

- David J. Deyak, Jill J. Tomkins

**Professional degree:** M.B.A.

**Professional certificates:** business fundamentals; corporate finance, finance; financial decision-making; innovation; investment management; leadership; marketing; responsible resource management

**Faculty:** <https://tippie.uiowa.edu/people>

**Website:** <https://tippie.uiowa.edu/iowa-mba>

The Master of Business Administration (M.B.A.) program provides students with a foundation for future growth and flexibility in professional management. The program, which is fully accredited by AACSB International—the Association to Advance Collegiate Schools of Business, enables students to build broad-based professional portfolios of analytical skills, knowledge, leadership, and applied experiences. The curriculum is rigorous, yet learning takes place in a collaborative environment that builds teamwork skills and encourages independent problem solving.

Students in Iowa's M.B.A. programs represent a variety of backgrounds, undergraduate majors, and professional experience. The curriculum is designed for college graduates in any field; previous business coursework is not required. However, full-time work experience is required for admission.

The Departments of Accounting, Business Analytics, Economics, Finance, Management and Entrepreneurship, and Marketing all contribute to the Master of Business Administration program through faculty participation and coursework.

## Programs

## Professional Programs of Study

### Major

- Master of Business Administration [p. 1315]

### Certificates

- Certificate in Business Fundamentals [p. 1319]
- Certificate in Corporate Finance [p. 1320]
- Certificate in Finance [p. 1321]
- Certificate in Financial Decision-Making [p. 1322]
- Certificate in Innovation [p. 1323]
- Certificate in Investment Management [p. 1324]
- Certificate in Leadership [p. 1325]
- Certificate in Marketing [p. 1326]
- Certificate in Responsible Resource Management [p. 1327]

## Courses

See course lists in the individual Tippie College of Business departmental sections of the Catalog for descriptions of M.B.A. electives.

## Graduate Management Programs (M.B.A. Program) Courses

**MBA:8110 Marketing Management** **2-3 s.h.**  
Concepts, principles, models of marketing management; focus on strategic planning, management decision making, and implementation of marketing programs.

**MBA:8120 Management in Organizations** **2-3 s.h.**  
How to explain, predict, and influence behavior in organizations; decision making, leadership, communication, group skills in management positions; motivation, leadership, teams, organizational culture, organizational design, individual differences, organizational change.

**MBA:8130 Business Communication** **1-3 s.h.**  
Effective communication to become a successful business professional and leader; strengthen ability to speak and write confidently, competently, and effectively, regardless of venue; varied team and individual presentation coaching, applied exercises.

**MBA:8140 Corporate Financial Reporting** **2-3 s.h.**  
Contemporary financial reporting practices in the United States; how alternative accounting treatments affect the usefulness of financial information in applied decision settings.

**MBA:8150 Data and Decisions** **2-3 s.h.**  
Introduction to business analytics; utilizing Excel to apply descriptive and predictive analytical tools to solve practical business problems using real world data; dealing with uncertainty in decision making; formal probability concepts and statistical methods for describing variability (decision trees, random variables, hypothesis testing); application of techniques (linear regression, Monte Carlo simulation, linear optimization) to model, explain, and predict for operational, tactical, and strategic decisions.

**MBA:8160 Managerial Economics** **1-3 s.h.**  
Models of consumer and firm behavior with applications; market equilibrium and structure; pricing decisions.

**MBA:8170 International Economic Environment of the Firm** **2-3 s.h.**  
Basic determinants of aggregate output, employment, wages, unemployment, consumption, investment, international trade flows, interest rates, exchange rates, prices and inflation in open economies; sources and nature of economic growth; effects of domestic and foreign monetary, fiscal policies; effects of trade, exchange rate policies.

**MBA:8180 Managerial Finance** **2-3 s.h.**  
Time value of money, applications of present value techniques; stock and bond valuation, capital budgeting, cost of capital calculation, portfolio formation and efficient market analysis, financial statement analysis, pro forma analysis, hedging financial risks. Recommendations: for off-campus students—MBA:8140 or an undergraduate-level financial accounting or finance course.

**MBA:8230 Introduction to Leadership** **1-2 s.h.**  
Major theories; practical development of leadership and managerial skills to enhance individual and organizational effectiveness.

**MBA:8240 Operations and Supply Chain 2-3 s.h.**

Planning and decision-making activities for managing an organization's operations in both manufacturing and services, with an emphasis on production and service delivery strategy, process design, capacity planning, process analytics, queueing, and an introduction to supply chain management including supply chain design and coordination.

**MBA:8300 Foundations in Strategy 2-3 s.h.**

Key elements of domestic competitive and corporate strategy; industry analysis (understanding the importance of industry for firm performance); strategies for achieving competitive advantage (cost focus, differentiation focus); corporate strategy (corporate scope, horizontal diversification, vertical integration); topics of global strategy, which may include challenges of attaining competitive advantage in foreign markets, such as cross-national distance and liabilities of foreignness, as well as international strategies (replication strategy, adaptation strategy, arbitrage strategy).

**MBA:8310 Business Integration 1-3 s.h.**

Student teams run an operational business simulation, conduct organizational/industry analysis, assess market opportunities, define strategic direction, compete for company profitability and market share. Prerequisites: 5 of the following are required: MBA:8110, MBA:8140, MBA:8150, MBA:8180, MBA:8240, MBA:8300. Recommendations: completion of all six prerequisites.

**MBA:8330 Seminar in Strategic Management I 1-3 s.h.**

Introduction to strategic management; the role of marketing, operations, and finance in strategic planning; case studies.

**MBA:8400 M.B.A. Internship 0 s.h.****MBA:8500 Seminar in International Business 0-6 s.h.**

Issues and challenges facing organizations doing business in international markets; social, economic, political factors, business policies and customs in the global environment; may include travel, study abroad. Requirements: M.B.A. enrollment.

**MBA:9120 Introduction to Leadership 1 s.h.**

Major theories; practical development of leadership and managerial skills to enhance individual and organizational effectiveness.

# Master of Business Administration, M.B.A.

The Master of Business Administration includes several programs: the professional M.B.A. (Iowa M.B.A.), executive M.B.A., and the M.B.A. in Italy (CIMBA M.B.A.). Students in the professional M.B.A. program have the opportunity to enroll in combined degree programs in business analytics, law, medicine, and social work, or to earn the Certificate in Healthcare Management. See "Combined Programs" under the M.B.A. Professional Program [p. 1315] in this section of the Catalog.

## Learning Outcomes

Graduates will:

- demonstrate the ability to be effective team members and leaders in a diverse and complex world,
- grow their human capital through the attainment of relevant business knowledge and skills,
- be able to generate integrative solutions to business problems that impact organizations and community,
- develop global business perspectives, and
- understand and demonstrate the importance of acting with integrity and social responsibility.

### M.B.A. Executive Program

The M.B.A. Executive Program (EMBA program) requires 46 s.h. of coursework. Students must maintain a program g.p.a. of at least 2.75. The program is conducted at the Pomerantz Center on the University's Iowa City campus and at the Pappajohn Education Center in Des Moines, Iowa. See program locations on the Tippie College of Business website.

The program spans 16 months—three semesters and one summer. The program begins in mid-August with a five-day residency. It continues with in-person classes Friday and Saturday once a month, alternating with a monthly synchronous online Saturday session. Assignments between class sessions may include asynchronous online instruction, readings, cases, and individual and group projects. A second five-day residency is held at the beginning of the second year. Students have a four-week winter break.

Each entering class progresses through the program together, working on group projects in teams of four to six members. The curriculum includes an international business seminar, and students have access to executive coaching as part of their participation in the program.

The M.B.A. Executive Program requires the following coursework.

### Core Courses

Code	Title	Hours
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8140	Corporate Financial Reporting	3
MBA:8150	Data and Decisions	3
MBA:8160	Managerial Economics	3
MBA:8180	Managerial Finance	3

MBA:8240	Operations and Supply Chain	3
MBA:8300	Foundations in Strategy	3
MBA:8310	Business Integration	2
MBA:8330	Seminar in Strategic Management I	1
MBA:8500	Seminar in International Business	2

**Total Hours** **29**

## Additional Required EMBA Courses

Students complete the remainder of their program with additional required courses. Courses are subject to change, so students should consult their advisor. A representative list follows.

Code	Title	Hours
ACCT:9020	Strategic Cost Analysis	3
BAIS:9300	Innovations in Technology	2
FIN:9300	Corporate Investment and Financing Decisions	3
MGMT:9110	Dynamics of Negotiations	3
MGMT:9210	Law and Ethics	3
MGMT:9270	Human Resource Management	3

## Admission

Admission is limited to experienced managers and executives who want to broaden their management skills without interrupting their professional careers. Applicants typically have seven or more years of postgraduate work experience. Previous academic work in business is not required.

### M.B.A. Professional Program

The Professional M.B.A. Program (Iowa M.B.A.) requires 45 s.h. of credit, including a business core of nine courses plus six electives. Students must maintain a program g.p.a. of at least 2.75. The program is tailored for working professionals building on the synergies of concurrent work and learning. The program prepares graduates to be effective managers and leaders in the global marketplace. The curriculum is designed for students with varied backgrounds, undergraduate majors, and professional experience. Previous coursework in business is not required.

Courses are offered each semester during evening hours online and at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

## Requirements

The core develops competency in general management skills and key functional business areas. The electives contribute to the development of an area of expertise and foster a deeper understanding of management and business practices. Electives are offered in analytics, entrepreneurship, finance, marketing, accounting, leadership, and management. Students may take part in global learning opportunities in international locations to increase their understanding of the

global business environment and its implications for business conduct and decision making.

Students may earn a professional Certificate in Finance [p. 1321], Innovation [p. 1323], Leadership [p. 1325], or Marketing [p. 1326] while they fulfill requirements for the M.B.A. without taking courses beyond the 45 s.h. required for the degree. They also may earn the Certificate in Business Analytics [p. 1241] while they fulfill requirements for the M.B.A. degree. Certificate courses are regularly offered online and occasionally at the two program locations in Cedar Rapids and Des Moines.

Students can complete the degree requirements in as few as five semesters or extend their study to as long as 10 years. Most students earn the M.B.A. in about three years, taking two courses each fall and spring semester and one course during the summer.

Code	Title	Hours
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8140	Corporate Financial Reporting	3
MBA:8150 or BAIS:9100	Data and Decisions	3
MBA:8160	Managerial Economics	3
MBA:8180	Managerial Finance	3
MBA:8240	Operations and Supply Chain	3
MBA:8300	Foundations in Strategy	3
MBA:8310	Business Integration	3
Six business elective courses		18
<b>Total Hours</b>		<b>45</b>

## Business Electives

The list below includes all approved business electives. Not all courses are offered on a regular basis. Students should consult MyUI for course availability or discuss course offerings with their advisor.

Code	Title	Hours
<b>Graduate Management Programs (M.B.A. Program)</b>		
MBA:8130	Business Communication	3
MBA:8500	Seminar in International Business	3
<b>Accounting</b>		
ACCT:9020	Strategic Cost Analysis	3
ACCT:9040	Financial Statement Analysis and Forecasting	3
<b>Business Analytics</b>		
BAIS:6040	Data Programming in Python	3
BAIS:6050	Data Management and Visual Analytics	3
BAIS:6060	Data Programming in R	3
BAIS:6070	Data Science	3
BAIS:6100	Text Analytics	3
BAIS:6105	Social Analytics	3
BAIS:6110	Big Data Management and Analytics	3
BAIS:6130	Applied Optimization	3

BAIS:6140	Information Visualization	3
BAIS:6150	Financial Analytics	3
BAIS:6160	Big Data Analytics	3
BAIS:6180	Healthcare Analytics	3
BAIS:6190	Forecasting	3
BAIS:6210	Data Leadership and Management	3
BAIS:6230	People Analytics	3
BAIS:6280	Cybersecurity	3
BAIS:7900	Special Topics in Business Analytics	3
BAIS:9010	Contemporary Topics in Analytics	3
BAIS:9110	Advanced Analytics	3
BAIS:9120	Managing the Supply Chain	3
BAIS:9130	Lean Process Improvement	3
BAIS:9140	Agile Project Management	3
BAIS:9160	Supply Chain Analytics	3
BAIS:9300	Innovations in Technology	3

### Entrepreneurial Management

ENTR:9100	Entrepreneurship and Innovation	3
ENTR:9200	Entrepreneurial Finance	3
ENTR:9450	Strategic Management of Technology and Innovation	3
ENTR:9500	Managing the Growth Business	3
ENTR:9700	Entrepreneurship: Business Consulting	3

### Finance

FIN:9010	Contemporary Topics in Finance	3
FIN:9140	Enterprise Risk Management	3
FIN:9150	Financial Modeling and Firm Valuation	3
FIN:9200	Portfolio Management	3
FIN:9210	Derivatives	3
FIN:9220	Fixed Income Securities	3
FIN:9230	Real Estate Finance and Investments	3
FIN:9240	International Finance	3
FIN:9270	Security Analysis	3
FIN:9290	Alternative Investments and Portfolio Strategies	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9310	Corporate Financial Strategy	3
FIN:9330	Investment Banking	3
FIN:9350	Wealth Management	3

### Management and Entrepreneurship

MGMT:7900	Contemporary Topics in Management and Organizations	3
MGMT:9090	Influence and Constructive Persuasion	3
MGMT:9091	Corporate Social Responsibility and Sustainability	3
MGMT:9092	Effective Managerial Communication	3

MGMT:9110	Dynamics of Negotiations	3
MGMT:9120	Leadership and Personal Development	3
MGMT:9130	Strategic Management of Change	3
MGMT:9150	Nonprofit Organizational Effectiveness I	3
MGMT:9160	Nonprofit Organizational Effectiveness II	3
MGMT:9185	Project Management	3
MGMT:9210	Law and Ethics	3
MGMT:9220	Maximizing Team Performance	3
MGMT:9230	Managing and Preventing Conflict	3
MGMT:9240	Inclusive Leadership	3
MGMT:9250	Managing Employee Performance	3
MGMT:9260	Strategic Employee Development	3
MGMT:9270	Human Resource Management	3
MGMT:9290	Global Business Management	3
<b>Marketing</b>		
MKTG:9010	Contemporary Topics in Marketing	3
MKTG:9015	Social Media Marketing for Business	3
MKTG:9120	Customer Relationship Management	3
MKTG:9150	Brand Management	3
MKTG:9155	Digital Marketing Insights, Strategies, and Applications	3
MKTG:9165	Digital Marketing Analytics	3
MKTG:9170	Business to Business Marketing	3
MKTG:9190	International Marketing	3
MKTG:9300	Applied Marketing Research	3
MKTG:9310	Marketing Analytics	3
MKTG:9320	Strategic Brand Positioning	3
MKTG:9330	Product and Pricing Management	3
MKTG:9340	Customer Analysis	3
MKTG:9350	Marketing Communication and Promotions	3
MKTG:9360	Category Management	3

## Admission

The M.B.A. program admits students for entry in summer, fall, or spring; applications are accepted throughout the year. Admission decisions are based on completed application materials, including quality of work experience, undergraduate grade-point average, and optional scores on the Graduate Management Admission Test (GMAT) or Graduate Record Examination (GRE) General Test. While not required for admission purposes, applicants can submit GMAT/GRE scores to strengthen an application and those scores may be used in consideration for scholarship awards. View the admission guidelines on the Tippie College of Business website.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of TOEFL, the program accepts International English Testing System (IELTS) scores. For information about registering for TOEFL or IELTS and reporting scores to the University, visit English Requirements for M.B.A. Admission on the Office of Admissions website.

Admission decisions are made before registration begins for completed applications received by the priority application deadline. Admitted applicants who have met the priority application deadline may request registration for classes on the first registration date. See the admissions website for priority and final application deadlines.

## Combined Programs

Combined degree programs allow students to pursue two degrees simultaneously, earning both more quickly than they would if they pursued each degree separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

### M.B.A./J.D.

The M.B.A. Program collaborates with the College of Law to offer the combined Master of Business Administration (Professional M.B.A. Program)/Juris Doctor degree program. For more information about the law degree, see the Juris Doctor, J.D. [p. 1821] (College of Law) section of the Catalog.

### M.B.A./M.D.

The M.B.A. Program collaborates with the Carver College of Medicine to offer the combined Master of Business Administration (Professional M.B.A. Program)/Doctor of Medicine degree program. For more information about the medicine degree, see the Doctor of Medicine, M.D. [p. 1869] (Carver College of Medicine) section of the Catalog.

### M.B.A./M.S. in Business Analytics (Professional Subprogram)

The M.B.A. Program along with the Department of Business Analytics offers a combined Master of Business Administration (Professional M.B.A. Program.)/Master of Science in business analytics (professional subprogram) degree option. Students complete 33 s.h. of M.B.A. credit paired with 27 s.h. of business analytics credit for a total of at least 60 s.h. For more information, see the M.S. in business analytics (professional) [p. 1237] in the Tippie College of Business section of the Catalog or contact the Professional M.B.A. Program.

### M.B.A./M.S.W.

The M.B.A. Program collaborates with the School of Social Work to offer the combined Master of Business Administration (Professional M.B.A. Program)/Master of Social Work degree program. For more information, see the Master of Social Work, M.S.W. [p. 1061] (College of Liberal Arts and Sciences) section of the Catalog or contact the Professional M.B.A. Program.

### M.B.A./Certificate in Healthcare Management

The M.B.A. Program collaborates with the College of Public Health to offer a combined Master of Business Administration (Professional M.B.A. Program)/Certificate in Healthcare Management. M.B.A. students complete four specified

healthcare management courses (12 s.h.) in place of four M.B.A. electives to earn the certificate. For more information, see the Certificate in Healthcare Management [p. 2138] (College of Public Health) section of the Catalog or contact the Professional M.B.A. Program.

## M.B.A. in Italy

The M.B.A. program in Italy (CIMBA M.B.A.) requires 52-55 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 2.75. The 11-month full-time program is held primarily at the CIMBA campus in Paderno del Grappa, Italy, but the final course is completed on the University of Iowa campus in Iowa City. A two-year part-time program also is available for working professionals living in Italy.

The program focuses on personal leadership development and emphasizes strategic management, consulting, and international business. Students apply what they learn through a consulting project with local and international companies. In addition to the M.B.A. degree, students earn certificates through Kepner-Tregoe in problem solving and decision making, and in project management. The program draws its faculty from the University of Iowa and from institutions across the United States and Europe.

The full-time program admits students only for fall semester entry. Part-time applicants typically start in the fall but may be permitted to begin the program at other times.

The M.B.A. CIMBA program requires the following coursework.

Code	Title	Hours
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8140	Corporate Financial Reporting	3
MBA:8150	Data and Decisions	3
MBA:8160	Managerial Economics	3
MBA:8170	International Economic Environment of the Firm	2
MBA:8180	Managerial Finance	3
MBA:8240	Operations and Supply Chain	3
MBA:8300	Foundations in Strategy	3
ACCT:9020	Strategic Cost Analysis	3
BAIS:9110	Advanced Analytics	2-3
BAIS:9120	Managing the Supply Chain	2-3
BAIS:9220	Introduction to Information Systems	3
ENTR:9100	Entrepreneurship and Innovation	3
FIN:9300	Corporate Investment and Financing Decisions	3
MGMT:9210	Law and Ethics	2
MGMT:9120	Leadership and Personal Development	3

Elective coursework to complete degree requirements can vary each year in the Italy M.B.A. program; students should consult their advisor

## Admission

Admission decisions are based on an applicant's completed application, which includes a résumé, academic qualifications, essays, an interview demonstrating experience and English proficiency, and optional scores on the Graduate Management Admission Test (GMAT) or Graduate Record Exam (GRE) General Test. Applicants are recommended to have at least two years of professional work experience.

# Business Fundamentals, Professional Certificate

## Requirements

The professional Certificate in Business Fundamentals requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate is open to individuals with a desire to complete the certificate to build core business skills. Students who have completed the business fundamentals certificate may use the certificate courses to fulfill degree requirements once admitted to the Professional M.B.A. Program.

The certificate is designed to introduce students to the core principles of business. Coursework covers select disciplines within business—accounting, analytics, finance, managing organizations, marketing, and strategy. Students gain knowledge and develop skills that will immediately strengthen their performance as employees and managers. The certificate is comprised of Professional M.B.A. Program courses, allowing students to benefit from the same coursework and faculty members as M.B.A. students.

Certificate courses are regularly offered online and may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

The Certificate in Business Fundamentals requires the following coursework.

Code	Title	Hours
All of these:		
MBA:8110	Marketing Management	3
MBA:8120	Management in Organizations	3
MBA:8140	Corporate Financial Reporting	3
MBA:8180	Managerial Finance	3
One of these:		
MBA:8150 or BAIS:9100	Data and Decisions	3
MBA:8300	Foundations in Strategy	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Business Fundamentals concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work out combined program details. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined program.

## Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of the TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

# Corporate Finance, Professional Certificate

## Requirements

The professional Certificate in Corporate Finance requires 12 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate is open to current Professional M.B.A. Program students and to individuals with a desire to complete the certificate to build their corporate finance knowledge and skills. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional coursework.

Certificate courses are regularly offered online and some may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

The Certificate in Corporate Finance requires the following coursework.

Code	Title	Hours
All of these:		
MBA:8140	Corporate Financial Reporting	3
MBA:8180	Managerial Finance	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9310	Corporate Financial Strategy	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Corporate Finance concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work out combined program details. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of the TOEFL, the certificate program

accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.



# Finance, Professional Certificate

## Requirements

The professional Certificate in Finance requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate is open to individuals with a desire to complete the certificate to build their financial skills, and to current Professional M.B.A. Program students. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional coursework.

Certificate courses are regularly offered online and may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

The certificate is ideal for students who wish to gain specialized knowledge of financial concepts. Students can select courses to focus their study in specific areas of finance such as corporate finance, investments, portfolio management, and wealth management.

The Certificate in Finance requires the following coursework.

Code	Title	Hours
This course:		
MBA:8180	Managerial Finance	3
Four of these:		
BAIS:6150	Financial Analytics	3
FIN:9010	Contemporary Topics in Finance	3
FIN:9140	Enterprise Risk Management	3
FIN:9150	Financial Modeling and Firm Valuation	3
FIN:9200	Portfolio Management	3
FIN:9220	Fixed Income Securities	3
FIN:9230	Real Estate Finance and Investments	3
FIN:9240	International Finance	3
FIN:9270	Security Analysis	3
FIN:9290	Alternative Investments and Portfolio Strategies	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9310	Corporate Financial Strategy	3
FIN:9350	Wealth Management	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Finance concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program,

students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work out combined program details. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of the TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

# Financial Decision-Making, Professional Certificate

## Requirements

The professional Certificate in Financial Decision-Making requires 12 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate provides students with tools to evaluate financial information and make mission driven management decisions. Students will learn to analyze, identify, and evaluate problems and solutions. This certificate is designed for managers involved in financial forecasting and investing or those looking to pivot into that area.

The certificate is open to current Professional M.B.A. Program students and to individuals with a desire to complete the certificate to build their financial decision-making skills and knowledge. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional coursework.

Certificate courses are regularly offered online and some may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

The Certificate in Financial Decision-Making requires the following coursework.

Code	Title	Hours
All of these:		
MBA:8140	Corporate Financial Reporting	3
MBA:8150	Data and Decisions	3
ACCT:9040	Financial Statement Analysis and Forecasting	3
One of these:		
BAIS:6150	Financial Analytics	3
BAIS:6190	Forecasting	3
FIN:9300	Corporate Investment and Financing Decisions	3
FIN:9310	Corporate Financial Strategy	3
MGMT:9185	Project Management	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Financial Decision-Making concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work out combined program details. Separate application to each

degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of the TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

# Innovation, Professional Certificate

## Requirements

The professional Certificate in Innovation requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate provides students with skills that help them generate innovative solutions to problems, advance innovation within organizations, and develop new ventures. Innovation requires both an entrepreneurial mindset and an understanding of collaborative processes. Students learn to understand problems, identify new market opportunities, and develop solutions. They learn how organizations can become more agile and encourage innovation throughout the organization. Students also learn how to start and grow a new venture around an innovative idea. The certificate program of study leverages the strengths of the Department of Management and Entrepreneurship and the John Pappajohn Entrepreneurship Center (Iowa JPEC).

Certificate courses are regularly offered online and may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

The Certificate in Innovation requires the following coursework.

Code	Title	Hours
All of these:		
ENTR:9100	Entrepreneurship and Innovation	3
ENTR:9450	Strategic Management of Technology and Innovation	3
ENTR:9500	Managing the Growth Business	3
One of these:		
BAIS:9140	Agile Project Management	3
ENTR:9200	Entrepreneurial Finance	3
MGMT:9185	Project Management	3
One of these:		
MGMT:9110	Dynamics of Negotiations	3
MGMT:9120	Leadership and Personal Development	3
MGMT:9220	Maximizing Team Performance	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Innovation concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work

out combined program details. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Admission decisions are based on completed application materials, including quality and quantity of work experience and undergraduate or graduate academic performance. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of TOEFL, the program accepts International English Testing System (IELTS) scores. For information about registering for TOEFL or IELTS and reporting scores to the University, see the English language requirement on the Tippie College of Business Iowa M.B.A. Admissions website.

Students are admitted during the summer, fall, or spring. Applications are accepted throughout the year.

# Investment Management, Professional Certificate

## Requirements

The professional Certificate in Investment Management requires 12 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate is open to current Professional M.B.A. Program students and to individuals with a desire to complete the certificate to build their investment management knowledge and skills. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional coursework.

Certificate courses are regularly offered online and some may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

The Certificate in Investment Management requires the following coursework.

Code	Title	Hours
Both of these:		
MBA:8180	Managerial Finance	3
FIN:9200	Portfolio Management	3
Two of these:		
FIN:9150	Financial Modeling and Firm Valuation	3
FIN:9230	Real Estate Finance and Investments	3
FIN:9350	Wealth Management	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Investment Management concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work out combined program details. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of the TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

# Leadership, Professional Certificate

## Requirements

The professional Certificate in Leadership requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate is open to individuals with a desire to complete the certificate to build their skills, and to current Professional M.B.A. Program students. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional coursework.

Certificate courses are regularly offered online and may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

Modern-day leadership is about facilitating change, maximizing team and employee performance, influencing others, and leading companies and people to greatness. Students who pursue the leadership certificate learn the skills to effectively lead others. The certificate is appropriate for working professionals in all business functions and industries.

The Certificate in Leadership requires the following coursework.

Code	Title	Hours
Both of these:		
MBA:8120	Management in Organizations	3
MGMT:9120	Leadership and Personal Development	3
Three of these:		
MBA:8130	Business Communication	3
ENTR:9100	Entrepreneurship and Innovation	3
ENTR:9400	Evaluating Innovation Opportunities	3
ENTR:9500	Managing the Growth Business	3
ENTR:9700	Entrepreneurship: Business Consulting	3
MGMT:9090	Influence and Constructive Persuasion	3
MGMT:9091	Corporate Social Responsibility and Sustainability	3
MGMT:9092	Effective Managerial Communication	3
MGMT:9110	Dynamics of Negotiations	3
MGMT:9130	Strategic Management of Change	3
MGMT:9185	Project Management	3
MGMT:9210	Law and Ethics	3
MGMT:9220	Maximizing Team Performance	3

MGMT:9230	Managing and Preventing Conflict	3
MGMT:9240	Inclusive Leadership	3
MGMT:9250	Managing Employee Performance	3
MGMT:9260	Strategic Employee Development	3
MGMT:9270	Human Resource Management	3
MGMT:9290	Global Business Management	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Leadership concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work out combined program details. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of the TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

# Marketing, Professional Certificate

## Requirements

The professional Certificate in Marketing requires 15 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate is open to individuals with a desire to complete the certificate to build their skills, and to current Professional M.B.A. Program students. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional coursework.

Certificate courses are regularly offered online and may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

The study of marketing includes the activities and processes for creating, communicating, and delivering products and services that add value for customers. Students learn the foundations of marketing and build specialized skills in a diversity of marketing functions, including the newest concepts and tools in digital and social marketing.

The Certificate in Marketing requires the following coursework.

Code	Title	Hours
This course:		
MBA:8110	Marketing Management	3
Four of these:		
MBA:8150 or BAIS:9100	Data and Decisions	3
MKTG:9010	Contemporary Topics in Marketing	3
MKTG:9015	Social Media Marketing for Business	3
MKTG:9120	Customer Relationship Management	3
MKTG:9150	Brand Management	3
MKTG:9155	Digital Marketing Insights, Strategies, and Applications	3
MKTG:9165	Digital Marketing Analytics	3
MKTG:9170	Business to Business Marketing	3
MKTG:9190	International Marketing	3
MKTG:9310	Marketing Analytics	3
MKTG:9300	Applied Marketing Research	3
MKTG:9320	Strategic Brand Positioning	3
MKTG:9330	Product and Pricing Management	3
MKTG:9340	Customer Analysis	3
MKTG:9350	Marketing Communication and Promotions	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Marketing concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work out combined program details. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of the TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

# Responsible Resource Management, Professional Certificate

## Requirements

The professional Certificate in Responsible Resource Management requires 12 s.h. of credit. Students must earn a cumulative g.p.a. of at least 2.75 in certificate coursework.

The certificate is open to individuals with a desire to build skills in evaluating and optimizing resource performance with attention to socially responsible management practices. The certificate will focus on financial acumen and data analysis to support decision making with particular attention to impact on environmental, social, and governance (ESG).

The certificate is open to current Professional M.B.A. Program students and to individuals with a desire to complete the certificate to build their skills and knowledge in responsible resource management. Students in the Professional M.B.A. Program may complete the certificate as they complete their degree; the certificate is designed to fit into the M.B.A. curriculum allowing students to earn the M.B.A. and the certificate without additional coursework.

Certificate courses are regularly offered online and some may occasionally be offered at two locations in Iowa: Cedar Rapids at the Tippie College of Business Cedar Rapids Center and Des Moines at the John and Mary Pappajohn Education Center (JMPEC); see program locations on the Tippie College of Business website.

The Certificate in Responsible Resource Management requires the following coursework.

Code	Title	Hours
All of these:		
MBA:8140	Corporate Financial Reporting	3
ACCT:9020	Strategic Cost Analysis	3
MGMT:9091	Corporate Social Responsibility and Sustainability	3
One of these:		
BAIS:6050	Data Management and Visual Analytics	3
BAIS:6230	People Analytics	3
BAIS:6280	Cybersecurity	3
ENTR:9500	Managing the Growth Business	3
FIN:9140	Enterprise Risk Management	3
MBA:8240	Operations and Supply Chain	3
MGMT:9250	Managing Employee Performance	3

## Combined Programs

### Certificate/Graduate Degrees

Students can pursue a professional Certificate in Responsible Resource Management concurrently with their graduate

degree. With graduate program approval, students may count up to 9 s.h. from the professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Students should contact their degree program and the certificate program to work out combined program details. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Admission decisions are based upon completed application materials, including academic performance and quality and quantity of work experience. View Graduate Certificates Admissions on the Tippie College of Business website for specific guidelines.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or must have a successful admission interview. In place of the TOEFL, the certificate program accepts satisfactory International English Language Testing System (IELTS) scores. See English Requirements for M.B.A. Admission on the Office of Admissions website.

Applications are accepted throughout the year; admission is for summer, fall, or spring entry.

# Risk Management and Insurance

## Director

- Thomas R. Berry-Stoelzle (Finance)

## Associate Director

- Bryce Parker (Vaughan Institute)

**Undergraduate certificate:** risk management and insurance

**Faculty:** <https://tippie.uiowa.edu/undergraduate/beyond-classroom/vaughan-institute/contacts-boards>

**Website:** <https://tippie.uiowa.edu/undergraduate/beyond-classroom/vaughan-institute/risk-management-insurance>

The financial services/insurance sector is the second largest economic sector in Iowa, including 29 headquartered companies and 228 branches. Risk management and insurance is a diverse field with many career opportunities, including corporate risk manager, risk management consultant, employee benefits manager, insurance broker, underwriter, wealth manager, financial analyst, claims adjuster, producer (sales), actuary, and auditor.

The Emmett J. Vaughan Institute of Risk Management and Insurance prepares students for risk management careers. In addition to the coursework, the Vaughan Institute provides professional development opportunities—networking events with industry speakers, scholarships, a mentorship program with alumni, and a job fair.

The certificate program is designed to give students an in-depth understanding of risk management tools as well as hands-on experience using them. It provides students with the knowledge to understand the business model of insurance. Experiential learning is a cornerstone of the program. Students work as consultants solving real world risk management challenges for companies in eastern Iowa. These projects are supervised by industry professionals, while conceptual classes are taught by research-active professors with global reputations. The Vaughan Institute was named a Global Center of Insurance Excellence, one of only 33 in the world.

Risk management and insurance courses provide value to students' personal lives by familiarizing them with insurable risks and types of insurance (property, liability, life and health). With the selection of elective courses, students learn about employee benefit plans, wealth management, real estate, and banking, among others.

In addition, over 84 percent of students enrolled in the certificate program secure internships during their time in the program, while 98 percent receive a full-time position in a career field associated with risk management and insurance.

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Risk Management and Insurance [p. 1329]

## Resources

The Vaughan Institute provides numerous opportunities for students. It offers:

- an active student organization—Gamma Iota Sigma;
- over \$40,000 in scholarships awarded to Vaughan students each academic year;
- networking events with industry professionals;
- a series of speaker events with recent graduates to assist in résumé preparation, and refinement of interview skills;
- an industry mentor program;
- a student résumé book sent to over 250 employers;
- professional development opportunities, such as the August Vaughan Institute Golf Challenge;
- trips to professional conferences in locations such as Chicago, Dallas, and San Antonio;
- a student newsletter with job and internship announcements; and
- a risk management and insurance career fair.

## Career Advancement

Risk management is a growing field in all industries with huge potential for career advancement. It is estimated that 400,000 industry positions in the industry will be available by 2024. Six of every ten risk management and insurance (RMI) professionals will retire in the next decade, which is 30 percent higher than any other industry.

While 75 percent of RMI graduates remain in the Midwest, others are working in 36 states and four countries. Graduates are employed in 14 different industries and by 175 different companies. Nearly 40 percent work for insurance companies, brokers, and agencies.

Popular careers include those in underwriting, analytics, working for brokers or agencies, actuarial and consulting work, corporate finance, sales, marketing, investment banking, management, and as entrepreneurs.



# Risk Management and Insurance, Certificate

## Requirements

The undergraduate Certificate in Risk Management and Insurance (RMI) requires at least 23-35 s.h. of credit: 35 s.h. for B.B.A. students with a major in finance, 34-35 s.h. for students with a major in mathematics (specialization in risk management and insurance or in finance), 23 s.h. for actuarial science majors, and 26 s.h. for other majors.

Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a graduate or professional degree program.

Students must declare their intent to earn the certificate with the RMI advisor. Some courses have prerequisites; students must complete prerequisites before they may register for a course. For more information, see Risk Management and Insurance Certificate on the Emmett J. Vaughan Institute of Risk Management and Insurance website.

The Certificate in Risk Management and Insurance requires the following coursework.

## Foundation Courses

All students complete the following (11 s.h.).

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting (not required for actuarial science majors)	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4

## RMI Courses

All students complete the following (15 s.h.).

Code	Title	Hours
One of these:		
FIN:3000	Introductory Financial Management	3
FIN:3300	Corporate Finance (for actuarial science majors)	3
ISE:2500	Engineering Economy (for engineering majors)	3
Both of these:		
FIN:3400	Principles of Risk Management and Insurance (with grade of C or higher)	3
FIN:4410	Enterprise Risk Management	3
Two of these:		
FIN:4420	Property and Liability Insurance	3
FIN:4430	Life and Health Insurance	3
FIN:4440	Employee Benefit Plans	3
FIN:4450	Risk Modeling	3
FIN:4460	Insurer Operations and Captive Management	3

## Additional Coursework for Finance and Mathematics Majors

In addition to the above requirements, finance majors or mathematics majors (math program C, finance and RMI tracks) also must complete the following courses.

### Finance Major

B.B.A. students majoring in finance complete three of these (9 s.h.).

Code	Title	Hours
BAIS:3025	Business Process Automation	3
MGMT:4100	Dynamics of Negotiations	3
MKTG:4200	Sales Management	3

A maximum of three finance courses (prefix FIN) numbered 4000 or above, excluding those taken to satisfy RMI courses above

### Mathematics Major with Specialization

Students majoring in mathematics with a specialization in risk management and insurance or a specialization in finance complete three of these (8-9 s.h.).

Code	Title	Hours
ACCT:3020	Financial Accounting and Reporting	3
ACCT:3200	Income Measurement and Asset Valuation (accounting majors take this instead of ACCT:3020)	3
FIN:3100	Financial Information Technology	2
FIN:3200	Investment Management	3
FIN:3300	Corporate Finance	3
FIN:4210	Futures and Options	3
FIN:4220	Fixed Income Securities	3
FIN:4230	Real Estate Process	3
FIN:4320	Commercial Banking	3

## Risk Management and Insurance Affiliated Courses

The Department of Finance offers seven courses affiliated with the Emmett J. Vaughan Institute of Risk Management and Insurance that are included in the Certificate in Risk Management and Insurance curriculum. Students should view the course descriptions and prerequisites for each of the courses below.

Code	Title	Hours
FIN:3400	Principles of Risk Management and Insurance	3
FIN:4410	Enterprise Risk Management	3
FIN:4420	Property and Liability Insurance	3
FIN:4430	Life and Health Insurance	3
FIN:4440	Employee Benefit Plans	3
FIN:4450	Risk Modeling	3
FIN:4460	Insurer Operations and Captive Management	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Risk Management and Insurance, Certificate

#### Finance Majors

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
This sample plan is intended for BBA students majoring in finance.		
Students must successfully complete ECON:1100 Principles of Microeconomics and ECON:1200 Principles of Macroeconomics before beginning FIN:3400 Principles of Risk Management & Ins.		
To declare the certificate students should be enrolled in FIN:3400 Principles of Risk Management & Ins.		
Maintain a cumulative GPA of at least 2.00 in all courses, UI courses, RMI (Risk Management and Insurance) courses and UI RMI courses.		
Meet with the RMI advisor for planning and to learn about additional benefits of the RMI certificate; more information is included in the General Catalog and on Tippie College of Business website.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
ECON:1100	Principles of Microeconomics <sup>a</sup>	4
ECON:1200	Principles of Macroeconomics <sup>a</sup>	4
<b>Hours</b>		<b>8</b>
<b>Second Year</b>		
<b>Any Semester</b>		
ACCT:2100	Introduction to Financial Accounting <sup>a, b</sup>	3
FIN:3400	Principles of Risk Management and Insurance <sup>c</sup>	3
<b>Hours</b>		<b>6</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Certificate: RMI elective <sup>d</sup>		3
Certificate: additional elective approved for finance majors <sup>e</sup>		3
<b>Hours</b>		<b>6</b>
<b>Fall</b>		
FIN:3000	Introductory Financial Management	3
FIN:4410	Enterprise Risk Management <sup>f</sup>	3
<b>Hours</b>		<b>6</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
Certificate: RMI elective <sup>d</sup>		3

a Discuss transfer credit or credit by exam with advisor.

b To be able to enroll in this course, students must have already completed the required minimum number of semester hours. See MyUI courses/registration page for details. The ACCT:2100 requirement is waived for actuarial science majors.

c May be taken any semester after prerequisites are completed. May also be taken first semester of year three concurrently with FIN:3000. Students must obtain a grade of C or higher in FIN:3400.

d Choose from FIN:4420, FIN:4430, FIN:4440, FIN:4450, or FIN:4460. Two RMI electives (6 s.h.) must be completed before graduation. Each course is offered only once per year. Typically at least two RMI elective courses are offered each fall and each spring. Some courses may satisfy the Tippie College of Business RISE requirement.

e Three electives (9 s.h.) are required before graduation. These include any finance course (prefix FIN) numbered 4000 or above that has not been previously taken. Finance majors may also take MGMT:4100, MKTG:4200, or BAIS:3025.

f This core required course is offered only in the fall. May be taken fall of year three or year four if prerequisite is completed. Course may satisfy the Tippie College of Business RISE requirement.

# College of Dentistry

## Dean

- Clark M. Stanford

## Executive Associate Dean

- Galen B. Schneider

## Associate Dean, Education

- Michelle M. Krupp

## Associate Dean, Finance and Facilities

- Scott K. Arneson

## Associate Dean, Patient Care

- Michael J. Kanellis

## Associate Dean, Research

- Xian Jin Xie

## Associate Dean, Student Affairs

- Sherry R. Timmons

**Professional degree:** D.D.S.

**Graduate degrees:** M.S.; Ph.D.

**Website:** <https://dentistry.uiowa.edu/>

The College of Dentistry is an integral part of the University of Iowa and its health sciences campus. Its mission, which embraces the University's academic values as well as the ethical responsibilities implicit in educating future members of a profession, rests on a foundation representing every aspect of collegiate activity: education of students as general practitioners and specialists; research into all aspects of oral and dental disease and the delivery of health care; and service to the community, the state, and the profession.

Faculty members, D.D.S. students, dental specialty residents, and staff provide oral health care to patients at clinics in the Dental Science Building and the Center for Disabilities and Development. Faculty, staff, and students participate in interdisciplinary research and training activities involving the University's five health science colleges as well as other University colleges and departments.

Dentistry at the University of Iowa began in 1882 as a single department. In 1900 the University underwent general reorganization and the Dental Department became the College of Dentistry. Today the college is Iowa's only provider of predoctoral dental education and ranks as a leader in dental education nationwide.

The college and its educational programs are accredited by the Commission on Dental Accreditation of the American Dental Association, an independent tripartite commission authorized and recognized by the Office of Postsecondary Education.

Programs offered by the college cover the full spectrum of dentistry and closely integrated fields. They include the Doctor of Dental Surgery program (D.D.S.), which prepares general dentists. The college has advanced education programs in nine dental disciplines, each of which may lead to certification in a specialized area of dentistry. In addition, advanced education programs in operative dentistry, geriatrics and special needs dentistry, and post-D.D.S. residency programs in hospital-based dentistry are available. The college has an oral science program, which offers an

M.S. or Ph.D. degree with or without a specialty certificate. To emphasize commitment to learning, the College of Dentistry has a wide variety of continuing education programs for dental and allied professions.

## Faculty

Iowa's dental faculty are predominantly full-time. In addition, more than 100 part-time adjunct faculty members assist with clinical teaching in the D.D.S. and advanced residency programs. Approximately 88 percent of the college's faculty members hold D.D.S. or D.M.D. degrees and 12 percent represent other disciplines. The vast majority of faculty dentists have advanced education past the D.D.S., generally with master's degrees in specialty areas; about one-fifth hold a Ph.D.

The College of Dentistry is committed to the principle that diversity is essential to a strong educational environment—one that prepares new generations of dentists to provide high-quality care to patients from many backgrounds. The college's full-time faculty reflects that commitment.

## Programs

### Professional Program of Study (D.D.S.)

The Doctor of Dental Surgery program prepares students to practice general dentistry. It requires a minimum of three years of preprofessional study and four years of study in the College of Dentistry. See the Doctor of Dental Surgery [p. 1334] section for a description of the program's curriculum and information about a combined bachelor's degree and a D.D.S., the dentistry licensure examination, student organizations, expenses, admission, financial support, and academic rules and procedures.

### Post-D.D.S. and Graduate Programs of Study

Several College of Dentistry departments offer professional certificate programs designed to prepare dentists for clinical specialty practice: endodontics [p. 1337]; operative dentistry [p. 1343]; oral pathology, radiology, and medicine [p. 1348]; orthodontics [p. 1355]; pediatric dentistry [p. 1358]; periodontics [p. 1360]; and prosthodontics [p. 1366]. Students who complete these programs satisfactorily are awarded a certificate. The Department of Oral and Maxillofacial Surgery [p. 1346] offers a four-year residency program that culminates in a certificate. The college also offers a certificate in Geriatric and Special Needs Dentistry [p. 1340].

The College of Dentistry offers a Doctor of Philosophy and a Master of Science in oral science [p. 1352]. The M.S. is only offered in conjunction with a specialty certificate. Students earning the Certificate in Endodontics or the Certificate in Prosthodontics may earn an M.S. or a Ph.D. in oral science. Those earning the Certificate in Operative Dentistry, Certificate in Oral and Maxillofacial Pathology, Certificate in Oral and Maxillofacial Radiology (Department of Oral Pathology, Radiology, and Medicine), or the Certificate in Periodontics may earn an M.S. in oral science.

In addition, the Department of Orthodontics [p. 1355] offers a Master of Science in orthodontics, and the Department of Preventive and Community Dentistry [p. 1362] offers a Master of Science in dental public health.

For information about post-D.D.S. and graduate programs of study, see the College of Dentistry departmental sections in the Catalog.

## Facilities

The College of Dentistry is located in the Dental Science Building on the University of Iowa health sciences campus, in proximity to the Roy J. and Lucille A. Carver College of Medicine, College of Nursing, College of Pharmacy, College of Public Health, and University of Iowa Hospitals & Clinics. The Bowen Science Building and the Hardin Library for the Health Sciences also are nearby.

The south wing of the Dental Science Building is devoted to clinical teaching. There are 248 operatories in departmental clinics, student laboratories, clinical research space, and a cafeteria.

The west wing contains two floors of patient treatment areas and one floor of space for students. The clinical spaces include 44 dental operatories in the Geriatric and Special Needs Clinic, the Endodontic Clinic, Faculty General Practice, and the Craniofacial Clinical Research Center. Student areas include a classroom that accommodates 80 people, small-group study rooms, a seminar room, a student lounge, lockers, and showers.

The north wing houses the simulation clinic and technique bench teaching laboratory, the electronic classroom, college administrative offices, technology and media services, the academic Department of Preventive and Community Dentistry, and the research laboratories and faculty offices of the Iowa Institute for Oral Health Research.

## Dental Education and Patient Care

Patient care is integral to dental education. Students and faculty members deliver oral health care in clinics on the health sciences campus and at several off-campus sites, including nursing homes. More than 45,600 people receive oral health care yearly in the college's clinics. Patients from throughout Iowa as well as from western Illinois and northern Missouri account for most of the 167,300 patient visits each year.

## Interdisciplinary Centers and Research

### Iowa Institute for Oral Health Research

The Iowa Institute for Oral Health Research occupies the first and fourth floors of the Dental Science Building's north wing. Laboratories are equipped to support a wide variety of research projects reflecting the complex nature of modern health care needs. Research at the institute is coordinated by the College of Dentistry.

There are four focus areas of research. The first area includes bioengineering, tissue engineering, stem cells, and biomaterials and materials research. The second area encompasses craniofacial, oral biology, genetics, and dental development. The third area includes public health, epidemiology, and behavioral sciences. The fourth area encompasses immunology, inflammation, microbiology, and caries and microbiome research. All focus areas are supported by the Division of Biostatistics and Computational Biology. Clinical and translational research involving new innovative

methods and products designed in the research laboratories is carried out in the Craniofacial Clinical Research Center.

Although research is concentrated in these program areas, one of the unit's strengths has been the consistent level of interaction and collaboration among individuals and programs across the college and the University.

## Craniofacial Anomalies Research Center

The role of the Craniofacial Anomalies Research Center is to understand the molecular mechanisms of genes and gene interactions that contribute to craniofacial/dental anomalies and birth defects. These genetic defects arise from inherited and somatic gene mutations due to environmental effects. The center researchers use mouse, ferret and zebrafish models, human genetic material, cell lines, and molecular/biochemistry approaches to understand gene function. With the advent of human genome sequencing and the decreasing costs of genomic analyses, it has become somewhat more efficient to identify genetic defects associated with human genetic defects and diseases. The use of these genetic screening approaches provides invaluable data and resources in the search for new genes involved in human craniofacial development and associated anomalies. The center collaborators reside in the Carver College of Medicine, and the Colleges of Dentistry, Pharmacy, and Public Health.

## Craniofacial Clinical Research

For more than two decades, the College of Dentistry has offered outpatient research support for National Institutes of Health (NIH), U.S. Food and Drug Administration (FDA), and related federally supported research grants. Protocol-based studies are performed by faculty scientists and supported by oral health care industries. Scientists also engage in translational research that involves laboratory-to-clinical-research outcomes. College of Dentistry faculty use new technology to improve dental procedures and provide state-of-the-art methods to obtain the best outcomes for patients. A biorepository program helps researchers understand the causes of dental and oral diseases and genetic anomalies. It benefits Iowans by the potential diagnoses of diseases and their effects and provides new, improved patient treatment.

Through integrated research, education, and clinical programs, craniofacial clinical research facilitates the development of implants and their use as a therapeutic modality in dentistry. The program also integrates basic and clinical research with technology transfer to the clinical setting, enhancing predoctoral, postgraduate, and continuing education and expanding treatment options available to patients served by the college. Craniofacial clinical research also provides vital coordination of dental specialties that participate in this treatment modality.

## Courses

### College of Dentistry Courses

Most College of Dentistry courses are offered by the college's departments and programs. They are listed and described in the corresponding General Catalog sections. The college also offers the following nondepartmental courses.

**DENT:4000 Pre-Dental Academy 0 s.h.**

Hands-on experience for undergraduate students interested in dentistry; interaction with faculty, residents, and current students in simulation clinic; didactic sessions; admissions information; changing health care environment, digital dentistry, dental esthetics, introduction to dental specialties, drilling and filling. Offered summer session.

**DENT:8100 First-Year Continuing Session arr.****DENT:8110 Dental First-Year UI Interprofessional Education 0 s.h.**

Application of previously learned concepts to relevant health care experiences using interprofessional skills and team-based health care concepts; development of skills related to leadership in health care teams, pain management from an interprofessional team, and application of ethics and professionalism concepts; online modules and group activities.

**DENT:8200 Second-Year Continuing Session arr.****DENT:8210 Dental Second-Year Interprofessional Education 0 s.h.**

Application of previously learned concepts to relevant health care experiences using interprofessional skills and team-based health care concepts; development of skills related to leadership in health care teams, pain management from an interprofessional team, and application of ethics and professionalism concepts; online modules and group activities.

**DENT:8300 Third-Year Continuing Session arr.****DENT:8371 Quality Assurance I 1 s.h.**

Patient management, record writing skills, and quality assurance concepts; students coordinate treatment, patient relations, and issues of quality assurance for a group of patients; ethical and moral dilemmas in relation to dental practice.

**DENT:8372 Quality Assurance II 1 s.h.**

Continuation of DENT:8371; patient management, record writing skills, and quality assurance concepts; students coordinate treatment, patient relations, and issues of quality assurance for a group of patients; ethical and moral dilemmas in relation to dental practice.

**DENT:8400 Fourth-Year Lectures and Clinics arr.****DENT:8485 Clinical Admissions Emergency 2 s.h.**

Clinical evaluation, diagnosis, and treatment of patients with dental emergencies; patient assessment and referral to appropriate department for treatment.

**DENT:8489 Clinical Practice and Professionalism V 1 s.h.**

Quality assurance from viewpoint of practicing dentist, dental educator, dental epidemiologist, court system; analysis of senior dental practice in relation to quality assurance criteria.

**DENT:9000 Advanced Clinical Comprehensive Dentistry 0 s.h.**

Clinical experience for professional improvement. Requirements: dental degree.

## Doctor of Dental Surgery

**Professional degree:** D.D.S.

**Website:** <https://dentistry.uiowa.edu/>

The Doctor of Dental Surgery program prepares students to practice general dentistry. The D.D.S. is a professional degree awarded by the College of Dentistry.

### Dentistry Licensure Examination

The State of Iowa accepts clinical examination results from all Regional Dental Testing Services including a manikin exam in lieu of a patient exam. Examinations are administered at several testing sites located at dental schools in the United States. A separate license application is then filed with the individual state board of dentistry.

For licensure, all states also require the National Boards, conducted by the Joint Commission on National Dental Examinations. Many states, including Iowa, also require a jurisprudence examination. For further details on licensure requirements for each state, refer to individual state dental board websites.

### Student Organizations

The Academy of General Dentistry, the American Dental Education Association, the American Association of Dental Research (Student Research Group), the American Association for Women Dentists, the American Academy of Pediatric Dentistry student chapter, the American Association of Public Health Dentistry student chapter, the Christian Dental Association, the Student National Dental Association, the Hispanic Dental Association student chapter, and the Tau Sigma Military Dental Club also have local chapters. The College of Dentistry also has interest clubs in oral and maxillofacial surgery, orthodontics, periodontics, and prosthodontics.

Students who rank in the upper 20 percent of their senior class are eligible for election to Omicron Kappa Upsilon, a national scholastic honorary dental society.

The national dental professional fraternity, Delta Sigma Delta, has a chapter at Iowa. The fraternity provides academic and social activities for students and their spouses.

## Programs

### Professional Program of Study

#### Major

- Doctor of Dental Surgery [p. 1335]

## Academic Rules and Procedures

### Promotions, Graduation

Student promotions and graduation are determined by the Collegiate Academic and Professional Performance (CAPP) Committee, which is made up of individuals appointed by the dean from the biomedical, preclinical, and clinical sciences and from other academic areas of the college. The performance committee may recommend to the executive associate dean that a student withdraw from the college or repeat specific courses when the student is deemed generally unprepared to be promoted or to enter the dental profession.

### Committee for Appeals

When a student has been asked to withdraw from the college or wants special consideration of problems concerning promotion or graduation, the student may appeal to the dean. All appeals are heard by an ad hoc committee appointed by the dean. The ad hoc committee investigates new information that has not been available previously or that has not been discussed as fully as the student feels it should have been. The committee determines whether this new information, or important new insights that may have been gained, could have influenced the Collegiate Academic and Professional Performance Committee's decision. The recommendation of the appeals committee is submitted to the dean for final action.

# Doctor of Dental Surgery, D.D.S.

The Doctor of Dental Surgery (D.D.S.) is a professional degree awarded by the College of Dentistry. Admission requirements include 90 s.h. of undergraduate credit, including specific required courses, completed at an accredited college; see Admission [p. 1335] in this section of the Catalog.

Students working toward a bachelor's degree in the University of Iowa College of Liberal Arts and Sciences before being admitted to the College of Dentistry may be able to complete their bachelor's degree during their first year in dentistry; see "Bachelor's Degree/D.D.S." under Requirements [p. 1335] in this section of the Catalog.

## Requirements

The Doctor of Dental Surgery requires a minimum of three years of preprofessional study and four years of study in the College of Dentistry. Students are required to maintain a cumulative g.p.a. of at least 2.00 to earn the degree.

Coursework during the first and second years in the College of Dentistry integrates the biomedical sciences with preclinical and clinical disciplines. The biomedical sciences include gross anatomy, biochemistry, general histology, microbiology, pathology, pharmacology, and physiology. Students also study topics specific to dentistry, such as principles of occlusion, anesthesia and pain control, operative dentistry, periodontics, prosthodontics, cariology, and preventive dentistry. During the latter part of the first year, students are introduced to their first clinical patient treatment situation.

Second-year dental students continue their study of biomedical sciences, take preclinical courses, have additional patient treatment experiences in restorative and preventive dentistry, and are introduced to aesthetic and implant dentistry.

Third-year dental students rotate through a series of clerkships that expose them to eight clinical disciplines: endodontics, operative dentistry, oral and maxillofacial surgery, oral pathology, pediatric dentistry, periodontics, prosthodontics, and oral radiology and medicine.

Fourth-year dental students deliver comprehensive dental care in conditions that closely approximate those in private dental practice. They also are exposed to varied community dentistry health programs throughout Iowa and other states that include hospitals, nursing homes, and special care clinics. They may choose to participate in the Colorado Migrant Worker Program or the Indian Health Service Program. The community dentistry programs provide exposure to facets of dentistry usually not observable in an academic setting.

## Biomedical Sciences in the Dental Curriculum

The following science courses are offered by University of Iowa departments outside the College of Dentistry and are a required part of the D.D.S. curriculum.

Code	Title	Hours
ACB:8120	Human Gross Anatomy for Dental Students	6
ACB:8121	General Histology for Dental Students	4

BMB:8101	Biochemistry for Dental Students	3
MICR:8230	Dental Microbiology	3
MPB:8115	Human Physiology for Dental Students	4
OPRM:8240	Basic Pharmacology	3
PATH:8133	Introduction to Human Pathology for Graduate Students	4

Dentistry nondepartmental courses are listed under Courses [p. 1332] in the College of Dentistry section of the Catalog. Courses offered by the college's departments are listed in each department's General Catalog section.

## Bachelor's Degree/D.D.S.

The College of Liberal Arts and Sciences (CLAS) allows its students to count 30 s.h. of elective credit earned in any other University of Iowa college toward graduation with a bachelor's degree. Under this policy, CLAS students who enroll in the College of Dentistry before completing their bachelor's degree may be able to complete their degree during their first year in dentistry. Students planning to take advantage of this plan must satisfy the CLAS residence requirement in order to enroll in the College of Dentistry. They also must fulfill all requirements for the bachelor's degree, including the GE CLAS Core [p. 20] requirements and the requirements for a major. Contact the College of Liberal Arts and Sciences for more information.

## Admission

Applicants must submit a completed AADSAS (Associated American Dental Schools Application Service) application form to the American Dental Education Association (ADEA). The AADSAS application must be completed online at the American Dental Education Association website.

Applications are accepted in June of the year that precedes the year of entry. Completed applications must be on file at ADEA by October 1. Applicants should apply as early as possible. Notifications of acceptance are sent beginning in December.

## Pre dental Studies

The basic academic requirement for admission to the College of Dentistry is completion of at least 90 s.h. of academic study at an accredited college. No more than 60 s.h. of credit is accepted from a community college or two-year institution. The pre dental program of study should include the following.

**English:** satisfactory accomplishment in English composition, rhetoric, and speech commensurate with the academic requirements for a bachelor's degree at the college attended.

**Physics:** one year (equivalent to 8 s.h.), of which one-fourth must be laboratory work.

**Chemistry:** two years (equivalent to 16 s.h.), of which one year (equivalent to 8 s.h.) must be in organic chemistry; one-fourth of each year's study must be laboratory work.

**Biological science:** one year (equivalent to 8 s.h.), which must include appropriate laboratory work; the requirement may be satisfied by a one-year course in principles of biology, with instruction in cell biology, metabolism, organismic biology, animal biology, genetics, development, ecology, and evolution. Preference is given to applicants who have

completed more than 8 s.h. Courses in human anatomy and cell physiology are strongly recommended.

**Biochemistry:** one course (3 s.h.) that covers basic concepts in modern biochemistry and molecular biology.

**Electives:** sufficient coursework in the social sciences, philosophy, psychology, history, world languages, business, and mathematics to provide a well-rounded educational background.

## Grade-Point Average Requirement

Applicants should have a cumulative g.p.a. higher than 2.50 on a 4.00 scale; a g.p.a. above 3.50 is preferred. The admissions committee gives special consideration to the quality of applicants' coursework in the pre-dental sciences, in addition to the cumulative grade-point average.

## Interviews

Personal interviews are required of applicants for admission to the College of Dentistry. After a complete AADSAS application is received by the admissions office, select applicants are contacted to arrange an interview.

## Required Dental Admission Test

All applicants must complete the Dental Admission Test (DAT) sponsored by the Council on Dental Education and Licensure of the American Dental Association. A computerized DAT is available throughout the year at designated Prometric centers. Tests must be scheduled in advance.

Test application forms are available online or by mail from the American Dental Association, 211 East Chicago Avenue, Chicago, IL 60611.

## Deposit by Accepted Applicants

Applicants accepted before February 1 are required to submit a \$500 deposit within 30 days after notification of admittance. Applicants admitted after February 1 must submit the deposit within two weeks after notification of admittance. This deposit is not refundable but is credited toward the first fee payment. Applicants who fail to make the deposit within the time specified forfeit their place in the entering class.

## Additional Admission Considerations

Fulfillment of the specific requirements listed for admission does not ensure admission to the College of Dentistry. The admissions committee reviews applicants who meet the minimum requirements and selects those who appear best qualified for the study and practice of dentistry. The committee considers quantitative and qualitative components of the application, letters of recommendations, the interview, and other factors.

## Financial Support

Financial assistance for dental students is based on need. Dental students who demonstrate need are eligible for Health Professions, Stafford, and Grad PLUS loans. Students applying for loans must submit the Free Application for Federal Student Aid (FAFSA), including parental information in order to be considered for the Health Professions loan. Loans are

repayable over an extended period of time after the course of study is completed.

Collegiate short-term and long-term loans are available through the financial aid coordinator at the College of Dentistry.

Tuition scholarships are awarded each year to qualified entering dental students. The awards provide financial support up to \$15,000 per year for as many as four years, if the student maintains an appropriate level of academic and professional performance.

Information on financial assistance for dental students is available from the University's Office of Student Financial Aid as well as the College of Dentistry Office of Student Affairs.

## Expenses

The College of Dentistry maintains the Supply-Instrument Management System (SIMS), which provides students with instruments and supplies necessary throughout their dental training. The SIMS usage fee for the D.D.S. is payable in installments over the four-year program.

A fee for expendable laboratory supplies is charged each of the first two years. A \$100 breakage fee also must be deposited; the deposit is refundable upon graduation or termination of enrollment.

## Career Advancement

The Doctor of Dental Surgery program prepares students to practice general dentistry.



# Endodontics

## Head

- Fabricio B. Teixeira

## Director, Graduate Program

- Fabricio B. Teixeira

**Professional certificate:** endodontics

**Faculty:** <https://dentistry.uiowa.edu/directory>

**Website:** <https://dentistry.uiowa.edu/departments/endodontics>

The Department of Endodontics provides education and training to predoctoral students and to professional students who may work toward a graduate degree along with their professional training. Some students participate with departmental faculty in research that contributes to the knowledge base of the specialty. Faculty members and advanced students in the department also provide care to patients at the College of Dentistry.

## D.D.S. Student Training

Coursework and clinical experiences in endodontics are of vital importance in the overall education of Doctor of Dental Surgery students. Preclinical endodontics, taught during the sophomore year, includes a didactic and a laboratory component. In clinical endodontics, taught during the junior year, students study both normal and pathological conditions of the dental pulp and periapex. Diagnosis of pulpal and periradicular disease and various specialized aspects of endodontic treatment are emphasized. Students treat endodontic patients under direct supervision of faculty and staff.

## Programs

## Professional Program of Study

### Certificate

- Certificate in Endodontics [p. 1338]

## Facilities

The Department of Endodontics is located in the west section (third floor) of the Dental Science Building (DSB). The Endodontic Clinic is adjacent to the west entrance.

## Courses

### Endodontics Courses

<b>ENDO:5201 Update in Endodontics</b>	<b>0-1 s.h.</b>
Recommended for second year certificate students.	
<b>ENDO:5225 Endodontic Literature Review I</b>	<b>0,2 s.h.</b>
Current and historical research.	
<b>ENDO:5226 Endodontic Literature Review II</b>	<b>0,2 s.h.</b>
Continuation of ENDO:5225.	
<b>ENDO:5260 Current Literature in Endodontics</b>	<b>0-1 s.h.</b>
Current literature relevant to endodontics, including diagnosis or treatment of endodontic cases; dental journals with endodontic-related content; landmark research.	

<b>ENDO:5700 Endodontic Surgery Conference</b>	<b>0,2 s.h.</b>
Attendance at Endodontic Surgery Conference.	
<b>ENDO:5701 Advanced Clinical Endodontics</b>	<b>0,3 s.h.</b>
Advanced study.	
<b>ENDO:5710 Research in Endodontics</b>	<b>arr.</b>
<b>ENDO:5720 Seminar in Endodontics I</b>	<b>0,2 s.h.</b>
First in a series of lectures in endodontics.	
<b>ENDO:5721 Seminar in Endodontics II</b>	<b>0,2 s.h.</b>
Continuation of ENDO:5720.	
<b>ENDO:6227 Endodontic Literature Review III</b>	<b>0,2 s.h.</b>
Continuation of ENDO:5226.	
<b>ENDO:6228 Endodontic Literature Review IV</b>	<b>0,2 s.h.</b>
Continuation of ENDO:6227.	
<b>ENDO:6701 Seminar in Endodontics III</b>	<b>0,2 s.h.</b>
Continuation of ENDO:5721.	
<b>ENDO:6702 Seminar in Endodontics IV</b>	<b>0,2 s.h.</b>
Continuation of ENDO:6701.	
<b>ENDO:8240 Endodontics Preclinical Didactic</b>	<b>1 s.h.</b>
Basic principles, concepts, technical procedures for treatment of pulpal problems.	
<b>ENDO:8241 Endodontics Preclinical Laboratory</b>	<b>1 s.h.</b>
Basic technical procedures for treatment of pulpal problems.	
<b>ENDO:8369 Clinical Endodontics I</b>	<b>2 s.h.</b>
Introduction to tooth pain, anesthesia, diagnosis and treatment of pulpal and periradicular pathology, endodontic emergencies, endodontic radiologic interpretation, diagnosis and treatment of dental traumatic injuries, bleaching, retreatment, and apexification/apexogenesis.	
<b>ENDO:8370 Clinical Endodontics II</b>	<b>4 s.h.</b>
Tooth pain, anesthesia, diagnosis and treatment of pulpal and periradicular pathology, endodontic emergencies, endodontic radiologic interpretation, diagnosis and treatment of dental traumatic injuries, internal bleaching, retreatment, and apexification/apexogenesis.	

# Endodontics, Professional Certificate

## Requirements

The professional Certificate in Endodontics requires a minimum of 24 months of full-time formal training. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the certificate.

The certificate is a clinical specialty program designed to provide qualified dentists with the scientific knowledge and clinical skills they need to practice endodontics and/or pursue a career in dental education and research. The curriculum includes clinical and didactic courses. Students complete an original research project in endodontics and write a scientific paper on their research for submission to a refereed journal.

The program's goal is to develop competent diagnosticians and clinicians. Students learn the scientific and clinical basis of endodontics; develop clinical skills; gain knowledge of and experience in the educational process in order to function confidently as dental educators; and develop skills in designing, conducting, reporting, and publishing the results of original research.

The certificate program satisfies training requirements for eligibility for certification by the American Board of Endodontics. Students who complete the program are encouraged to seek board certification. Various activities throughout the course of study prepare students for the board examination process.

Once students enroll in the certificate program, they are not permitted to involve themselves in private dental practice enterprises outside the college. Failure to adhere to this policy may result in dismissal from the program.

Whenever possible, students should complete the certificate program without interruption. Students who demonstrate a need to discontinue the program temporarily should limit their time away to a maximum of one calendar year. Students must have permission from the endodontics graduate program director in order to interrupt their study.

## Graduate Study

Certificate students may work toward a Master of Science or a Doctor of Philosophy in oral science while earning the certificate. Both graduate degree programs provide students with in-depth knowledge in a scientific training discipline as preparation for careers in academia and research.

Students normally require three years of full-time study to complete the Certificate in Endodontics and the M.S. degree, or at least four years to complete the certificate and the Ph.D. degree. Both graduate degree programs require more didactic coursework than the certificate program. The M.S. requires a thesis; the Ph.D. requires a dissertation. See Oral Science [p. 1352] in the Catalog.

Other graduate programs are available to endodontics certificate students, such as master's degrees in other disciplines, or a certificate in combination with a Ph.D. in a basic science area. Such programs are available by special arrangement, depending on a candidate's experience and goals. Consult the Department of Endodontics for more information.

## Admission

Applicants to the endodontics certificate program must apply through the American Dental Education Association's Postdoctoral Application Support Services (ADEA PASS). Applicants must hold a D.D.S. or D.M.D. degree or an international equivalent and must meet the application requirements of the Graduate College. They should take the National Board Dental Examination (NBDE) Part 1 and Part 2, when available.

Applications should include official transcripts from all undergraduate and graduate institutions, an updated curriculum vitae, three letters of recommendation, a personal statement, and a photograph (two-inch head-and-shoulders view).

The certificate program begins July 1; ADEA PASS applications should be submitted no later than July 1 for admission the following summer. Finalists for admission are asked for a personal interview in July; admission decisions are made following interviews.

## Financial Support

Applicants to the certificate program must be able to support themselves financially until they complete the program.

Prospective students should plan to pay for living expenses, tuition, books, specialized equipment (e.g., surgical operating microscope, notebook computer, and ultrasonic system), instrument usage, and other expenses.

# Family Dentistry

## Head

- Christopher A. Barwacz

**Faculty:** <https://dentistry.uiowa.edu/directory>

**Website:** <https://dentistry.uiowa.edu/departments/family-dentistry>

The Department of Family Dentistry reinforces and refines the comprehensive approach to managing patients' oral health care needs.

## D.D.S. Student Training

The senior year of the Doctor of Dental Surgery program integrates basic science knowledge, clinical skills, and dental laboratory experiences acquired during the first three years of dental school into a systematic approach to providing patient care.

Students who complete their education in family dentistry should:

- conduct themselves in a professional and ethical manner;
- understand the principles of comprehensive dental treatment planning;
- know the medical, ethical, and legal issues involved in patient care;
- be able to recognize the need for specialty consultation;
- be competent in coordinating and sequencing patient treatments;
- be effective members of the dental team;
- be prepared to enter general practice;
- be educated and trained for licensure examination; and
- appreciate the importance and value of lifelong learning.

Students spend five days a week in a clinical setting, where they gain experience in total patient management and care. Their didactic coursework builds on their previous education. All areas of clinical and didactic instruction, patient awareness, and sensitivity to patients' needs are stressed.

The department's practice management curriculum prepares students to evaluate practice locations and manage the business aspects of a dental practice.

## Courses

### Family Dentistry Courses

**FAMD:8482 Dental Auxiliary Utilization** 2 s.h.

Delivery of comprehensive dental treatment in a simulated group practice clinical setting with chairside dental assistants.

**FAMD:8484 Dental Practice Management I** 1 s.h.

Principles of dental practice management; delivery of comprehensive dental treatment in a simulated group-practice clinical setting with chairside dental assistants.

**FAMD:8485 Dental Practice Management II** 1 s.h.

Principles of dental practice management.

**FAMD:8488 Comprehensive Dental Patient Care** 27 s.h.

Refinement of clinical skills, judgment, and critical self-evaluation in the delivery of integrated, comprehensive dental care.

**FAMD:8494 Current Topics in Dentistry I** 1-2 s.h.

Emerging trends, research updates, and clinical updates to support critical thinking and lifelong learning.

**FAMD:8495 Advanced Treatment Planning I** 2 s.h.

Development of knowledge to implement comprehensive treatment plans involving a multidisciplinary approach in management of patients through case-based learning.

**FAMD:8497 Advanced Treatment Planning II** 1 s.h.

Builds on FAMD:8495; development of advanced knowledge to implement complex comprehensive treatment plans involving a multidisciplinary approach in management of patients with complex medical and dental needs through case-based learning, lectures, and student case presentations.

# Geriatric and Special Needs Dentistry

## Head, Department of Preventive and Community Dentistry

- Daniel J. Caplan

## Director, Geriatric and Special Needs Dentistry

- Howard Cowen

**Professional certificate:** geriatric and special needs dentistry

**Faculty:** [https://dentistry.uiowa.edu/directory?](https://dentistry.uiowa.edu/directory?cohort=511933&appointment=&category=&query=&page=1&size=25)

[cohort=511933&appointment=&category=&query=&page=1&size=25](https://dentistry.uiowa.edu/directory?cohort=511933&appointment=&category=&query=&page=1&size=25)

**Website:** <https://dentistry.uiowa.edu/pcd/geriatric-grad>

The certificate program in geriatric and special needs dentistry prepares dentists to be leaders and teachers in this critical area of practice. The multidisciplinary program incorporates medicine and psychiatry and blends clinical and didactic experiences in varied settings, such as acute, palliative, rehabilitative, and long-term care. Its goal is to provide dental professionals with the knowledge and skills they need to provide patient-centered, sound, and realistic treatment plans for their geriatric and special needs patients.

The Certificate in Geriatric and Special Needs Dentistry is administered by the Department of Preventive and Community Dentistry [p. 1362].

## Programs

### Professional Program of Study

#### Certificate

- Certificate in Geriatric and Special Needs Dentistry [p. 1341]

## Courses

### Geriatric and Special Needs Dentistry Courses

**GSND:5700 Advanced Clinical Geriatric Dentistry I** 0,4 s.h.

Advanced clinical education in geriatric dentistry.

**GSND:5702 Advanced Clinical Geriatric Dentistry II** 0,4 s.h.

**GSND:5703 Advanced Clinical Geriatric Dentistry III** 0,4 s.h.

**GSND:5704 Advanced Clinical Geriatric Dentistry IV** 0,4 s.h.

**GSND:5720 Outreach/Advanced Clinical Geriatric Dentistry I** 0,3 s.h.

**GSND:5721 Outreach/Advanced Clinical Geriatric Dentistry II** 0,3 s.h.

**GSND:5730 Interdisciplinary Geriatric Patient Assessment I** 0,2 s.h.

**GSND:5731 Interdisciplinary Geriatric Patient Assessment II** 0,2 s.h.

**GSND:5740 Advanced Topics in Geriatric Dentistry and Special Needs I** 0,2 s.h.

**GSND:5742 Advanced Topics in Geriatric Dentistry and Special Needs II** 0,2 s.h.

**GSND:5750 Geriatric Dental Case Study Seminar I** 0,2 s.h.

**GSND:5751 Geriatric Dental Case Study Seminar II** 0,2 s.h.

**GSND:5760 Teaching Practicum in Geriatric Dentistry I** 0,2 s.h.

**GSND:5770 Advanced Clinical Training for Developmentally Disabled Adults I** 0,2 s.h.

**GSND:5771 Advanced Clinical Training for Developmentally Disabled Adults II** 0,2 s.h.

# Geriatric and Special Needs Dentistry, Professional Certificate

## Requirements

The professional Certificate in Geriatric and Special Needs Dentistry requires at least 40 s.h. Students must earn a minimum grade of C in each course. The program requires a minimum of one year of full-time study. It prepares dentists to evaluate and manage the oral health problems of older adults across the spectrum of geriatric health care services as well as adults with special needs. It also prepares professionals for scholastic positions in geriatric education. Successful graduates meet the educational requirements for eligibility to take the fellowship examination of the Special Care Dentistry Association.

Certificate students have opportunities to collaborate with medical residents and other allied health care professionals in providing a holistic approach to care of patients whose dental and medical needs are complex. They gain experience in the College of Dentistry's patient care clinics and Geriatric Mobile Dental Unit, at St. Luke's Hospital (Cedar Rapids, Iowa), and at University of Iowa Hospitals & Clinics.

Highlights of the curriculum include advanced clinical geriatric and special needs dentistry, interdisciplinary geriatric patient assessment, geriatric dentistry case studies, outreach, and teaching practicum.

The Certificate in Geriatric and Special Needs Dentistry requires the following work.

## First Summer

Code	Title	Hours
This course:		
GSND:5700	Advanced Clinical Geriatric Dentistry I	0,4

## First Fall

Code	Title	Hours
All of these:		
GSND:5702	Advanced Clinical Geriatric Dentistry II	0,4
GSND:5720	Outreach/Advanced Clinical Geriatric Dentistry I	0,3
GSND:5730	Interdisciplinary Geriatric Patient Assessment I	0,2
GSND:5740	Advanced Topics in Geriatric Dentistry and Special Needs I	0,2
GSND:5750	Geriatric Dental Case Study Seminar I	0,2
GSND:5770	Advanced Clinical Training for Developmentally Disabled Adults I	0,2

## First Spring

Code	Title	Hours
All of these:		
GSND:5703	Advanced Clinical Geriatric Dentistry III	0,4
GSND:5721	Outreach/Advanced Clinical Geriatric Dentistry II	0,3
GSND:5731	Interdisciplinary Geriatric Patient Assessment II	0,2
GSND:5742	Advanced Topics in Geriatric Dentistry and Special Needs II	0,2
GSND:5751	Geriatric Dental Case Study Seminar II	0,2
GSND:5760	Teaching Practicum in Geriatric Dentistry I	0,2
GSND:5771	Advanced Clinical Training for Developmentally Disabled Adults II	0,2

## Second Summer

Code	Title	Hours
This course:		
GSND:5704	Advanced Clinical Geriatric Dentistry IV	0,4

## Admission

Applicants must hold a D.D.S. or D.M.D. degree from an accredited dental school. International students should have at least three years of experience and/or postgraduate prosthodontics training and be licensed dentists. All applicants must meet the admission requirements of the Graduate College. Contact the Geriatric and Special Needs Dentistry Certificate Program to learn more.

# Hospital Dentistry

## Head

- Kirk L. Fridrich (Oral and Maxillofacial Surgery)

## Director, Graduate Program

- Darrick J. Zirker

**Faculty:** <https://gme.medicine.uiowa.edu/american-dental-association-general-practice-residency/our-people>

**Website:** <https://gme.medicine.uiowa.edu/hospital-dentistry-general-practice-residency>

The College of Dentistry operates a hospital dentistry clinical service at University of Iowa Hospitals & Clinics. The service includes divisions of general dentistry, maxillofacial prosthodontics, and oral and maxillofacial surgery, and it interacts with the college's specialties of orthodontics, periodontics, pediatric dentistry, endodontics, diagnosis, oral pathology, and prosthodontics.

The Hospital Dentistry Program offers a one-year general practice residency.

## Residency

The general practice residency program prepares dentists for a broader scope of private practice in general dentistry. The program combines clinical and didactic training on an individual basis and meets fundamental requirements of the Commission on Dental Accreditation of the American Dental Association (ADA).

The residency covers one year of hospital-based training. Through postdoctoral clinical, didactic, and hospital experience, residents prepare to meet the oral health needs of a wide range of ambulatory and nonambulatory patients. Rotations and patient experiences are located at University of Iowa Hospitals & Clinics.

Residency training includes use of hospital resources, management of ambulatory patients, inpatients, same-day surgery patients, and emergency medical and dental patients. Residents participate in consultations with other hospital services and are assigned to appropriate hospital services to fulfill the objectives of the training program. They are appointed to the hospital's house staff and have the same privileges and responsibilities as residents in other professional education programs.

## Admission

Applicants must be U.S. citizens or permanent residents and must be graduates of a dental school accredited by the American Dental Association. They also must be eligible for licensure to practice dentistry in the United States. Application deadline is September 1 for the following July 1. See the Hospital Dentistry-General Practice Residency Program website for admission and application requirements.

# Operative Dentistry

## Head

- Erica C. Teixeira

**Professional certificate:** operative dentistry

**Faculty:** <https://dentistry.uiowa.edu/directory>

**Website:** <https://dentistry.uiowa.edu/departments/operative-dentistry>

The Department of Operative Dentistry teaches the foundational concepts of dentistry to predoctoral dental students in caries management (diagnosis, prevention, repair, and restorative techniques) and dental materials. The primary departmental focus is to provide the knowledge, technical skills, critical thinking and judgment for the diagnosis, prevention, and management of dental caries, non-caries dental defects (attrition, abrasion, erosion, abfraction, developmental abnormalities, discoloration, and trauma), and elective esthetic smile enhancements. It also serves an equally important position to provide national leadership in dental research and advanced restorative technology in its collective faculty efforts and through the professional Certificate in Operative Dentistry.

## D.D.S. Student Training

Coursework and clinical experiences in operative dentistry are fundamental to the overall education of Doctor of Dental Surgery students. Operative dentistry coursework covers roughly one quarter of curriculum time during the first three years of dental school as students progress toward competency in operative dentistry. The department's primary goal is to educate dental students, using the best evidence available and the latest proven technological approaches, to achieve and maintain optimal patient oral comfort, function, and aesthetics through risk-based diagnosis, prevention, and minimally invasive treatment of caries and noncarious lesions of the teeth.

### Programs

## Professional Program of Study Certificate

- Certificate in Operative Dentistry [p. 1345]

### Courses

## Operative Dentistry Courses

**OPER:5126 Operative Dentistry Seminar** 0-1 s.h.  
Review and critical analysis of operative dentistry literature.

**OPER:5127 Introduction to Operative Dentistry Advanced Education** arr.  
Broad introduction to key operative dentistry concepts in preparation for clinical patient care and teaching; overriding objectives are to reinforce fundamental principles of operative dentistry, refine clinical skills, enhance/add approaches of clinical problem solving, establish concepts of acceptable clinical performance levels, and preparation for resident instructors in predoctoral simulation clinic courses.

**OPER:5140 Operative Dentistry Advanced Clinic** 0-3 s.h.  
Medical and surgical clinical management of dental disease; special emphasis on minimally invasive dentistry using advanced aesthetic principles.

**OPER:5234 Selected Applications of Operative Dentistry** 0-3 s.h.  
Advanced techniques completed on simulated patients.

**OPER:5240 Advanced Operative Dental Implants and Digital Dentistry** 0-1 s.h.  
Treatment of partially edentulous area with implant therapy for single tooth replacement; builds on operative dentistry knowledge base with emphasis on fundamental biomechanical principles, materials, and techniques required to rehabilitate form and function of a single tooth implant; demonstration of successful implant treatment predicated upon a sound diagnosis, appropriate treatment plan, precise prosthetically driven placement of implant, logical sequence of treatment, appropriate abutment selection, appropriate materials selection, routine prosthodontic maintenance, and patient education.

**OPER:5245 Pre-Clinical Teaching** 0-3 s.h.  
Teaching predoctoral dental students on simulated patients.

**OPER:6246 Clinical Teaching** 0-2 s.h.  
Clinical teaching instruction in operative dentistry clinics.

**OPER:8120 Dental Anatomy** 3 s.h.  
Basic dental terminology and nomenclature, human tooth morphology, creation of tooth crowns with wax.

**OPER:8122 Introduction to Operative Dentistry** 1 s.h.  
Introduction to basic didactic knowledge and psychomotor skills in the practice of operative dentistry in a preclinical setting with simulated scenarios; for first-year dental students.

**OPER:8124 Operative Dentistry I** 5 s.h.  
Basic didactic knowledge and psychomotor skills of principles, terminology, instruments, materials, and techniques utilized in the practice of operative dentistry in a preclinical setting with simulated scenarios; for first-year dental students. Prerequisites: OPER:8120.

**OPER:8240 Operative Dentistry II** 3 s.h.  
Principles of cavity preparation and digital workflow for designing and fabrication of restoration using CAD/CAM, dental material properties and applications, principles of caries management and restoration on simulated caries, peer exercises on basic clinical concepts. Prerequisites: OPER:8124.

**OPER:8243 Introduction to Clinical Operative Dentistry** 3 s.h.  
Students provide clinical care from diagnosis and treatment planning to caries and non-carious lesion management in patients; clinical experience in restoring teeth with small to moderate lesions or defects; demonstration of effective patient management skills (including pain control), professionalism, and critical thinking; esthetic dentistry including tooth bleaching, tooth recontouring, and esthetic buildups with dental composite. Prerequisites: OPER:8120 and OPER:8124 and OPER:8240.

**OPER:8369 Introduction to Operative Dentistry III** 2 s.h.  
Introduction to a combination of didactic and clinical aspects of operative dentistry; medical and surgical management of dental disease; emphasis on minimally invasive dentistry with advanced aesthetic principles.

**OPER:8370 Operative Dentistry III****arr.**

Combination of didactic and clinical aspects of operative dentistry; medical and surgical management of dental disease; emphasis on minimally invasive dentistry with advanced aesthetic principles.



# Operative Dentistry, Professional Certificate

## Requirements

Students can earn the professional Certificate in Operative Dentistry in conjunction with an M.S. or Ph.D. in oral science. Completion of the certificate and the M.S. requires 36 months of full-time study. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the certificate.

The M.S. requires additional coursework as well as a thesis and oral and written comprehensive exams. Students have some flexibility in their curriculum to take courses that particularly interest them; see Oral Science [p. 1352] in the Catalog.

The Certificate in Operative Dentistry is a professional clinical advanced educational program that provides dentists with training for teaching, research, and the clinical practice of operative dentistry. The Operative Dentistry Advanced Education Program meets the educational requirements for application to take the board certification examinations of the American Board of Operative Dentistry. Operative dentistry is recognized by the American Dental Association as an interest area in general dentistry.

## Admission

Applicants to the certificate program must be graduates of an accredited United States or recognized international dental school and must meet the admission requirements of the Graduate College. The department may request an interview with an applicant.

Students must provide their own financial support for the certificate and degree programs, including research and thesis expenses.

For more information, visit the Department of Operative Dentistry website.

# Oral and Maxillofacial Surgery

## Head

- Kirk L. Fridrich

## Assistant Head

- Richard G. Burton

## Director, Graduate Program

- Steven L. Fletcher

**Professional certificate:** oral and maxillofacial surgery

**Faculty:** <https://gme.medicine.uiowa.edu/oral-and-maxillofacial-surgery-residency/our-people/faculty>

**Website:** <https://gme.medicine.uiowa.edu/oral-and-maxillofacial-surgery-residency>

The Department of Oral and Maxillofacial Surgery combines clinical and didactic training to fit the individual interests, abilities, and development of students. Its training program for predoctoral students is based in the College of Dentistry, with some clinical assignments in the oral and maxillofacial surgery division at University of Iowa Hospitals & Clinics. Its certificate program is based primarily in the Oral and Maxillofacial Surgery Residency program at University of Iowa Hospitals & Clinics.

## D.D.S. Student Training

The Doctor of Dental Surgery curriculum in oral and maxillofacial surgery is designed to develop a foundation of professional knowledge and surgical skills that will enable students to diagnose and manage surgical problems related to general dentistry practice. The program emphasizes high ethical standards and development of good surgical concepts and judgment.

The clinical portion of the curriculum allows students to develop surgical skills and apply the theoretical knowledge acquired in didactic courses. Theory and application of anesthesia-analgesia, intravenous sedation, and nitrous oxide analgesia techniques are presented through didactic and clinical experiences.

## Programs

### Professional Program of Study Certificate

- Certificate in Oral and Maxillofacial Surgery [p. 1347]

## Facilities

The University of Iowa health sciences campus has outstanding basic and clinical science departments that stimulate and support scholarly research and superior clinical practice. Appropriate environments for residency training in oral and maxillofacial surgery are provided by University of Iowa Hospitals & Clinics, the College of Dentistry, and the Carver College of Medicine.

## Courses

### Oral and Maxillofacial Surgery Courses

#### OMFS:5208 Pain and Anxiety Control 0-3 s.h.

Nitrous oxide; intravenous, oral, intramuscular anxiety and pain control; pharmacology of agents; complications, their management.

#### OMFS:5220 Research Methodology arr.

Research terminology; application of ethical, quantitative, and qualitative approaches to research; critical analysis of published research; guide and oversee Institutional Review Board (IRB) protocol processes.

#### OMFS:8115 Anesthesia and Pain Control I 1 s.h.

Principles, techniques of complete medical history, head and neck examination, cardiovascular and respiratory examination; neuroanatomical, psychophysiological aspects of pain; pharmacologic action and techniques for using local anesthetics.

#### OMFS:8230 Basic Oral and Maxillofacial Surgery 2 s.h.

In-depth review and instruction pertaining to systemic medical considerations which may affect oral and maxillofacial surgery (OMFS), wound repair, principles of asepsis, routine and complicated exodontia, surgical complications and informed consent, preprosthetic surgery, medical emergencies, management of patients undergoing radiation therapy and chemotherapy, infections, OMFS trauma, temporomandibular disorders, and maxillary sinus and salivary gland disorders.

#### OMFS:8245 Anesthesia and Pain Control II 1 s.h.

Theory, application, and instrumentation of nitrous oxide and IV sedation; emphasis on cardiovascular and respiratory physiology; pre-anesthetic evaluation of patients and practical techniques for nitrous oxide sedation.

#### OMFS:8355 Advanced Oral and Maxillofacial Surgery 1 s.h.

History, evaluation, diagnosis, and treatment of diseases and traumatic injuries of the oral and maxillofacial region.

#### OMFS:8360 Clinical Oral and Maxillofacial Surgery arr.

Clinical experience at the College of Dentistry and University of Iowa Hospitals & Clinics.

# Oral and Maxillofacial Surgery, Professional Certificate

## Requirements

### Residency Program

The department offers a four-year residency program that culminates in the professional Certificate in Oral and Maxillofacial Surgery. The program combines clinical and didactic training to prepare dentists for specialty practice. Every effort is made to adapt the program to the individual interests, abilities, and development of students, but it is essential that all students meet certain fundamental requirements.

Recommendations of the American Dental Association, the Committee on Graduate Training of the American Association of Oral and Maxillofacial Surgeons, and the American Board of Oral and Maxillofacial Surgery have been considered carefully in planning the structure and scope of training.

The residency period covers four years of hospital training, providing an orientation to hospital procedures, integration of basic and clinical sciences, acquisition of surgery principles, and familiarization with varied aspects of health services.

Competence in clinical oral and maxillofacial surgery requires knowledge of the basic medical sciences related to the specialty. In addition to hospital and clinical training, residents take advanced coursework in subjects such as applied pharmacology, surgical anatomy, pathology, physiology, and microbiology. They also review closely related disciplines such as radiology, anesthesiology, physical diagnosis, and laboratory procedures. Development and implementation of a research project under staff supervision enhance the value of the residency training.

The assumption of increased responsibility and the opportunity for clinical and operating room experience are important aspects of residency training. Residents gain clinical training in anesthesia through an assigned rotation in the Department of Anesthesia (Carver College of Medicine). Previous advanced training in physical diagnosis, physiology, pharmacology, and pathology take on greater clinical significance, and increased responsibility in the operating room as first assistant and surgeon further develops surgical judgment and skills.

Senior residents may be given responsibility for major oral and maxillofacial surgical cases during rotations at University of Iowa Hospitals & Clinics. Each fourth-year resident is assigned to a rotation as a clinical and didactic coordinator and assumes responsibility to qualify for examination by the American Board of Oral and Maxillofacial Surgery. To learn more about Iowa's program, visit the Oral and Maxillofacial Surgery Residency website.

## Admission

Students may begin the four-year certificate program only on July 1. Applicants are selected through a post-D.D.S. dental matching program sponsored by the American Association of Oral and Maxillofacial Surgeons. The application deadline for the match in oral and maxillofacial surgery is September 1 for

admission the following July. Appointments are made after the match results are revealed and the staff elects to take official action. Appointments are offered on or before February 1 for the following July.

Applicants must have graduated from an accredited college of dentistry, should be in the upper one-fourth of their graduating class, and must be eligible to be licensed to practice dentistry in the United States.

# Oral Pathology, Radiology, and Medicine

## Head

- Trishul V. Allareddy

**Professional certificates:** oral and maxillofacial pathology; oral and maxillofacial radiology

**Faculty:** <https://dentistry.uiowa.edu/directory>

**Website:** <https://dentistry.uiowa.edu/oprm>

The Department of Oral Pathology, Radiology, and Medicine educates predoctoral and graduate students. The department has diverse curricular responsibility and faculty members with widely varied disciplinary expertise.

## D.D.S. Student Training

The department teaches dental students about diseases that manifest in and around the oral and maxillofacial region. Students learn about the clinical, radiographic, laboratory, histopathologic, and therapeutic management of these diseases and about their etiology and natural history. They also study identification of systemic diseases and the oral implications through physical evaluation of patients.

## Programs

### Professional Programs of Study Certificates

- Certificate in Oral and Maxillofacial Pathology [p. 1350]
- Certificate in Oral and Maxillofacial Radiology [p. 1351]

## Facilities

Facilities reserved for the Department of Oral Pathology, Radiology, and Medicine include a radiology special procedures area, an interpretation room, a surgical oral pathology laboratory, a clinical pathology laboratory with areas for histopathology, and a seminar room for small groups of graduate and undergraduate students.

In addition, the College of Dentistry has joint-use research laboratories that are well equipped and staffed for conducting research involving histology, histochemistry, materials technology, radiobiology, ultrastructure, and electron probe analysis and quantification.

## Courses

### Oral Pathology, Radiology, and Medicine Courses

**OPRM:5200 Stomatology Literature Review** 0-3 s.h.  
Current literature in oral and maxillofacial pathology and radiology; presentation of graduate student research; development of lectures or seminars for D.D.S. or graduate students, or continuing education for peers and practicing dentists.

**OPRM:5225 Manifestations of Oral and Paraoral Disease** 0-3 s.h.  
Clinical experience in diagnosing, managing patients.

**OPRM:5226 Oral Pathology for Graduate Students** 0-1 s.h.  
Head and neck diseases, abnormalities.

**OPRM:5227 Surgical Oral Pathology** 0-1 s.h.  
Experience in day-to-day operations of surgical oral pathology laboratory; advanced training in histopathologic diagnosis of oral and maxillofacial diseases. Corequisites: OPRM:5240, if not taken as a prerequisite.

**OPRM:5228 Introduction to Surgical Oral Pathology** 0-1 s.h.  
Day-to-day operations of surgical oral pathology laboratory; histopathologic diagnosis of oral and maxillofacial diseases.

**OPRM:5230 Research in Oral Pathology, Radiology, and Medicine** 0-3 s.h.  
Includes thesis preparation.

**OPRM:5238 Introduction to Histopathology** 0-1 s.h.  
Case studies; histopathologic diagnosis of diseases that affect oral and maxillofacial region.

**OPRM:5240 Histopathology** 0-1 s.h.  
Case studies; advanced training in histopathologic diagnosis of diseases that affect oral and maxillofacial region. Corequisites: ORDN:5202, if not taken as a prerequisite.

**OPRM:5241 Hospital Oral Pathology, Radiology, and Medicine** 0-3 s.h.  
Management of patient consultations, diagnosis, therapy at a hospital-based dental service.

**OPRM:5242 Clinical Oral and Maxillofacial Radiology** 0-3 s.h.  
Radiologic manifestations of diseases; emphasis on craniofacial complex.

**OPRM:5243 Practical Oral and Maxillofacial Radiology** 0-3 s.h.  
Clinic participation; supervision of dental and dental hygiene students, review of their cases; participation in clinical radiology conferences, laboratory exercises.

**OPRM:5244 Technical Oral and Maxillofacial Radiology** 0-3 s.h.  
Experience with technical maintenance of darkroom, clinical equipment; troubleshooting under supervision of radiology staff.

**OPRM:5245 Head and Neck Radiology** 0-3 s.h.  
Hospital-based rotation in diagnostic radiology with participation in interpretation sessions; CT, MRI, nuclear medicine, ultrasound.

**OPRM:5246 Craniofacial Radiology** 0-3 s.h.  
Hospital-based rotation in diagnostic radiology; exposure to interpretive sessions on ultrasound, CT, MRI, nuclear medicine.

**OPRM:5256 Advanced Oral Pathology** 0-1 s.h.  
Diseases involving orofacial organs; emphasis on bibliographic research, biodynamic analysis of pathologic processes, diagnostic interpretation; content adapted to student interests. Requirements: graduate standing in oral pathology.

**OPRM:8120 Fundamentals of Oral Radiology** 1 s.h.  
Methods of clinical, radiographic examination, record keeping; correlation of basic, clinical sciences.

**OPRM:8235 Oral Pathology I 2 s.h.**

Application of biomedical science knowledge to diagnosis and management of oral and maxillofacial diseases, primarily surface epithelial diseases; classification of lesions and diseases of the oral and maxillofacial region into clinical categories, formulation of a clinical differential diagnosis, and recommendation of initial management based on clinical differential diagnosis.

**OPRM:8236 Oral Pathology II 2 s.h.**

Application of biomedical science knowledge to diagnosis and management of oral and maxillofacial diseases, primarily hard and soft tissue diseases/neoplasms and syndromes; identification of cause, pathogenesis, historical features, signs, symptoms, laboratory abnormalities, radiographic findings (where applicable), and recommended initial management of the most common and/or serious diseases and lesions of the oral and maxillofacial region. Prerequisites: OPRM:8235.

**OPRM:8240 Basic Pharmacology 3 s.h.**

Principles of pharmacology, pharmacologic actions of drugs, and correlation with therapeutic uses.

**OPRM:8245 Introduction to Clinical Oral Radiology 1 s.h.**

Principles, techniques of diagnosis, radiology, clinical pathology in clinical practice.

**OPRM:8355 Systemic Disease Manifestations 1 s.h.**

Clinical medicine for dental students; basic information for patient evaluation.

**OPRM:8360 Clinical Oral Diagnosis 1 s.h.**

Diagnosis of orofacial diseases by clinical, laboratory, radiographic and treatment planning methods; clinical case analysis.

**OPRM:8361 Clinical Oral Radiology arr.**

Making and processing intraoral, extraoral radiographs; principles of radiographic interpretation.

**OPRM:8362 Applied Oral Radiology 1 s.h.**

Builds on foundational knowledge learned in OPRM:8120 and OPRM:8245; emphasis on understanding disease process on radiographs and its interpretation. Prerequisites: OPRM:8120 and OPRM:8245.

**OPRM:8365 Clinical Oral Pathology 1 s.h.**

Oral and maxillofacial diseases: integration of the clinical, historical, radiographic features; therapeutic management.

**OPRM:8368 Applied Dental Pharmacology 2 s.h.**

Patients' medications and their implications for dental treatment; clinical use of medications that dentists may prescribe; guidelines for dental prescribing.

# Oral and Maxillofacial Pathology, Professional Certificate

## Requirements

The department offers the professional Certificate in Oral and Maxillofacial Pathology. The educational requirements of the certificate program meet the requirements for preparation of dental specialists set by the Commission on Dental Accreditation, the American Board of Oral and Maxillofacial Pathology. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the certificate.

Oral science involves the study of structure, function, and diseases of the oral and maxillofacial region. Study methods include examination of related histories, evaluation of clinical signs and symptoms, and use of biochemical, microscopic, and radiologic procedures to establish a diagnosis and plan for therapeutic management.

The department's programs are diverse and flexible, allowing students to obtain advanced clinical, didactic, and research-related education while earning a professional certificate. Students working toward the certificate may pursue a Master of Science in oral science in conjunction with the certificate; see "Graduate Study" below.

## Graduate Study

Students earning the department's certificate may pursue a Master of Science in oral science while they work toward the certificate. They pursue the M.S. track that corresponds with the certificate. Each program combines the minimum requirements of the M.S. and the certificate; completion time usually is 36 to 48 months.

All students in the combined programs pursue comprehensive study of basic biologic and health sciences in preparation for teaching and research. They must complete the courses listed below, including the core courses and the basic science and departmental courses listed for their M.S. track. They also must prepare, submit, and defend their thesis based on the results of research conducted during their course of study. See the M.S. in oral science [p. 1353] in the Catalog for additional information about requirements and admission.

## Core Courses

Code	Title	Hours
OPRM:5200	Stomatology Literature Review	0-1
OPRM:5226	Oral Pathology for Graduate Students	0-1
OPRM:5242	Clinical Oral and Maxillofacial Radiology	0-1
ORSC:5200	Seminars in Dental Research	1
ORSC:5210	Dental Sciences Research Methodology	2
ORSC:5212	Statistical Methods for Dental Research	3
ORSC:5215	Research Design in Dentistry	2
ORSC:5600	Research in Oral Science (taken for a total of 9 s.h.)	9

OTO:8199	Foundations of Otolaryngology	2
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## Track Courses

Code	Title	Hours
OPRM:5225	Manifestations of Oral and Paraoral Disease	0-1
OPRM:5227	Surgical Oral Pathology	1
OPRM:5240	Histopathology	1
OPRM:5256	Advanced Oral Pathology	0-1
DPH:6017	Teaching Methods and Evaluation	2
MED:8133	Mechanisms of Health and Disease II	7
MED:8134	Mechanisms of Health and Disease III	11
ORSC:5280	Advanced Dental Therapeutics	1

## Admission

Applicants must have successfully completed an accredited program leading to the D.D.S. or D.M.D., or an international equivalent, and must meet the admission requirements of the Graduate College. They must have a cumulative g.p.a. of at least 3.00 (or international equivalent) to be considered for admission.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

The department's faculty makes final decisions on acceptance of applicants who meet the requirements for admission. A personal interview is required.

# Oral and Maxillofacial Radiology, Professional Certificate

## Requirements

The department offers the professional Certificate in Oral and Maxillofacial Radiology. The educational requirements of the certificate program meet the requirements for preparation of dental specialists in oral and maxillofacial radiology set by the Commission on Dental Accreditation and the American Board of Oral and Maxillofacial Radiology. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the certificate.

Oral and maxillofacial radiology involves the study of structure, function, and diseases of the oral and maxillofacial region. Study methods include examination of related histories, evaluation of clinical signs and symptoms, and use of radiologic procedures for interpretation and to establish a diagnosis and plan for therapeutic management.

The department's programs are diverse and flexible, allowing students to obtain advanced clinical, didactic, and research-related education while earning a professional certificate. Students working toward the certificate may pursue a Master of Science in oral science in conjunction with the certificate; see "Graduate Study" below.

## Graduate Study

Students earning the department's certificate may pursue a Master of Science in oral science while they work toward the certificate. They pursue the M.S. track that corresponds with the certificate. Each program combines the minimum requirements of the M.S. and the certificate; completion time usually is 36 to 48 months.

All students in the combined programs pursue comprehensive study of basic biologic and health sciences in preparation for teaching and research. They must complete the courses listed below, including the core courses and the basic science and departmental courses listed for their M.S. track. They also must prepare and submit a thesis based on the results of research conducted during their course of study. See the M.S. in oral science [p. 1353] in the Catalog for additional information about requirements and admission.

## Core Courses

Code	Title	Hours
OPRM:5200	Stomatology Literature Review	0-1
OPRM:5226	Oral Pathology for Graduate Students	0-1
OPRM:5242	Clinical Oral and Maxillofacial Radiology	0-2
ORSC:5200	Seminars in Dental Research	1
ORSC:5210	Dental Sciences Research Methodology	2
ORSC:5212	Statistical Methods for Dental Research	3
ORSC:5215	Research Design in Dentistry	2
ORSC:5600	Research in Oral Science (taken for a total of 9 s.h.)	9

OTO:8199	Foundations of Otolaryngology	2
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## Track Courses

Code	Title	Hours
OPRM:5243	Practical Oral and Maxillofacial Radiology	0-2
OPRM:5244	Technical Oral and Maxillofacial Radiology	0-2
OPRM:5245	Head and Neck Radiology	0-2
FRRB:3110	Medical Physics I	2
FRRB:3130	Radiation Safety and Radiobiology	2
PATH:8133	Introduction to Human Pathology for Graduate Students	3-4

## Admission

Applicants must have successfully completed an accredited program leading to the D.D.S. or D.M.D., or an international equivalent, and must meet the admission requirements of the Graduate College. They must have a cumulative g.p.a. of at least 3.00 (or international equivalent) to be considered for admission.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Passing the National Board Dental Examinations (NBDE) Part I and Part II or the Integrated (INBDE) is recommended but not required.

The department's faculty makes final decisions on acceptance of applicants who meet the requirements for admission. A personal interview is required.

# Oral Science

## Director

- Jeffrey A. Banas (Pediatric Dentistry)

**Graduate degrees:** M.S. in oral science; Ph.D. in oral science

**Faculty:** <https://dentistry.uiowa.edu/directory>

**Website:** <https://dentistry.uiowa.edu/students/specialty-programs/oral-science-graduate-program>

Graduate programs in oral science require that students complete courses from a core curriculum and conduct independent research leading to a thesis. The programs prepare graduates for a variety of career options. They are intended to equip graduates for a variety of career options for which the ability to conduct research or understand the principles of scientific inquiry are essential.

Students must enroll in a professional certificate program offered by a College of Dentistry department in order to enroll in the Master of Science program in oral science. The following departments offer their certificate students the opportunity to earn M.S. degrees in oral science: endodontics, prosthodontics, operative dentistry, periodontics, and oral pathology, radiology, and medicine.

## Programs

### Graduate Programs of Study

#### Majors

- Master of Science in Oral Science [p. 1353]
- Doctor of Philosophy in Oral Science [p. 1354]

## Courses

### Oral Science Courses

**ORSC:5200 Seminars in Dental Research** 0-1 s.h.

**ORSC:5210 Dental Sciences Research Methodology** 0,2 s.h.

Practical, experimental procedures in dental research; literature and design; writing of research protocols. Offered summer session.

**ORSC:5212 Statistical Methods for Dental Research** 0,3 s.h.

Descriptive methods, elementary probability, distributions, populations and samples, methods for analyzing percentage data and paired and unpaired measurement data, regression, correlation, and analysis of variance.

**ORSC:5215 Research Design in Dentistry** 0,2 s.h.

Types of studies used in dentistry; design validity; sampling methodologies; major descriptive and experimental designs used in dental research; application of statistical tests to these designs. Offered spring semesters.

**ORSC:5240 Pathophysiology of the Pulp-Dentin Complex** 0-3 s.h.

Biology of tissue; emphasis on pathological changes. Offered spring semesters of even years. Prerequisites: ORSC:5210.

**ORSC:5250 Current Concepts of Cariology** 0,2 s.h.

Etiology of dental caries; pathogenesis, development of preventive measures. Offered spring semesters of odd years. Prerequisites: ORSC:5210.

**ORSC:5260 Bone and Tooth Support Structure and Implants** 0,2 s.h.

Biology of bone and periodontal structures; biologic basis for therapeutic use of dental implants. Offered fall semesters of odd years.

**ORSC:5275 Oral Microbiology and Immunology** 0,2 s.h.

Principles of microbiology and immunology, aspects of microbial community development in the oral cavity, basic concepts of host/parasite interactions related to development of oral diseases; biological, immunological, and clinical manifestations induced by major oral pathogens. Offered spring semesters of odd years. Requirements: microbiology, biochemistry, and biology. Recommendations: immunology.

**ORSC:5280 Advanced Dental Therapeutics** 0-1 s.h.

Antimicrobial, analgesic, related therapies; emphasis on drug/drug interactions, dental implications of chronic cardiovascular and central nervous system medications. Offered fall semesters.

**ORSC:5300 Dental Management for Patients with Complex Medical History** 0-1 s.h.

Risk assessment, treatment planning, medically compromised patients, systemic complications, medical emergency in dental offices. Offered fall semesters of odd years.

**ORSC:5600 Research in Oral Science** arr.

Thesis research. Requirements: oral science M.S. or Ph.D. candidacy.

**ORSC:5610 Independent Study** 0-3 s.h.

Opportunity to pursue in-depth study in a particular area of interest; students meet with faculty member to design plan of study.

**ORSC:5620 Oral Sciences Colloquium** arr.

Presentations, seminars, and discussion sessions on research presentations; career and individual development plans for graduate and postdoctoral students in the oral sciences program.



# Oral Science, M.S.

## Learning Outcomes

### Acquisition of Broad-Based Foundational Knowledge in Oral Science

- Demonstrate a broad-based understanding in the scientific disciplines relevant to oral science.
- Demonstrate mastery of the literature and background knowledge pertaining to one's chosen area of research.
- Understand the principles of biostatistical analyses and appropriate engagement with biostatisticians.

### Development of Critical Thinking Skills

- Critically analyze primary scientific literature.
- Rationally debate and defend scientific viewpoints using scientific principles and critical analysis skills.
- Demonstrate problem-solving skills.

### Understanding of the Scientific Method and its Application

- Formulate hypotheses or experimental objectives that address knowledge gaps in the literature.
- Formulate a logical and feasible approach to test a hypothesis or accomplish research objectives.
- Critically evaluate results and draw appropriate conclusions from the data.

### Proficiency in Research

- Conduct research in a responsible and ethical manner.
- Carry out an in-depth research project and contribute intellectually and technically to all parts of its development, execution, and analysis.

### Proficiency in Scientific Communication

- Demonstrate proficiency in scientific writing as evidenced by first-author manuscripts and by composing grant applications.
- Organize, defend, and communicate ideas effectively in scientific oral presentations and settings.

### Interpersonal and Leadership Skills

- Demonstrate an ability to work, when appropriate, in teams or collaborative settings with a diverse workforce.
- Develop leadership skills, commensurate with experience, facilitate group discussions, teach, and/or conduct meetings.
- Effectively mentor and motivate subordinates and/or peers.
- Respond appropriately to positive or negative feedback.

## Requirements

The Master of Science program in oral science requires a minimum of 30 s.h. of graduate credit, including 21 s.h. of coursework, 9 s.h. of independent research leading to a thesis, and a final examination.

Students pursuing the M.S. must be enrolled in a clinical specialty training program offered by a College of Dentistry

department. Students should complete the M.S. and the clinical specialty training program in three years of study.

## Admission

Applicants to the M.S. program must meet the admission requirements of the Graduate College and those specified by the clinical department, including the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET) scores for applicants whose first language is not English.

A personal interview may be requested. Programs normally begin July 1 each year.

# Oral Science, Ph.D.

## Learning Outcomes

### Acquisition of Broad-Based Foundational Knowledge in Oral Science

- Demonstrate a broad-based understanding in the scientific disciplines relevant to oral science.
- Demonstrate mastery of the literature and background knowledge pertaining to one's chosen area of research.
- Understand the principles of biostatistical analyses and appropriate engagement with biostatisticians.

### Development of Critical Thinking Skills

- Critically analyze primary scientific literature.
- Rationally debate and defend scientific viewpoints using scientific principles and critical analysis skills.
- Demonstrate problem-solving skills.

### Understanding of the Scientific Method and its Application

- Formulate hypotheses or experimental objectives that address knowledge gaps in the literature.
- Formulate a logical and feasible approach to test a hypothesis or accomplish research objectives.
- Critically evaluate results and draw appropriate conclusions from the data.

### Proficiency in Research

- Conduct research in a responsible and ethical manner.
- Carry out an in-depth research project and contribute intellectually and technically to all parts of its development, execution, and analysis.

### Proficiency in Scientific Communication

- Demonstrate proficiency in scientific writing as evidenced by first-author manuscripts and by composing grant applications.
- Organize, defend, and communicate ideas effectively in scientific oral presentations and settings.

### Interpersonal and Leadership Skills

- Demonstrate an ability to work, when appropriate, in teams or collaborative settings with a diverse workforce.
- Develop leadership skills, commensurate with experience, facilitate group discussions, teach, and/or conduct meetings.
- Effectively mentor and motivate subordinates and/or peers.
- Respond appropriately to positive or negative feedback.

## Requirements

The Doctor of Philosophy program in oral science requires a minimum of 72 s.h. of graduate credit, including advanced coursework and original research that culminates in the successful defense of a dissertation. Students must pass a comprehensive examination, prepare and gain approval of a research project, and complete and successfully defend a dissertation that describes the results of their research.

Completion of the program usually requires four to six years of full-time study. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

## Admission

Applicants to the Ph.D. program must meet the admission requirements of the Graduate College and those specified by the program. Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL) or at least 550 on the paper-based test. Acceptable scores on the International English Language Testing System (IELTS) or the Duolingo English Test (DET) also may be submitted.

Applicants to the Ph.D. program must submit a statement describing past research experience and current research interests, and state how completion of the Ph.D. program fits their career goals.

Applications and transcripts are reviewed and accepted on a continuing basis. A personal interview may be requested.

Programs normally begin July 1 each year.

# Orthodontics

## Head

- Lina M. Moreno Uribe

**Professional certificate:** orthodontics

**Graduate degree:** M.S. in orthodontics

**Faculty:** <https://dentistry.uiowa.edu/directory?cohort=449167&page=1&size=10>

**Website:** <https://dentistry.uiowa.edu/departments/orthodontics>

The Department of Orthodontics educates predoctoral, professional, and resident/graduate students for careers as practicing dentists, orthodontists, researchers, and teachers. The department also conducts major research programs and receives significant funding from the National Institutes of Health (NIH). It delivers state-of-the-art treatment to patients—adults, children, and adolescents with a range of orthodontic, craniofacial, and related issues.

The goal of the resident/graduate program in orthodontics is to educate competent individuals to initially practice orthodontics and dentofacial orthopedics. Additional goals include providing clinical services for citizens of Iowa and educating students in methods of scientific inquiry. The programs' objectives are to provide students with an in-depth education in biological and biomechanical principles related to orthodontics; to teach students to diagnose, plan, and deliver comprehensive orthodontic health care service; and to develop students' research and service skills.

Opportunities are available for research and independent study in the department, and there are special facilities for research in biomechanics and craniofacial growth. Interaction with other departments provides learning and research opportunities in surgical orthodontics, cleft lip and palate treatment, speech pathology, animal experimentation, and human growth.

## D.D.S. Student Training

The Department of Orthodontics prepares Doctor of Dental Surgery students to competently recognize malocclusions of teeth in preparation for decision making regarding treatment or referral. The lecture course guides D.D.S. students in learning concepts of dental development and facial growth to maturity, as well as treatment-oriented subject matter ranging from limited, interceptive treatment through possible comprehensive treatment options. In a laboratory course, case-based material is utilized to give students experience with evaluating diagnostic casts, radiographs, and clinical findings for space management decision-making purposes. Experience also is included in the basics of fabricating a limited range of orthodontic appliances.

## Programs

### Professional Program of Study

#### Certificate

- Certificate in Orthodontics [p. 1356]

### Graduate Program of Study

#### Major

- Master of Science in Orthodontics [p. 1357]

## Courses

### Orthodontics Courses

<b>ORDN:5200 Control Theory and Craniofacial Morphogenetic Systems</b>	<b>0-1 s.h.</b>
<b>ORDN:5201 Orthodontic Theory: Diagnosis and Treatment Plan</b>	<b>0,2 s.h.</b>
Diagnosis, treatment planning implementation.	
<b>ORDN:5202 Diagnosis and Treatment Planning</b>	<b>0,2 s.h.</b>
Literature concerning orthodontic diagnosis; treatment of particular problems; case histories of patients treated in graduate clinic.	
<b>ORDN:5203 Advanced Orthodontic Technique</b>	<b>0-3 s.h.</b>
Skills for treatment of disfiguring malocclusions; use of edgewise biomechanical therapy; laboratory focus on typodont exercises.	
<b>ORDN:5204 Biomechanics</b>	<b>0-3 s.h.</b>
<b>ORDN:5205 Facial Growth</b>	<b>0-2 s.h.</b>
Theories, processes; use of accepted facial growth concepts in treatment of individuals with malocclusions during active growth period.	
<b>ORDN:5209 Orthodontic Practicum</b>	<b>0-3 s.h.</b>
Clinical practice.	
<b>ORDN:5210 Orthodontic Seminar</b>	<b>0-3 s.h.</b>
Evaluation, discussion, criticism, defense of diagnostic and treatment approaches to orthodontic cases that need, are undergoing, or have completed orthodontic treatment.	
<b>ORDN:5217 Cephalometrics</b>	<b>0-3 s.h.</b>
Use of skull X-ray (lateral and/or postero-anterior) in formulating orthodontic diagnosis, treatment plans for malocclusions; cephalometrics as a tool for craniofacial structure research.	
<b>ORDN:5220 Craniofacial Anatomy</b>	<b>0-3 s.h.</b>
Literature on anatomy, phylogeny, ontogenesis, physiology of craniofacial structures.	
<b>ORDN:5221 Surgical Orthodontic Seminar</b>	<b>0-1 s.h.</b>
Evaluation, discussion, criticism, defense of diagnostic and treatment approaches to orthodontic cases that need, are undergoing, or have completed surgical-orthodontic treatment.	
<b>ORDN:5400 Dental Treatment of Maxillofacial Deformities</b>	<b>0,2 s.h.</b>
<b>ORDN:6211 Problems: Orthodontics</b>	<b>0-3 s.h.</b>
<b>ORDN:6212 Research: Orthodontics</b>	<b>0-3 s.h.</b>
<b>ORDN:6215 Orthodontic Journal Club</b>	<b>0-3 s.h.</b>
Current biological, technical publications.	
<b>ORDN:8215 Growth and Development</b>	<b>1 s.h.</b>
Normal human growth and development; emphasis on craniofacial region.	
<b>ORDN:8235 Orthodontic Laboratory</b>	<b>1 s.h.</b>
Limited care case diagnosis and treatment.	
<b>ORDN:8236 Orthodontic Treatment</b>	<b>1 s.h.</b>
From patient management to use of appliances for correcting some malocclusions in the general practitioner's office.	

# Orthodontics, Professional Certificate

## Requirements

The professional Certificate in Orthodontics requires satisfactory completion of 24 months of intensive study, including lecture courses, seminars, clinical practicum, and a research paper. Students earn the certificate while they complete work for the M.S. in orthodontics. They must maintain a cumulative g.p.a. of at least 3.00 to earn the certificate.

## Admission

Applicants must have a D.D.S. degree or equivalent and meet the admission requirements of the Graduate College. They should submit a letter from their respective dental school dean stating their class rank or that no class ranks are provided, and also supply three recommendation letters from dental school faculty.

Application deadline is August 1 for entry the following July 1. Applicants are required to travel to the University of Iowa for interviews with department faculty.

# Orthodontics, M.S.

## Learning Outcomes

Individuals will be:

- credentialed to practice orthodontics and dentofacial orthopedics;
- proficient in the scientific method, demonstrated by successful defense of their M.S. thesis;
- proficient in biological and biomechanical principles of tooth movement as demonstrated by clinical treatment of orthodontic patients with malocclusions;
- proficient in diagnosis, treatment planning, and treatment delivery as demonstrated by clinical treatment of orthodontic patients with malocclusions;
- proficient in diagnosis, treatment planning, and treatment delivery as demonstrated by clinical treatment of craniofacial anomalies patients; and
- proficient in interdisciplinary interaction with other dental specialties such as oral surgery, pediatric dentistry, periodontics, and endodontics as demonstrated by opportunities to coordinate care of orthodontic and craniofacial anomalies patients.

## Requirements

The Master of Science program in orthodontics requires 59 s.h. of graduate credit. Students must satisfactorily complete a thesis based on an original research project to qualify for the M.S. degree. They must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students begin work on the two-year program in July.

The M.S. with a major in orthodontics requires the following work.

### First Year, Summer

Code	Title	Hours
All of these:		
ORDN:5203	Advanced Orthodontic Technique	1
ORDN:5209	Orthodontic Practicum	2
ORDN:5217	Cephalometrics	3

### First Year, Fall

Code	Title	Hours
All of these:		
ORDN:5201	Orthodontic Theory: Diagnosis and Treatment Plan	2
ORDN:5203	Advanced Orthodontic Technique	1
ORDN:5205	Facial Growth	2
ORDN:5209	Orthodontic Practicum	2
ORDN:5210	Orthodontic Seminar	2
ORDN:5221	Surgical Orthodontic Seminar	1
ORSC:5212	Statistical Methods for Dental Research	3

### First Year, Spring

Code	Title	Hours
All of these:		
ORDN:5200	Control Theory and Craniofacial Morphogenetic Systems	1
ORDN:5202	Diagnosis and Treatment Planning	2
ORDN:5204	Biomechanics	1
ORDN:5209	Orthodontic Practicum	2
ORDN:5210	Orthodontic Seminar	2
ORDN:5220	Craniofacial Anatomy	1
ORDN:5221	Surgical Orthodontic Seminar	1
ORDN:5400	Dental Treatment of Maxillofacial Deformities	2
ORDN:6212	Research: Orthodontics	2

### Second Year, Summer

Code	Title	Hours
Both of these:		
ORDN:5209	Orthodontic Practicum	3
ORDN:6212	Research: Orthodontics	2

### Second Year, Fall

Code	Title	Hours
All of these:		
ORDN:5209	Orthodontic Practicum	2
ORDN:5210	Orthodontic Seminar	2
ORDN:5221	Surgical Orthodontic Seminar	1
ORDN:5400	Dental Treatment of Maxillofacial Deformities	2
ORDN:6211	Problems: Orthodontics	1
ORDN:6212	Research: Orthodontics	2
ORDN:6215	Orthodontic Journal Club	1

### Second Year, Spring

Code	Title	Hours
All of these:		
ORDN:5209	Orthodontic Practicum	2
ORDN:5210	Orthodontic Seminar	2
ORDN:5221	Surgical Orthodontic Seminar	1
ORDN:5400	Dental Treatment of Maxillofacial Deformities	2
ORDN:6212	Research: Orthodontics	2
ORDN:6215	Orthodontic Journal Club	1

For more information, contact the Department of Orthodontics.

## Admission

Applicants must have a D.D.S. degree or equivalent and meet the admission requirements of the Graduate College. Application deadline is August 1 for entry the following July 1. Applicants are required to travel to the University of Iowa for interviews with department faculty.

# Pediatric Dentistry

## Head

- Karin Weber-Gasparoni

## Graduate Program Director

- Kecia S. Leary

## Associate Graduate Program Director

- Amy B. Lesch

**Professional certificate:** pediatric dentistry

**Faculty:** [https://dentistry.uiowa.edu/directory?](https://dentistry.uiowa.edu/directory?cohort=511578&appointment=&category=&query=&page=1&size=25)

[cohort=511578&appointment=&category=&query=&page=1&size=25](https://dentistry.uiowa.edu/directory?cohort=511578&appointment=&category=&query=&page=1&size=25)

**Website:** <https://dentistry.uiowa.edu/departments/pediatric-dentistry>

The Department of Pediatric Dentistry instructs predoctoral and professional students in the prevention and treatment of dental diseases in children as well as individuals with special health care needs. Instruction combines didactic, laboratory, and clinical experiences and gives special consideration to reviewing current literature and managing dental problems of children and individuals with special health care needs. It also emphasizes efficient treatment through proper use of dental auxiliary personnel and record management.

## D.D.S. Student Training

All second-year Doctor of Dental Surgery students participate in a one-semester lecture course that includes preclinical exercises in the Simulation Clinic. Third-year D.D.S. students participate in a clerkship, which includes a combined seminar and clinical course. During their fourth year, D.D.S. students participate in a rotation through the department's clinics.

## Research Opportunities

Clinical and laboratory research projects have financial support from federal agencies and other sources. Major research areas include cariology, dental materials, dentistry for persons with special health care needs, growth and development, fluoride therapy, child behavior management, nutrition, prevention, and access to care.

## Faculty

Faculty members hold numerous professional offices at national and state levels, committee memberships, consultantships, and honors in professional organizations. They serve as reviewers for professional journals and federal granting agencies. They also participate regularly in continuing education programs for dentists and other health science personnel.

## Programs

### Professional Program of Study Certificate

- Certificate in Pediatric Dentistry [p. 1359]

## Courses

### Pediatric Dentistry Courses

<b>PEDO:5220 Social, Cultural, and Public Health Issues in Pediatric Dentistry</b>	<b>0-1 s.h.</b>
<b>PEDO:5700 Advanced Didactic Pediatric Dentistry</b>	<b>0-1 s.h.</b>
Lectures in advanced pediatric dentistry.	
<b>PEDO:5704 Pediatric Dentistry Grand Rounds</b>	<b>0-1 s.h.</b>
Pediatric dentistry rounds.	
<b>PEDO:5706 Journal Review Practicum</b>	<b>0-1 s.h.</b>
Review of journal material in pediatric dentistry.	
<b>PEDO:5724 Oral Health Care for People with Special Health Care Needs</b>	<b>0-1 s.h.</b>
Providing oral health care for individuals with disabilities.	
<b>PEDO:5730 Advanced Clinical Pediatric Dentistry</b>	<b>0-2 s.h.</b>
Advanced study in clinical pediatric dentistry.	
<b>PEDO:5732 Pediatric Physical Diagnosis</b>	<b>0-1 s.h.</b>
Pediatric physical diagnosis for dental practice.	
<b>PEDO:5738 Clinical Application of Pediatric Conscious Sedation</b>	<b>0-1 s.h.</b>
<b>PEDO:6710 Practical Teaching in Pediatric Dentistry</b>	<b>0-1 s.h.</b>
<b>PEDO:8240 Pediatric Dentistry Diagnosis and Treatment</b>	<b>3 s.h.</b>
Growth and development, behavior management, diagnostic-preventive-restorative techniques for pediatric patients.	
<b>PEDO:8370 Pediatric Dentistry: Clinical Applicationsarr.</b>	
Combination of didactic and clinical aspects of pediatric dentistry; radiographic interpretations, treatment planning, preventative and restorative treatment supported by didactic seminars; clinical examinations and treatments provided to infants and children less than 16 years of age.	

# Pediatric Dentistry, Professional Certificate

## Requirements

The professional Certificate in Pediatric Dentistry is a two-year residency program that prepares students for certification by the American Board of Pediatric Dentistry. Certificate students are trained in all phases of pediatric dentistry and have career choices in private practice, public health, education, or research. Special emphasis is placed on development of leadership skills and strategies for serving vulnerable populations.

The department's certificate program is accredited by the Commission on Dental Accreditation of the American Dental Association.

Approximately 60 percent of the certificate program is devoted to advanced clinical activity, 30 percent to didactic courses and practice teaching, and 10 percent to original research. The program includes a core of didactic, clinical, and research-oriented courses supplemented by electives determined by students' individual interests.

The program maintains close associations with the University of Iowa Stead Family Children's Hospital, Stead Family Department of Pediatrics [p. 1980] in the Roy J. and Lucille A. Carver College of Medicine, the Center for Disabilities and Development, and University of Iowa Hospitals & Clinics. These associations provide experiences with oral rehabilitation under general anesthesia, treatment of children with oral conscious sedation, instruction in physical diagnosis, and management of children with developmental disabilities.

A three-year graduate program in pediatric dentistry and dental public health allows individuals to earn a Certificate in Pediatric Dentistry and an M.S. degree in dental public health. For more information, visit Pediatric Combined Residency on the College of Dentistry and Dental Clinics website.

## Admission

Prospective students apply through the American Dental Education Association PASS program. Openings in the program are filled through the Postdoctoral Dental Matching Program. Applicants must meet the admission requirements of the Graduate College.

## Financial Support

Stipends for the two-year program are provided by federal agencies and other sources for qualified candidates.

# Periodontics

## Interim Head

- Satheesh Elangovan

**Professional certificate:** periodontics

**Faculty:** <https://dentistry.uiowa.edu/directory>

**Website:** <https://dentistry.uiowa.edu/periodontics>

The Department of Periodontics educates predoctoral students as well as professional students who may elect to pursue graduate study along with their professional training. The department also provides interdisciplinary care for patients with complex treatment needs; generates new knowledge through its research programs; and provides professional service and leadership at all levels, local to worldwide.

## D.D.S. Student Training

The periodontal program instructs Doctor of Dental Surgery students in the diagnosis and management of periodontal and peri-implant diseases and conditions. It combines didactic, laboratory, and clinical experiences and applies the biological concepts of periodontology to the comprehensive clinical management of patients.

## Programs

### Professional Program of Study

#### Certificate

- Certificate in Periodontics [p. 1361]

## Facilities

The department has 22 modern, well-equipped operatories devoted exclusively to periodontics.

Research facilities include laboratories in histology, microscopy, biomaterials, quantitation, tissue culture, biochemistry and molecular biology, and microbiology. Other facilities are available by arrangement with University of Iowa Hospitals & Clinics, Eckstein Medical Research Building, and Medical Laboratories.

## Courses

### Periodontics Courses

**PERI:5220 Periodontics Classic Literature Review** arr.

Foundation of core concepts pertaining to the field of periodontology; includes review and critical analysis of landmark studies that have shaped the development of contemporary concepts in diagnosis and management of periodontal conditions and diseases and implant dentistry in a multidisciplinary context.

**PERI:5700 Advanced Periodontology** 0-1 s.h.

**PERI:5710 Case Management Seminar** 0-2 s.h.  
Case management seminar in periodontics.

**PERI:5720 Current Topics** 0-1 s.h.  
Current topics in periodontics.

**PERI:5740 Periodontal Implant Provisionalization** 0-1 s.h.

**PERI:5750 Advanced Clinical Periodontics** 0,2 s.h.

**PERI:7208 Recent Advances in Periodontics** 0-3 s.h.  
Review of current literature.

**PERI:7700 Practice Management** 0-1 s.h.  
Practice management in periodontics.

**PERI:7701 Practice Teaching in Periodontics** 0-2 s.h.

**PERI:8120 Fundamentals in Periodontology I** 2 s.h.  
Normal periodontium, periodontal diseases, diagnosis etiology, epidemiology of periodontal diseases.

**PERI:8230 Fundamentals in Periodontology II** 1 s.h.  
Periodontal treatment planning, prognosis, initial phase of periodontal therapy, treatment of acute periodontal problems, overview of surgical procedures.

**PERI:8370 Clinical Periodontology** 4 s.h.  
Comprehensive concepts of periodontology and clinical management of patients.



# Periodontics, Professional Certificate

## Requirements

The professional Certificate in Periodontics requires 36 months of full-time study, including satisfactory completion of required didactic and clinical courses, satisfactory completion of comprehensive written and oral examinations, and an acceptable literature review or research paper. Opportunities are provided for experience in clinical and basic research.

Students working toward the Certificate in Periodontics must pursue the Master of Science in oral science in conjunction with the certificate; see "Graduate Study" below.

The certificate program provides a sound foundation for the clinical practice of periodontics. It meets all requirements of the American Dental Association's Commission on Dental Accreditation for advanced dental education programs in periodontics. It also meets the educational requirements for application to take board certification examinations of the American Board of Periodontology.

Certificate students must be financially prepared for uninterrupted pursuit of their program of study.

## Graduate Study

Students earning the Certificate in Periodontics must pursue a Master of Science in oral science concurrently while working toward certificate completion. The M.S. program requires 36 months of full-time study, including satisfactory completion of required and elective courses, preparation and defense of an acceptable thesis based on original research, and satisfactory completion of comprehensive written and oral examinations. See Oral Science [p. 1352] in the Catalog.

## Admission

Applicants to the periodontics certificate program must have a D.D.S. degree or the equivalent and meet the admission requirements of the Graduate College. Visit the College of Dentistry page on the Graduate Office of Admissions website to learn more about applying to the certificate program.

# Preventive and Community Dentistry

## Head

- Daniel J. Caplan

## Director, Graduate Program

- John J. Warren

**Graduate degree:** M.S. in dental public health

**Faculty:** [https://dentistry.uiowa.edu/directory?](https://dentistry.uiowa.edu/directory?cohort=511933&appointment=&category=&query=&page=1&size=25)

<https://dentistry.uiowa.edu/pcd>

The Department of Preventive and Community Dentistry educates future and practicing dental and oral health professionals, preparing them to understand and recognize:

- conditions that compromise patients;
- social, cultural, community, and political influences on dental practice;
- principles of preventive dentistry for individuals, groups, and communities; and
- considerations for preventing and treating oral disease in geriatric and special needs patients.

In addition to offering educational programs, the department provides patient care at the College of Dentistry and in a variety of off-campus settings. It also is home to research that advances dental public health. The department offers an M.S. degree in dental public health and the Certificate in Geriatric and Special Needs Dentistry [p. 1341].

## D.D.S. Student Training

Predoctoral training in preventive, community, and geriatric dentistry is designed to increase Doctor of Dental Surgery students' awareness of preventive dental practices, aspects of dental practices affected by community factors, and care of compromised adult patients.

Community dentistry programs give students opportunities to interact with health care teams and the public in Iowa and around the world. The department conducts off-site community programs statewide, nationwide, and worldwide. It also operates the Geriatric and Special Needs Clinic, which is housed in the Dental Science Building.

Using the community dentistry programs as the classroom, D.D.S. students observe and participate in a variety of activities that nurture their awareness of the societal obligations they must assume in order to become effective practitioners.

## Programs

### Graduate Program of Study

#### Major

- Master of Science in Dental Public Health [p. 1364]

## Courses

- Preventive and Community Dentistry Courses [p. 1362]
- Dental Public Health Courses [p. 1363]

## Preventive and Community Dentistry Courses

### PCD:8115 Clinical Practice and Professionalism I 1 s.h.

Preparation to deliver team-based interprofessional care through authentic lectures and group activities that reinforce interprofessional education (IPE) concepts by providing relevant and applicable health care experience; concepts and skills related to interprofessional education, team-based health care, interprofessional networking, ethics and professionalism, and person-centered care.

### PCD:8116 Fundamentals of Preventive Dentistry 1 s.h.

Identification of health and disease in the mouth through self-assessment, nutritional self-assessment, practical methods of disease control, primary preventive dentistry methods and materials, and philosophy of preventive dentistry.

### PCD:8117 Cariology and Preventive Therapies 2 s.h.

Principles of research design; introduction to microbiology and immunology; principles of oral microbiology with an emphasis on plaque development; microbiology of caries; coronal and root caries disease processes; dental caries epidemiology; roles of saliva and diet in dental health and disease; radiographic interpretation and clinical diagnosis; dental fluorosis; preventive dentistry treatment planning. Prerequisites: PCD:8116.

### PCD:8118 Preventive Dentistry Assessment and Patient Care 4 s.h.

Patient oral assessment; charting sulcus depth, recession and hard tissues; progress notes, and entries in electronic patient record; preventive dentistry, caries, and periodontal risk assessment; oral hygiene instruction for collegiate recall patients; instrumentation for detection and removal of calculus deposits; practice with patient management skills and ergonomics. Prerequisites: PCD:8116 and PCD:8117.

### PCD:8119 Clinical Practice and Professionalism II 1 s.h.

Introduction to patient-centered care, interpersonal and professional communication with patient, information exchange, and preventive treatment plan formulation in patient encounters.

### PCD:8120 Introduction to Evidence-Based Dentistry I 1 s.h.

Fundamental concepts needed to critique clinical research articles and health-related websites.

### PCD:8121 Introduction to Evidence-Based Dentistry II 1 s.h.

Application of concepts needed to critique scientific literature.

### PCD:8218 Critical Thinking and Evidence-Based Dentistry in Treatment Planning 1 s.h.

Continuation of PCD:8120; evidence-based dentistry, critical thinking and treatment planning sessions; online and small group sessions. Prerequisites: PCD:8120.

### PCD:8219 Clinical Practice and Professionalism III 1 s.h.

Continuation of PCD:8119; assessing patient understanding of practices for improving/maintaining oral health; overview of patient challenges to effective communication; application of behavioral science principles in dentistry and behavior theories. Prerequisites: PCD:8119.

### PCD:8245 Clinical Preventive Dentistry 0,2 s.h.

Experience providing complete prophylaxis and preventive services for college patients; application of nutrition principles and communication skills in a clinic setting. Prerequisites: PCD:8118.

**PCD:8319 Clinical Practice and Professionalism IV 1 s.h.**  
Continuation of PCD:8219; standardized patient exercises with chairside feedback and evaluation of communication skills; reflection regarding application of communication skills and behavioral science principles in patient encounters.

**PCD:8355 Introduction to Geriatric Dentistry 2 s.h.**  
Biological, psychological, and social aspects of aging; normal aging and disease processes associated with aging; pathological changes that affect oral health treatment of dental diseases and patient management. Requirements: D.D.S. enrollment or completion of dental hygiene program. Same as ASP:8355.

**PCD:8360 The Practice of Dentistry in the Community I 1-2 s.h.**  
Issues related to role of dental professional at local and state levels; students build skills and knowledge in development of a community outreach dental program.

**PCD:8361 The Practice of Dentistry in the Community II 1-2 s.h.**  
Factors that affect the practice of dentistry and the dental profession including health care systems in the U.S. and abroad, Medicaid/Medicare, health/dental insurance, health care delivery systems, malpractice, role of the Iowa Dental Board, dental workforce, and quality of care.

**PCD:8489 Geriatrics and Special Needs Program arr.**  
Experience in the Delta Dental of Iowa Geriatric and Special Needs Clinic and the Geriatric Mobile Dental Unit providing comprehensive care for medically, physically, intellectually, and/or cognitively compromised adults, functionally dependent elderly nursing home residents with portable dental equipment, and other underserved populations.

**PCD:8494 Oral Health Field Clinic 5 s.h.**  
Dental care for underserved populations; community experiences in a variety of settings including hospital-based clinics, federally qualified health centers, community health centers, and private practices.

**PCD:8500 Dental Student Research Honors Program arr.**  
Experience in conducting research. Requirements: D.D.S. enrollment and approval of mentor and program director.

## Dental Public Health Courses

**DPH:5000 Introduction to Dental Public Health 0,2 s.h.**  
Science, philosophy, practice of dental public health.

**DPH:5001 Literature Review Methods: Dental Public Health 0,2 s.h.**  
Concepts and process of literature review, particularly in area of student's interest.

**DPH:5005 Administration of Public Dental Programs 0,2 s.h.**  
Application of general management concepts; practical aspects of planning, financing, staffing, implementing, operating, evaluating dental public health programs at federal, state, local levels.

**DPH:5006 Preventive Programs in Dental Public Health 0,2 s.h.**  
Prevention and control methods for major dental conditions, primarily dental caries and periodontal diseases; clinical efficacy and cost-effectiveness; development of comprehensive preventive oral health plan for a community.

**DPH:5008 Field Experience in Dental Public Health arr.**  
Arranged with public and voluntary health agencies according to students' and agencies' needs.

**DPH:5009 Advanced Field Experience in Dental Public Health 1-3 s.h.**

Opportunity to research, develop, and implement programmatic objectives with local, state, national, and/or federal agencies and organizations on an issue that is both relevant to the student and the agency; may require off-site visits to agencies or organizations. Prerequisites: DPH:5008.

**DPH:5014 Dental Care Policy and Financing 0,2 s.h.**  
Dental financing and policy issues: payment mechanisms for health care service providers, third-party prepayment plans, salaried and public-financed programs, Medicaid and Medicare programs, dental insurance systems, and care of the underserved.

**DPH:5016 Introduction to Statistical Computing arr.**  
Use of statistical packages on a personal computer for data management and analysis. Offered summer session.

**DPH:5031 Geriatric Care 0,2 s.h.**  
Aging demographics; effects of aging on the human body with emphasis on the masticatory system; diseases commonly found among the elderly; and dental care for the elderly in different settings.

**DPH:6002 Research Protocol Seminar 0,2 s.h.**  
Development of a master's thesis protocol; identification of thesis topic, review of relevant literature, development of research methods, writing.

**DPH:6003 Independent Study: Dental Public Health 1-3 s.h.**

**DPH:6004 Principles of Oral Epidemiology 0-3 s.h.**  
Interpretation of scientific literature, with respect to the distribution and determinants of oral diseases and conditions, including caries, periodontal diseases, tooth loss, oral cancer, and more.

**DPH:6011 Thesis: Dental Public Health arr.**  
Protocol preparation; data collection, analysis, organization; writing, defense of research.

**DPH:6017 Teaching Methods and Evaluation arr.**  
Philosophies of dental education, teaching methodologies, evaluation; focus on learning to write educational objectives, writing and analyzing exam items.

**DPH:6018 Clinical Teaching Practicum: Preventive Dentistry 0-3 s.h.**  
Teaching experience in preventive dentistry clinic setting with first-year dental students; outcomes focused on methods in clinical teaching, evaluation, and remediation.

# Dental Public Health, M.S.

## Learning Outcomes

Students will demonstrate:

- in-depth knowledge of the core concepts of public health, including those within the disciplines of epidemiology, biostatistics, behavioral science, environmental health, and health care policy and management;
- in-depth knowledge of, and the ability to apply, the ten competencies that define dental public health—manage oral health programs for population health; evaluate systems of care that impact oral health; demonstrate ethical decision making in the practice of dental public health; design surveillance systems to measure oral health status and its determinants; communicate on oral and public health issues; lead collaborations on oral and public health issues; advocate for public health policy, legislation, and regulations to protect and promote the public's oral health and overall health; critically appraise evidence to address oral and public health issues for individuals and populations; conduct research to address oral and public health problems; and integrate the social determinants of health into dental public health practice; and
- critical thinking skills to develop and complete an evidenced-based research project as part of their master's thesis.

## Requirements

The Master of Science program in dental public health requires 40 s.h. of coursework and is designed to be completed in two academic years of full-time study. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

It prepares dentists and dental hygienists to be specialists in dental public health. The program emphasizes research and requires a research project culminating in the completion and defense of a thesis. Successful dentist graduates meet the educational requirements for eligibility to take the certifying examination of the American Board of Dental Public Health.

## Admission

Applicants must have a D.D.S. degree or equivalent or be a dental hygienist with a baccalaureate degree. They also must meet the admission requirements of the Graduate College and complete the Graduate Record Examination (GRE) General Test.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Dental Public Health, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
40 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
Graduate College program GPA of at least 3.00 is required. <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
First Year Comprehensive Exam <sup>d</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
DPH:5000	Introduction to Dental Public Health	2
DPH:5001	Literature Review Methods: Dental Public Health	2
DPH:5005	Administration of Public Dental Programs	2
DPH:5008	Field Experience in Dental Public Health	1
ORSC:5212	Statistical Methods for Dental Research	3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
BIOS:5120 or PSQF:6243	Regression Modeling and ANOVA in the Health Sciences or Intermediate Statistical Methods	3
DPH:5006	Preventive Programs in Dental Public Health	2
DPH:5009 or DPH:6018	Advanced Field Experience in Dental Public Health or Clinical Teaching Practicum: Preventive Dentistry	1
DPH:6002	Research Protocol Seminar	2
ORSC:5215	Research Design in Dentistry	2
<b>Hours</b>		<b>10</b>
<b>Summer</b>		
EPID:4400	Epidemiology I: Principles	3
PEDO:5220	Social, Cultural, and Public Health Issues in Pediatric Dentistry	1
ORSC:5210	Dental Sciences Research Methodology <sup>e</sup>	0,2
<b>Hours</b>		<b>4-6</b>
<b>Second Year</b>		
<b>Fall</b>		
Complete Thesis Data Collection		
DPH:6011	Thesis: Dental Public Health	2
DPH:6017	Teaching Methods and Evaluation	2
Elective course (if needed) <sup>f</sup>		
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
Thesis Completion		

CBH:5220 or CBH:4105	Health Behavior and Health Education or Introduction to Health Promotion and Disease Prevention	3
DPH:5014	Dental Care Policy and Financing	2
DPH:6004	Principles of Oral Epidemiology	2
DPH:6011	Thesis: Dental Public Health	2
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>9</b>
<b>Summer</b>		
DPH:5016	Introduction to Statistical Computing	1
DPH:6011	Thesis: Dental Public Health	1
HMP:4000	Introduction to the U.S. Health Care System	3
<b>Hours</b>		<b>5</b>
<b>Total Hours</b>		<b>44-46</b>

- a Note: Upon completion of the program, graduates are educationally qualified to take the ABDPH exam and become board-certified in Dental Public Health.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.
- d Taken at the end of first year.
- e Note: International students who must be enrolled full-time are required to take ORSC:5210 for 2 s.h.; does not count towards degree requirements.
- f Work with faculty advisor to choose appropriate graduate elective coursework.
- g Thesis defense; may complete during the summer after second year if necessary.

# Prosthodontics

## Head

- Seok Hwan "Aaron" Cho

**Professional certificate:** prosthodontics

**Faculty:** <https://dentistry.uiowa.edu/directory>

**Website:** <https://dentistry.uiowa.edu/departments/prosthodontics>

Prosthodontics is the dentistry specialty involving restoring or replacing teeth using crowns, fixed partial dentures (bridges), removable partial dentures, complete dentures, maxillofacial prostheses, and dental implants.

## D.D.S. Student Training

The Department of Prosthodontics instructs Doctor of Dental Surgery students in the basic principles, practices, and concepts of prosthodontics required for the practice of general dentistry. Students learn through laboratory projects and treatment of patients with differing prosthodontic needs.

### Programs

## Professional Program of Study

### Certificate

- Certificate in Prosthodontics [p. 1368]

### Facilities

Most didactic, clinical, and laboratory instruction and patient treatment takes place in the Department of Prosthodontics, which is located in the Dental Science Building. The building also houses the Doctor of Dental Surgery (D.D.S.) program, training programs in specialties recognized by the American Dental Association, and the Iowa Institute for Oral Health Research.

The college and the department provide supporting technologies that include cone beam CT radiography, implant imaging software, laboratory CAD/CAM (computer-aided design and computer-aided manufacturing) systems, and dental lasers.

Advanced prosthodontic students spend time at University of Iowa Hospitals & Clinics, where they work closely with medical professionals in other disciplines to treat medically compromised prosthodontic patients and those who require maxillofacial rehabilitation.

### Courses

## Prosthodontics Courses

<b>PROS:5700 Advanced Clinical Prosthodontics</b>	<b>0,2 s.h.</b>
<b>PROS:5710 Advanced Removable Prosthodontic Technique</b>	<b>0,2 s.h.</b>
<b>PROS:5720 Advanced Instrument Technique</b>	<b>0,2 s.h.</b>
<b>PROS:5730 Advanced Implant Techniques</b>	<b>0-2 s.h.</b>
<b>PROS:5740 Advanced Fixed Prosthodontics Technique</b>	<b>0,2 s.h.</b>
<b>PROS:5750 Clinical Issues and Treatment Planning in Prosthodontics</b>	<b>0-1 s.h.</b>

### **PROS:6220 Fixed Prosthodontics Literature Review**

**I** **0-4 s.h.**  
Fixed prosthodontic procedures; assigned readings, discussion of related research.

### **PROS:6221 Fixed Prosthodontics Literature Review**

**II** **0-4 s.h.**  
Porcelain-fused-to-metal and ceramic restorations, color science and esthetics; assigned readings, discussion of related research.

### **PROS:6222 Implant Literature Review**

**0-4 s.h.**  
Implant prosthodontics; assigned readings, discussion of related research.

### **PROS:6223 Occlusion Seminar**

**0-4 s.h.**  
Occlusion and the temporomandibular system; assigned readings and discussion of related research.

### **PROS:6224 Graduate Restorative Materials**

**0,2 s.h.**  
Dental materials science; mechanical, physical, and chemical properties of restorative materials; selection and manipulation.

### **PROS:6225 Complete Denture Literature Review**

**0-4 s.h.**  
Complete denture prosthodontics; assigned readings, discussion of related research.

### **PROS:6226 RPD Literature Review**

**0-4 s.h.**  
Removable partial denture prosthodontics; assigned readings, discussion of related research.

### **PROS:6700 Maxillofacial Prosthodontics Seminar**

**0-1 s.h.**  
**PROS:6710 Dental Implant Surgery for Prosthodontic Residents** **arr.**

Lecture and literature review covering implant surgery and complications for prosthodontics residents.

### **PROS:7700 Maxillofacial Prosthodontics Rotation**

**0-1 s.h.**

### **PROS:8120 Treatment of Dentulous Patients: Introduction to Occlusion Lecture**

**1 s.h.**  
Introduction to principles of occlusion and their clinical application.

### **PROS:8121 Treatment of Dentulous Patients: Introduction to Occlusion Lab**

**1 s.h.**  
Patient simulation exercises demonstrating principles of occlusion.

### **PROS:8122 Treatment of Dentulous Patients: Fixed Prosthodontics for Single Anterior Teeth Lecture**

**1 s.h.**  
Basic principles of fixed prosthodontics for single-unit anterior teeth; basic principles of tooth preparation, clinical steps, and digital procedures for fabrication of anterior single-tooth all-ceramic crowns and interim crowns. Prerequisites: PROS:8120 and PROS:8121.

### **PROS:8123 Treatment of Dentulous Patients: Fixed Prosthodontics for Single Anterior Teeth Lab**

**1 s.h.**  
Patient simulation exercises in single anterior tooth preparation, and fabrication of single-unit anterior all-ceramic and interim restorations. Prerequisites: PROS:8120 and PROS:8121.

### **PROS:8124 Treatment of Dentulous Patients: Fixed Prosthodontics for Single Posterior Teeth Lecture**

**1 s.h.**  
Basic biomechanical principles of fixed posterior single tooth prosthodontics; diagnosis and treatment planning for dentate patients including occlusion. Prerequisites: PROS:8120 and PROS:8121 and PROS:8122 and PROS:8123.

**PROS:8125 Treatment of Dentulous Patients: Fixed Prosthodontics for Single Posterior Teeth Lab 1 s.h.**

Patient simulation exercises in single posterior tooth preparation and laboratory fabrication of single-unit posterior definitive and interim restorations. Prerequisites: PROS:8120 and PROS:8121 and PROS:8122 and PROS:8123.

**PROS:8240 Treatment of Partially Edentulous Patients: Fixed Multi-Unit Prosthodontics Lecture 1 s.h.**

Basic biomechanical principles of fixed prosthodontics for multiple-unit fixed prostheses; diagnosis and treatment planning for partially edentulous patient, including occlusion and esthetic concerns.

**PROS:8241 Treatment of Partially Edentulous Patients: Fixed Multi-Unit Prosthodontics Patient Simulation I 1 s.h.**

Patient simulation exercises in preparation and fabrication of a three-unit fixed partial dental prosthesis and interim restoration.

**PROS:8242 Treatment of Partially Edentulous Patients: Single Tooth Implant Lecture 1 s.h.**

Principles, clinical steps, materials, and laboratory procedures necessary for single tooth fixed implant treatment.

Prerequisites: PROS:8240 and PROS:8241.

**PROS:8243 Treatment of Partially Edentulous Patients: Single Tooth Implant Patient Simulation 1 s.h.**

Clinical steps in laboratory procedures for single tooth implant surgical guide fabrication and restoration. Prerequisites: PROS:8240 and PROS:8241.

**PROS:8244 Treatment of Partially Edentulous Patients: Removable Partial Prosthodontics Lecture 1 s.h.**

Basic biomechanical principles of tooth replacement with removable partial prosthodontics; diagnosis and treatment planning for partially edentulous patients. Prerequisites: PROS:8240 and PROS:8241 and PROS:8242 and PROS:8243.

**PROS:8245 Treatment of Partially Edentulous Patients: Removable Partial Prosthodontics Patient Simulation 1 s.h.**

Laboratory exercises in basic principles, clinical steps, and laboratory procedures necessary for fabrication of removable partial dentures. Prerequisites: PROS:8240 and PROS:8241 and PROS:8242 and PROS:8243.

**PROS:8246 Treatment of Edentulous Patients: Removable Complete Prosthodontics Lecture 1 s.h.**

Fundamental principles of diagnosis and treatment planning for edentulous patients, surgical and prosthodontic protocols for oral rehabilitation of edentulism. Prerequisites: PROS:8240 and PROS:8241 and PROS:8242 and PROS:8243 and PROS:8244 and PROS:8245.

**PROS:8247 Treatment of Edentulous Patients: Removable Complete Prosthodontics Patient Simulation 1 s.h.**

Laboratory exercises in basic principles, clinical steps, and laboratory procedures necessary for fabrication of complete dentures, including implant over-dentures. Prerequisites: PROS:8240 and PROS:8241 and PROS:8242 and PROS:8243 and PROS:8244 and PROS:8245.

**PROS:8360 Prosthodontic Clinic arr.**

Experience supplemented by individual supervision, demonstration.

**PROS:8365 Prosthodontic Seminar I 1 s.h.**

Application of knowledge in biological, basic sciences, and technique to clinical fixed and removable prosthodontics procedures.

**PROS:8366 Prosthodontic Seminar II 1 s.h.**

Application of knowledge in biological, basic sciences, and technique to clinical fixed and removable prosthodontics procedures.

**PROS:8369 Introduction to Clinical Prosthodontics I 4 s.h.**

Introduction to application of knowledge in principal, biological, basic sciences, and techniques to clinical fixed, removable, and implant prosthodontics procedures; clinical prosthodontics experience supplemented by individual supervision, demonstration.

**PROS:8370 Introduction to Clinical Prosthodontics 8 s.h.**

Application of knowledge in principal, biological, basic sciences, and techniques to clinical fixed, removable, and implant prosthodontics procedures; clinical prosthodontics experience supplemented by individual supervision, demonstration.

# Prosthodontics, Professional Certificate

## Requirements

The professional Certificate in Prosthodontics requires a minimum of 36 months of study. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the certificate. It prepares individuals for specialty clinical practice in the discipline.

The curriculum includes didactic courses and clinical training in all of the disciplines that make up the broad specialty of prosthodontics, including fixed and removable prosthodontics and dental implants, as well as maxillofacial prosthetics. Patient care is completed in close collaboration with the other dental specialties. Clinically related basic science instruction complements the clinical curriculum.

Students working toward the Certificate in Prosthodontics must pursue the Master of Science in oral science in conjunction with the certificate.

The certificate program is accredited by the Commission on Dental Accreditation of the American Dental Association. Successful completion of the program satisfies the formal training requirement for eligibility to take the American Board of Prosthodontics certification examination.

## Graduate Study

The M.S. program prepares individuals for careers in dental education and research and for independent study and professional growth. Students must prepare and defend a thesis for the M.S. in oral science based on original research. Facilities and support personnel for research are available through the college's Iowa Institute for Oral Health Research. See the M.S. in oral science [p. 1353] in the Catalog. Successful completion of the M.S. may allow further Ph.D. study.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must hold a D.D.S. or a D.M.D. degree from a dental school accredited by the American Dental Association or an equivalent degree.

The certificate program begins around July 1 each year. Applications are only made through Match, which places applicants into positions for their first year of training in postdoctoral dental education programs. A personal interview is required for select applicants; selection for an interview is based on qualifications and is by invitation only.

For more information, see the Department of Prosthodontics website.



# College of Education

## Dean

- Daniel L. Clay

## Associate Dean for Faculty and Academic Affairs

- Pamela M. Wesely

## Associate Dean for Research

- Saba R. Ali

## Associate Dean for Teacher Education and Student Services

- Mark A. McDermott

**Undergraduate major:** B.A.

**Undergraduate minors:** educational psychology; human relations

**Graduate degrees:** M.A.; M.A.T.; M.S.; Ed.S.; Ed.D.; Ph.D.

**Graduate certificates:** applied behavior analysis; institutional research and effectiveness; K-12 equity and inclusion; online teaching; talent development

**Website:** <https://education.uiowa.edu/>

The nation's first university-level professorial chair in education was established at the University of Iowa in 1872. The department became the School of Education in 1907; and the College of Education, structured largely as it is today, was founded in 1913. Since then, the college's growth has mirrored the growth of the University.

Over the years, College of Education faculty members have been leaders in a variety of educational fields. Particularly noteworthy have been their contributions in the fields of educational testing and measurement. These contributions helped lay the foundation for today's testing and measurement industry, making Iowa City one of the best-known centers for this educational specialty.

The college has four departments—the Departments of Counselor Education [p. 1387], Educational Policy and Leadership Studies [p. 1404], Psychological and Quantitative Foundations [p. 1437], and Teaching and Learning [p. 1466].

## Extramural Education

Through Distance and Online Education, selected College of Education courses are offered at off-campus sites and hours outside the traditional schedule. If taken after formal admission to a specific program, some of these courses may be applied to meet requirements for degrees. Students who plan to complete a degree program should apply for admission to the Graduate College and satisfy all application requirements for the degree program they wish to enter.

Special regulations govern such coursework. Students should obtain prior approval from their program advisor before registering in extramural courses. Students not regularly admitted to the University of Iowa also may register in extramural courses, but credit earned before admission does not count toward residency requirements.

## Honors in Education

The College of Education Honors Opportunity Program is open to sophomores, juniors, and seniors who have maintained a g.p.a. of at least 3.50. Students with lower grade-point

averages who have demonstrated research potential also may be accepted, based on the recommendations of faculty and/or staff members and the education honors advisor. Honors Opportunity Program students must take EHOP:4100 Honors Seminar in Education, EHOP:4101 Senior Honors Project, and complete five additional honors experiences. Successful completion of the program results in recognition of the student as a College of Education honors graduate.

## Faculty

All tenure-track faculty members hold earned doctorates in their teaching fields, and many have had teaching or administrative experience in the public schools. Several hold joint appointments in the College of Liberal Arts and Sciences.

## Programs

## Undergraduate Programs of Study

### Majors

The College of Education offers the following undergraduate degree and programs.

### Degree Program Offered

- Bachelor of Arts in Education Studies and Human Relations [p. 1380]

B.A.; the following programs are available:

- Education studies and human relations
- Education studies and human relations (education studies)
- Education studies and human relations (human relations)

### Department of Teaching and Learning

The College of Education also offers eight undergraduate majors in teacher education licensure areas. Students pursuing any of the undergraduate majors complete a Teacher Education Program (TEP) approved by the State of Iowa through the College of Education. See TEP Licensure [p. 1372] in this section of the Catalog. See the Department of Teaching and Learning [p. 1466] in the Catalog for details about the majors.

B.A.; the following programs are available:

- Art education
- Elementary education
- English education
- Mathematics education
- Music education
- Science education
- Social studies education
- World language education

### Combined B.A. (Special Education Subprogram)/M.A. in Teaching and Learning (Special Education Subprogram)

Bachelor of Arts students interested in pursuing a graduate degree in special education may apply to the combined Bachelor of Arts with a special education subprogram/Master of Arts with a special education subprogram (K-8 instructional strategist I: mild/moderate; nonthesis) offered by the College of Education. Designed for undergraduate students majoring in elementary education who are currently enrolled in the TEP

program, the combined program enables students to earn a B.A. and M.A. in five years by beginning to earn graduate credit during their last semester of undergraduate study and counting up to 6 s.h. of qualifying credit toward both degrees. For more information, see Combined Programs [p. 1488] under the B.A. in elementary education section of the Catalog. Interested students should consult an advisor.

## Minors

The College of Education offers two undergraduate minors for students who wish to be better informed about education and related fields: one in educational psychology and one in human relations, offering students an overview of various educational areas beyond, but supportive of, traditional education programs. The minors may help support students' future career objectives and benefit students in their roles as parents, taxpayers, or future members of local boards of education. View the minor in educational psychology [p. 1446] (Department of Psychological and Quantitative Foundations) and the minor in human relations [p. 1394] (Department of Counselor Education) in the Catalog to learn more.

## Graduate Programs of Study

Graduate study in the College of Education is guided by the policies of the Graduate College, with additional requirements set by the College of Education's faculty. Graduate students in education enroll in the Graduate College and receive their degrees from that college. See the Manual of Rules and Regulations on the Graduate College website.

## Majors

The College of Education offers the following graduate degrees and programs.

## Degree Programs Offered

### Department of Counselor Education

M.A. and Ph.D. in counselor education; the following programs are available:

- Clinical mental health counseling (offered in the M.A.)
- Counselor education and supervision (offered in the Ph.D.)
- Rehabilitation counseling program (offered in the M.A.)
- School counseling (offered in the M.A.)

### Department of Educational Policy and Leadership Studies

M.A., Ed.D., Ed.S., and Ph.D. in educational policy and leadership studies; the following programs are available:

- Educational leadership (offered in the M.A., Ed.S., and Ph.D.)
- Higher education (offered in the Ed.D.)
- Higher education and student affairs (offered in the M.A., Ed.S., and Ph.D.)
- PK-12 administration (offered in the Ed.D.)
- Schools, culture, and society (offered in the M.A. and Ph.D.)

### Department of Psychological and Quantitative Foundations

M.A., Ed.S., and Ph.D. in psychological and quantitative foundations; the following programs are available:

- Counseling psychology (offered in the Ph.D.)
- Couple and family therapy (offered in the Ph.D.)
- Educational measurement and statistics (offered in the M.A. and Ph.D.)
- Educational psychology (offered in the Ph.D.)
- Learning sciences (offered in the M.A.)
- School psychology (offered in the Ed.S. and Ph.D.)

## Department of Teaching and Learning

M.A., M.A.T., M.S., and Ph.D. in teaching and learning; the following programs are available:

- Art education (offered in the M.A. and M.A.T.)
- Developmental reading (offered in the M.A.)
- English education (offered in the M.A. and M.A.T.)
- Literacy, culture, and language education (offered in the Ph.D.)
- Mathematics education (offered in the M.A., M.A.T., and Ph.D.)
- Multilingual education (offered in the M.A.)
- Science education (offered in the M.S., M.A.T., and Ph.D.)
- Social studies education (offered in the M.A. and M.A.T.)
- Special education (offered in the M.A. and Ph.D.)
- STEM education (offered in the M.S.)
- Teaching, leadership and cultural competency (offered in the M.A.)
- World language education (offered in the M.A.T.)

## Master of Arts

The College of Education offers a Master of Arts. Some of the college's M.A. programs are offered with thesis as well as without thesis. Nonthesis programs usually provide more specialized coursework than do thesis programs. Although a nonthesis program is not necessarily terminal, students who expect to continue their studies in a doctoral program are urged to select a thesis program in order to gain more experience in research procedures. Students who complete a nonthesis M.A. and are admitted to a Ph.D. program may be asked to submit evidence of writing and research skills to their advisor or department during the early part of their doctoral program. For information about programs that offer a thesis option, see the program descriptions under "Graduate Programs of Study" in College of Education department sections of the Catalog.

Coursework completed more than 10 years before the session in which the degree is to be conferred must be evaluated to determine how much credit may be accepted toward the degree requirements. Students must earn at least 24 s.h. in University of Iowa courses after formal admission to a master's degree.

## Master of Arts in Teaching

The M.A.T. program is designed for academically superior liberal arts and sciences graduates who completed few or no professional education courses in their undergraduate programs. It is a nonthesis program with requirements that range from 45 s.h. to 67 s.h. of credit. See the M.A.T. in teaching and learning [p. 1522] in the Catalog.

The program leads to a master's degree and licensure as a secondary teacher in the fields of art, English, foreign languages, mathematics, science education, and social studies education. Admission to the program requires a g.p.a. of at least 3.00 in undergraduate coursework. The program includes 18 s.h. of graduate coursework in the

student's teaching field. Students must complete a minimum of 20 s.h. of graduate work in education to satisfy licensure requirements.

### **Combined B.A./M.A.T. (Science Education Subprogram)**

Bachelor of Arts students interested in pursuing a graduate degree in teaching may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. Designed for undergraduate students majoring in biology, chemistry, environmental sciences, mathematics, or physics, the combined program enables students to earn a B.A. and M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 18 s.h. of qualifying credit toward both degrees. For more information, see "Combined B.A./M.A.T." under Science Education [p. 1524] in the Master of Arts in Teaching, M.A.T. section of the Catalog. Interested students should consult an advisor.

### **Master of Science**

The College of Education offers a Master of Science in teaching and learning with a science education subprogram. The degree requirements are similar to those for a Master of Arts. It also offers the Master of Science in teaching and learning with a STEM education subprogram.

### **Specialist in Education**

The Ed.S. is granted upon completion of a prescribed two-year postbaccalaureate program designed for students preparing for professional work in fields such as administration and supervision, and special services. Of the minimum 60 s.h. required for the degree, 28 s.h. must be in the specialization area; the rest may be earned in cognate fields, supervised experience, research, and elective courses. The research must culminate in a written report.

Other requirements for the Ed.S. are the same as for the master's degree, except that an Ed.S. requires students to complete 30 s.h. of resident work on campus after admission to the program. Coursework completed 10 years before the final examination must be evaluated to determine the amount of credit that may be accepted toward program requirements.

Not all programs offer an Ed.S. degree. For a list of programs and degrees offered, see "Graduate Programs of Study" above.

### **Doctor of Education**

The Ed.D. is designed for educators seeking a terminal doctoral degree to practice upper-level leadership in PK-20 educational settings. Based on the scholar-practitioner model, the Ed.D. differs from the Ph.D. in that it allows for a more practical-based approach, grounded in problem-based learning pedagogy, to use and perform applied research in educational settings. Ed.D. students must complete 75 s.h. post-baccalaureate, with at least 39 s.h. completed at the University of Iowa after formal program admission. Students are expected to already have a related masters degree when admitted to the program and to have been practicing in education for a minimum of three years. Up to 36 s.h. may be transferred from the previous graduate degree for elective credit toward the 75 s.h. to earn the Ed.D. degree.

### **Doctor of Philosophy**

The Ph.D. is the most advanced academic degree. It is conferred upon students who have demonstrated superior scholarship and mastery of research skills in coursework as well as in the preparation and defense of a dissertation. Ph.D. students must complete at least 39 s.h. while registered in the University of Iowa Graduate College and after formal program admission.

### **Certificates**

The Certificate in Applied Behavior Analysis requires 21 s.h. of graduate credit. The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students. The purpose of the certificate is to provide professionals who have a background in education, psychology, and related services with expertise in behavior intervention and intensive educational interventions. Students who complete the program are eligible for national certification as board-certified behavior analysts. To learn more or apply, see the Certificate in Applied Behavior Analysis [p. 1386] in the Catalog.

The Certificate in College Teaching requires 12 s.h. of graduate credit. The certificate program is open to all University of Iowa students working toward a Ph.D. or other terminal graduate degree. The certificate program complements discipline-oriented graduate programs and prepares students for careers in postsecondary education. It requires coursework, supervised teaching experience, and preparation of a teaching portfolio. To learn more or to apply, see the Certificate in College Teaching [p. 1732] (Graduate College) in the Catalog.

The Certificate in Institutional Research and Effectiveness (IRE) requires 15 s.h. of graduate credit and is offered with hybrid and conventional courses. The certificate program prepares professionals to use data for institutional decision making, reporting, and accountability in higher education and K-12 contexts. This certificate amends and complements students' competence in other areas (business affairs, information technology, student affairs, development, among other areas) to prepare them with the skills and capabilities to use data for educational improvement, accountability, quality, and equity. To learn more or apply, see the Certificate in Institutional Research and Effectiveness [p. 1432] in the Catalog.

The Certificate in K-12 Equity and Inclusion requires 12 s.h. of graduate credit and is offered with hybrid and conventional courses. The certificate program offers educational professionals or nondegree-seeking students currently working in K-12 schools, districts, and area education agencies expertise in equity and inclusion to better support the needs and interests of a diversifying K-12 student population. To learn more or apply, see the Certificate in K-12 Equity and Inclusion [p. 1434] in the Catalog.

The Certificate in Online Teaching requires 12 s.h. of graduate credit and is offered completely online. The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students. The certificate program develops students' skills in using technology to solve instructional problems associated with distance and time. The certificate's online format uses the techniques and approaches that the program teaches. To

learn more or apply, see the Certificate in Online Teaching [p. 1436] in the Catalog.

The Certificate in Talent Development requires 14 s.h. of graduate credit. The certificate is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students. The purpose of the certificate is to increase understanding of talented individuals, the process of talent development and the creative process, and prepare advocates for talented individuals. In addition to coursework, students design a culminating original project aligned with a career objective or personal interest. Students may use the coursework embedded in the certificate to apply to the State of Iowa Gifted and Talented teaching endorsement. To learn more or apply, see the Certificate in Talent Development [p. 1464] in the Catalog.

## Professional Improvement

Students who are interested in taking courses as nondegree students should apply for nondegree status to the Graduate College. They can then be admitted by a department on a nondegree basis by contacting the department. Students must be admitted to a department in order to complete a program objective such as teacher licensure.

## TEP/Licensure

### Teacher Education Programs (TEP) and Student Teaching

The College of Education offers a Teacher Education Program (TEP) that includes preparation for teaching in elementary education (teaching kindergarten through grade 6 or grade 8); and secondary education (teaching one or more subjects in grades 5 through 12). Secondary teacher education is offered in art education, elementary education, English education, mathematics education, music education, science education, social studies education, and world language education. Two secondary education programs, art education and music education, are preparation for teaching kindergarten through grade 12. Preparation for special education teaching is offered primarily as a master's degree program, but undergraduate students in the elementary education major may complete a special education endorsement for teaching elementary school students with mild or moderate disabilities. In cooperation with the School of Library and Information Science [p. 1759], the college offers graduate-level preparation for school teacher librarians.

Preparation is available for teaching additional subjects; see "Added Endorsements" below.

The College of Education awards Bachelor of Arts undergraduate majors in elementary education and seven other majors. Majors in art education, English education, mathematics education, music education, science education, social studies education, and world language education require a corequisite content major from the College of Liberal Arts and Sciences. See the Department of Teaching and Learning section of the Catalog for details about these majors. The majors require admission to the TEP.

Individuals with a previous bachelor's degree or a more advanced degree also may complete a TEP. See "Graduate and Postbaccalaureate Admission to TEP" below and the Department of Teaching and Learning [p. 1466] section of the Catalog.

The Office of Student Services provides information on TEP; offers assistance with admission, student field experiences, and teacher licensure/certification; and serves as a liaison with other University units and external agencies. For more information, visit the Office of Student Services website.

## Admission to Teacher Education Program

Admission to a TEP is required in order to register for most TEP courses, to participate in field experiences/practicums, and to student teach.

### Elementary Education

Beginning with the fall 2022 semester, first-year undergraduate applicants to the bachelor of arts major in elementary education are admitted to the major and the College of Education upon acceptance to the University of Iowa. These students complete TEP application requirements as a part of their first two semesters of coursework. Transfer students from outside the University of Iowa who wish to pursue the elementary education major or current University of Iowa students who wish to change their major to elementary education should contact the Office of Student Services for TEP application requirements and procedures.

### Secondary and K-12 Teacher Education Programs

Undergraduate applicants to the University of Iowa who wish to become teachers in secondary education apply for a College of Liberal Arts and Sciences major in the subject they would like to teach. They also may indicate secondary education interest on their application.

Requirements for admission to the TEP include admission to the University of Iowa, a minimum of 30 s.h. of college credit, and a preadmission school field experience. Some programs have additional requirements. Complete application requirements and procedures can be found on the Office of Student Services website. TEP applications are submitted through a web application, Tk20 (Watermark).

For secondary and K-12 programs, admission to the TEP is selective, and is based on a faculty review of academic achievement as reflected in grade-point average, aptitude as reflected by recommendations and personal statements, and the ability of the given program area to provide quality instruction and clinical and field experiences. Meeting the minimum criteria does not ensure program admission.

Students are encouraged submit complete applications for timely advising and registration by the priority application deadlines of March 1 for fall semester or October 1 for spring semester. Applications are accepted on a rolling basis until December 1 for spring semester or May 1 for fall semester. Some program areas may reach capacity for acceptance before the final deadlines. Applicants are notified of admission decisions by email following faculty review.

### Direct Admission to Music Education

The College of Education offers early admission into the K-12 music education TEP. First-year students who, upon graduation from high school, have a high school g.p.a. of 3.00 or higher and have been accepted into a music studio are directly admitted into the K-12 music education TEP. This admission is conditional until the minimum admission requirements are complete. The requirements include admission to the School of Music, completion of an essay of 500 words or less on why the applicant wishes to be a music

teacher, and completion of 10-hour preadmission school field experience.

## Graduate and Postbaccalaureate Admission to the TEP

Students with a previous bachelor's degree or more advanced degree may be admitted to a TEP as graduate or undergraduate students, and may have the option to pursue an additional undergraduate or graduate degree, or to pursue the TEP as a nondegree student. See the Department of Teaching and Learning [p. 1466] for degree program options. Students must apply to the TEP through the web application, Tk20 (Watermark), and to the University of Iowa through the Office of Admissions. Application information is available from the Office of Student Services. Graduate applicants must be eligible for admission to the Graduate College, which requires a g.p.a. of at least 3.00 in all previous college coursework. See the Graduate Admissions website. Undergraduate applicants must meet the general requirements for undergraduate admission to the University of Iowa; see the Undergraduate Admissions website.

## TEP Academic and Professional Standards

Students in the TEP must meet grade-point average requirements and maintain appropriate professional dispositions each semester. Students who do not meet the requirements are placed on probation; those who fail to meet the requirements in a successive semester may be removed from the TEP or denied admission to student teaching. For more information on standards and policies, consult the Office of Student Services.

## INTASC Standards-Based Assessments

Once admitted to the TEP, progress toward meeting professional standards is documented on Tk20 (Watermark), a web-based assessment system. Throughout the program students submit assignments designated by their respective program area for standards-based scoring on rubrics in common across all program areas.

## Teacher Leader Certificate Professional Development Program

Teachers from the University of Iowa are distinguished by their preparation with world-class faculty researchers and clinical practitioners and a one-of-a-kind professional development program that highlights contemporary issues in 21st-century education, the Teacher Leader Certificate. The Teacher Leader Certificate is not a teaching license or a university recognition but it supplements the TEP courses, practicums, and student teaching requirements with a series of competencies and experiences offered through intensive and innovative workshops and 10 hours of volunteer work in an education setting. All TEP students are required to complete the requirements of the certificate prior to their student teaching semester.

## Student Teaching

The final phase of the TEP is the professional semester, devoted to supervised student teaching and directed observation in a variety of situations. All coursework in education, for the major, and for the degree must be completed before the student teaching semester. The student teaching semester is a full-time, all-day, experience with a full

registration, typically a 15 s.h. enrollment. Transfer credit may not be used to satisfy the student teaching requirement.

Faculty members, professional staff, and advanced graduate students who are experienced teachers serve as supervisors. Periodic seminars provide for discussion and evaluation of student teacher experiences.

To be admitted to the student teaching semester, students submit their application to the Office of Student Services. Student teaching applications are due the calendar year before the student teaching semester: by November 15 for student teaching the following fall semester and by April 15 for student teaching the following spring semester.

Admission to student teaching requires faculty approval based on grade-point average requirements and appropriate professional dispositions. For more information, contact the Office of Student Services.

## Placement Options

Student teaching placements typically are in schools within a 60-70 mile radius of Iowa City, referred to as local placements. Placements also may be available in some school districts in other parts of Iowa, the Midwest region, urban districts in other parts of the United States, and international settings. These placements are referred to as special sites. Special site placements have higher grade-point average requirements and expectations for appropriate professional dispositions.

International student teaching experiences are available primarily through Global Gateway for Teachers, an Indiana University Program working in collaboration with the University of Iowa. International sites vary, depending on available placements and international conditions, but have included Australia, China, Costa Rica, Ecuador, England and Wales, Greece, India, Ireland, Italy, Japan, New Zealand, Norway, Russian Federation, Scotland, Spain, and Tanzania. In most locations, students are assisted with housing by an on-site coordinator.

International assignments are for eight weeks. Students complete an eight-week assignment in a local placement or another special site placement followed by an eight-week assignment in an international placement. Secondary education students in some program areas (for instance, English education) are required to complete a full semester of student teaching in the United States before student teaching at an international site.

For more information about international student teaching options, see Student Teaching and Classroom Experience on the College of Education website.

## Program Completion Assessment

As a requirement for completion of an approved TEP for initial teaching licensure, the state of Iowa requires a program completion assessment. University of Iowa student teachers must pass the edTPA assessment of their program as a requirement for program completion.

## Course Substitutions

Students who have completed courses that they wish to substitute for program requirements should consult with their advisors.

Community college human relations courses are not accepted as substitutes for EPLS:4180 Human Relations for the Classroom Teacher.

## Teacher Licensure/Certification

The Iowa Board of Educational Examiners issues teacher, support service, and administrator licenses on the recommendation of Iowa colleges and universities whose programs have been approved by the Iowa Department of Education. All University of Iowa preparation programs have Iowa Department of Education approval.

Licensure/certification requirements across the nation are subject to change. Students who plan to seek employment in a state other than Iowa should make every effort to be informed about current requirements in that state. Generally, students who apply out-of-state should first secure Iowa licensure.

To be recommended by the University of Iowa, applicants must complete all requirements of the appropriate approved program. A minimum of 20 s.h. of coursework applied to meet program requirements must be earned at the University of Iowa.

In the State of Iowa, applicants must be at least 21 years old to be granted a teaching license. The Iowa Board of Educational Examiners requires a national criminal history background check, an Iowa Division of Criminal Investigation background check, and registries and records checks for all new applicants for Iowa licensure. Disqualifying criminal convictions and founded child abuse are set out in Iowa Code 272.2 and Iowa Administrative Code 282-25.

The College of Education Office of Student Services provides instructions on application for licenses, fingerprinting procedures, and licensure/certification assistance to all students completing approved programs offered by the college. It also provides assistance to in-service teachers and other school professionals who are interested in adding endorsements to their Iowa license based on completion of State of Iowa minimum licensure requirements.

### Added Endorsements

Current TEP students and in-service teachers may prepare for teaching additional subjects through added endorsement programs and courses.

Most added endorsements for kindergarten through 8th grade (K-8) are intended for TEP students and in-service teachers in elementary education. See the B.A. in elementary education [p. 1484] for these added endorsements. Other endorsements, including most secondary (grades 5-12) endorsements for which the University of Iowa offers a TEP, also can be available to elementary, secondary, or K-12 TEP students and teachers as added endorsements.

Preparation is offered for these added endorsements:

- Grades 5-8 middle school (language arts, mathematics, science, and/or social studies)
- Grades 5-12 reading
- K-12 athletic coach
- K-12 dyslexia specialist
- K-12 English as a second language (ESL)
- PK-12 talented and gifted

For additional information contact an academic advisor or licensure staff in the Office of Student Services.

## Resources

### Baker Teacher Leader Center

The Baker Teacher Leader Center (Baker TLC) develops, supports, and facilitates a variety of professional development opportunities for students, faculty, staff, and community members affiliated with the College of Education.

The Baker TLC manages the Teacher Leader Certificate, a value-added professional development certificate that provides students in the Teacher Education Program (TEP) opportunities to engage with innovative educational topics aimed toward developing their identities as emerging teacher leaders.

The Baker TLC operates a teacher licensure renewal credit program, offering relevant research and evidence-based professional development to practicing Iowa teachers. Professional development offered through the Baker TLC is aligned with needs identified by the Teacher Education Advisory Committee through survey responses received from school administrators, policy leaders, and faculty, and from information and data received from professional education organizations such as the Iowa Association of Colleges for Teacher Education (IACTE), the American Association of Colleges for Teacher Education (AACTE), and community partners.

The Baker TLC supports College of Education Global Education Initiatives including international and domestic partnerships and programming, and professional learning opportunities for domestic and international faculty, staff, and students.

### Belin-Blank Center for Gifted Education and Talent Development

Located in the Blank Honors Center, the Connie Belin and Jacqueline N. Blank International Center for Gifted Education and Talent Development conducts research, training, and service in gifted education and disseminates information on the education of gifted students. Professional development opportunities include the Belin-Blank Fellowship Program in Gifted Education, practicum and internship experiences, and coursework in gifted education (including coursework for the State of Iowa Talented and Gifted Endorsement).

Precollege student programs include Invent Iowa, Scholastic Art & Writing Awards, above-level testing for students in grades 3-9, precollege summer and academic year programs for high-ability students in grades 2-11, and the Iowa Online Advanced Placement Academy.

Other services include the Wallace Assessment and Counseling Clinic, which specializes in twice-exceptionality; and the Acceleration Institute, which is dedicated to the study of curricular acceleration for academically talented children. The center also administers the Bucksbaum Early Entrance STEAM Academy, a highly selective early-entrance program for students who have completed their sophomore or junior year in high school and are ready to enroll as full-time University of Iowa Honors students.

For more information, contact the Belin-Blank Center.

## Blommers Measurement Resources Library

The Paul Blommers Measurement Resources Library maintains an archival collection of books, journals, research reports, and reference materials related to educational and psychological measurement, testing, assessment, and evaluation, as well as an extensive collection of published and unpublished tests. The library supports the teaching and research needs of faculty, staff, and students at the University of Iowa, primarily serving the College of Education through consultation and special access.

## Center for Advanced Studies in Measurement and Assessment

The Center for Advanced Studies in Measurement and Assessment (CASMA) pursues interdisciplinary research-based initiatives that lead to advances in the methods and practice of educational measurement and assessment. CASMA performs, promotes, fosters, and disseminates research in measurement and psychometric methodologies that respond to contemporary needs and initiatives in testing.

The center devotes considerable resources to research on equating/scaling/linking, generalizability theory, diagnostic classification models, Bayesian psychometric techniques, computerized adaptive testing, multilevel modelling, research synthesis, meta-analytic methods, and causal inference. It also offers workshops and training sessions on those topics. Extensive free suites of computer programs are available on the CASMA website. The site also features research reports and technical notes on measurement and statistics topics.

## Center for Evaluation and Assessment

The Center for Evaluation and Assessment (CEA) provides third-party program evaluation, assessment, and other research services to a broad range of clients working in multiple programmatic areas. The center's mission is to provide high quality program evaluation and research services to support data-driven decision making, to train graduate students, and to advance evaluation theory and practice.

## Center for Research on Undergraduate Education

The Center for Research on Undergraduate Education (CRUE) is dedicated to the study of undergraduate education in the United States and beyond. This rigorous research explores various topics, with an emphasis on understanding dynamics and improving equity within college experiences, environments, interventions, and outcomes.

## College of Education Writing Resource

The College of Education Writing Resource provides academic writing support for graduate students at the College of Education. Students sign up to work collaboratively with a writing tutor throughout the composing processes—from conceptualizing ideas to polishing and publishing/finalizing the paper. The mission is to facilitate each student's individual growth as a writer and to foster a collaborative writing community. Services are free to graduate students in the College of Education.

## Cooperating Schools Program

The Cooperating Schools Program (CSP) is a University-wide service that facilitates placement of research projects and service-learning projects conducted by faculty, staff, and students in public schools throughout Iowa. The program provides information to help researchers obtain permission to conduct research in Iowa schools. The Cooperating Schools Program was instituted at the request of school administrators charged with the responsibility of approving research projects in their schools.

## Education Technology Center

The Education Technology Center (ETC) provides computer services to College of Education faculty, staff, and students. In addition to technical support and internet access, services include collegiate file and application servers; standard office tools; specialized applications such as media production tools and qualitative and quantitative analysis programs; secure folders and directories; electronic mailing lists for faculty, staff, and student groups; and digital signage (kiosks). The Education Technology Center also provides faculty with instructional technology support for courses, including online teaching tools and media production.

SMART Boards and wireless access are available throughout the college. Every classroom and conference room has a digital presentation system and videoconferencing capabilities. Faculty, staff, and students can check out wireless laptops, web cameras, computer projectors, digital audio recorders, digital video cameras, iPads, and other devices from the center. In all, the College of Education supports more than 850 computers, laptops, PDAs, and smartphones as well as 20 digital signs, 20 SMART Boards, and six servers.

## Grants and Research Services Center

The Grants and Research Services Center (GRSC) provides grant and research-related support services for the college's faculty, staff, and students. GRSC staff members help identify internal and external funding sources, prepare and submit grant proposals and application materials, provide grant accounting services, and help in the preparation of applications for Human Subjects/Institutional Research Board review. The college also provides limited funds for faculty research, professional development, and travel.

## Institute on Disability and Rehabilitation Ethics

The Institute on Disability and Rehabilitation Ethics (IDARE) is a cross-disciplinary, cross-institutional online community of scholars. Its goal is to use research, education, and consultation to improve the quality of ethical practice experienced by people with disabilities who receive services from rehabilitation, health, mental health, and social service professionals. IDARE works to influence disability policy and practice development nationally and locally and to influence professional organizations' consideration of ethical issues that affect people with disabilities and other marginalized populations.

## Iowa Center for School Mental Health

The purpose of the Iowa Center for School Mental Health is to provide social, emotional, behavioral, and psychological services to all of Iowa's schools, not only to aid in COVID-19 recovery, but to build state capacity for immediate and future delivery of mental health supports across the state. The center will bring together educational partners, policymakers, and mental health professionals to serve as Iowa's hub for research-to-practice related to mental health.

## Iowa Supports Education and Resources for Veterans and Enlisted

Iowa Supports Education and Resources for Veterans and Enlisted (I-SERVE) was created to help facilitate successful transitions for veterans and enlisted service members into higher education at the University of Iowa. I-SERVE is located in the Teacher Leader Center, on the first floor of the North side of Lindquist Center. The center assists veterans with accessing benefits, the application process, completing coursework, preparing for and searching for jobs, and achieving overall career success. I-SERVE also offers educational consultation, workshops, special programs, and presentations that enhance knowledge, skills, and attitudes of teachers and other professionals who work with veterans, military children, and families.

## Iowa Testing Programs

Iowa Testing Programs (ITP) provides assessment expertise to schools in the state of Iowa and consultation to the Iowa Department of Education and area education agencies. Its faculty and staff develop standardized educational tests, such as the widely used Iowa Assessments, for use in elementary and secondary schools worldwide, and the Iowa Statewide Assessment of Student Progress, for use in the state of Iowa for summative assessment. Iowa Testing Programs also conducts research studies in educational measurement, publishes the results of these studies, sponsors lectures and symposia, provides consulting and in-service training to educators and school systems, and provides training experience and financial support for graduate students in educational measurement, statistics, and evaluation.

## Libraries

University of Iowa Libraries provides a wide variety of resources in print and online. Course reserve materials are available at the Main Library. An education librarian is available to help students with their research projects and assist faculty members and teaching assistants with their research and instructional needs.

## Office of Graduate Teaching Excellence

The Office of Graduate Teaching Excellence (OGTE) is dedicated to excellence in college teaching and the preparation of future faculty. The office facilitates opportunities for research, teaching, and service. Through the Iowa Education Fellows Program (i-fellows), OGTE develops and conducts workshops and seminars that address the developmental needs of College of Education doctoral students, from their first semester on campus through

completion of their degrees. The office also guides students through the process of earning the graduate Certificate in College Teaching (Graduate College).

## Office of Student Services

The Office of Student Services assists students, faculty, staff, and the general public in graduate and undergraduate admission, undergraduate advising, recruitment for the Teacher Education Program (TEP) and undergraduate programs, Graduate College examinations, student field experiences, and teacher licensure/certification. It also serves as a liaison with other University units, including the Graduate College, the College of Liberal Arts and Sciences, the Office of Admissions, and the Office of the Registrar, and with external agencies, including the Iowa Department of Education, out-of-state teacher licensure/certification departments, and school district personnel in Iowa and outside of the state. A variety of application and information materials are available at the office and on its website.

## UI WILD

UI WILD (Wildlife Instruction and Leadership Development) includes the Iowa Raptor Project, Iowa Wildlife Camps, and School of the Wild programs. Each program has a unique educational focus, but a shared commitment to awaken awareness, nurture appreciation, and inspire action for all things wild in program participants. The Iowa Raptor Project (founded in 1985) is dedicated to the conservation of birds of prey and their habitats through live raptor education programming and research. The Iowa Wildlife Camps (founded in 1991) provide weeklong conservation education programming for campers from preschool through high school during winter, spring, and summer breaks. The accredited and multidisciplinary School of the Wild (founded in 1998) offers weeklong experiences in the wild for participating schools introducing students from all backgrounds to the woodlands, wetlands, and prairies of Iowa. The UI WILD programs are centered at the University's Macbride Nature Recreation Area, but are growing throughout Iowa, and provide many educational opportunities for College of Education students including volunteer roles, internships, camp instructor positions, practicum experiences, and student teaching opportunities.

## Financial Support

College of Education students may be eligible for scholarships, awards, or graduate assistantships. Information about financial support for students is available; visit Scholarships on the college's website. The college posts a list of assistantships on its website; visit Graduate Student Life on the college's website.

The Graduate Record Exam (GRE) General Test is currently not required for graduate assistantships, teaching assistantships, or research assistantships in the College of Education.

Students interested in employment opportunities in the college's support units and special resources should contact the director of each facility and indicate their interests, their academic and experience records, and their career or degree goals at the University of Iowa.

## Graduate Assistantships

Individual academic programs provide opportunities for teaching, research, or service assistantships as well as for



fellowships and related employment opportunities. Inquiries should be addressed to the chair of the department or the director of the program in which students believe they can provide service or achieve an outstanding academic record. Assistantship appointments are usually, but not always, made by the program area.

## Special Graduate Research Assistantships in Education

The Iowa Testing Programs provides funds to support a limited number of special graduate assistantships in education, in which students do research work under the direction of a faculty member of their choice. Students must be enrolled for at least 6 s.h. but not more than 12 s.h. per semester; assistantships are for the academic year and are renewable for a limited number of years. Students admitted to or pursuing any advanced degree program offered by the College of Education are eligible to apply, provided they are committed to a professional career in the United States.

Applicants must submit transcripts of all completed college work (undergraduate and graduate), recommendation forms specific to the assistantship, and scores on the Graduate Record Exam (GRE) General Test. For assistantship application forms, contact the Iowa Testing Programs directors. Application deadline is late February.

## Scholarships and Awards

The College of Education presents a number of awards funded by donors; recipients must meet the criteria established by the donors for their awards. Recipients are presented with their award at a spring semester luncheon. For more information, see Scholarships on the college's website.

**Albert and Martha Ruffalo First Generation Education Scholarship:** presented to deserving students in the College of Education who are first-generation college students.

**Albert Hieronymus and Family Scholarship:** presented to a graduate student with experience and an interest in research or innovation to improve the field of education.

**Albert Hood Promising Scholar Award:** presented to a doctoral student in the Department of Counselor Education and a student in the higher education and student affairs program with an approved prospectus.

**Alice and Kendall Atkinson Scholarship:** presented to students who are majoring in music education with a passion for community outreach and engagement.

**Ann Ramsey and Richard E. Posey Scholarship:** presented to a student who is a junior pursuing a career in teaching or education.

**Barry Bratton Memorial Award:** presented to graduate students who have completed coursework that reflects a commitment to the systematic design and improvement of instructional processes and materials.

**Betty Piercy Award:** presented to a deserving student in the field of reading.

**Beulah A. and Robert L. Darrow Scholarship:** presented to deserving students in the College of Education.

**Blommers-Hieronymus-Feldt Fellowship:** presented to doctoral students in educational measurement and statistics.

**C. Esco Obermann Memorial Scholarship:** presented to a deserving student pursuing a degree in rehabilitation counseling.

**Carol M. and Ed Stenson Scholarship in Education:** presented to undergraduate students pursuing a special education certification or degree in general teacher education who exhibit both financial need and academic merit.

**Charlotte and Ruby Junge Scholarship:** presented to undergraduate or graduate students in elementary or secondary education who will be student teaching for a full semester.

**Daniel G. Loetscher Memorial Science Education Scholarship:** presented to students pursuing secondary education with an emphasis in the sciences, with preference given to those pursuing an emphasis in chemistry.

**David and Connie Belin Honors Award:** presented to graduating seniors who have completed all requirements for the Honors Opportunity Program.

**David and Sheila Bennett Fund for Educational Leadership:** presented to students in the educational leadership program within the Department of Educational Policy and Leadership Studies.

**Debra Clausen Memorial Scholarship:** presented to a graduate student in the College of Education who will work at the Hospital School (now the Center for Disabilities and Development) to evaluate and develop learning programs for students with mental disabilities, including Down Syndrome, or to students pursuing careers in special education.

**Dieckmann, Renken, Rockway Scholarship:** presented to a student pursuing a Ph.D. in science education with secondary preference to a graduate student in science education.

**Dr. Bettye M. Caldwell and Dr. Fred T. Caldwell Scholarship:** presented to undergraduate students interested in pursuing careers in early childhood development, including the fields of education, sociology, psychology, and other related academic programs.

**Dr. James Blanche Graduate Student Fellowship Fund:** to be used to support graduate student fellowships within the Department of Educational Policy and Leadership Studies.

**Dr. Mary Agnella Gunn Memorial Scholarship:** presented to worthy undergraduate or graduate students in education.

**Drs. Andrew and Jeanne Stevenson Scholarship:** presented to students in the College of Education with preference to students studying science education who plan to one day teach science education.

**Duane D. Anderson Memorial Scholarship:** awarded to a transfer student from an Iowa community college who is currently enrolled in a program in the College of Education.

**Edgar M. and Evelyn Benzler Tanruther Scholarship:** presented to undergraduate and/or graduate students in elementary education.

**Emily C. Wagner Scholarship:** presented to an undergraduate student in secondary education with an English education teaching degree who will be student teaching in the academic year following the award, preference for students who are residents of Iowa with a g.p.a. of at least 3.00 and demonstrated financial need.

**Emma E. Holmes Education Scholarship:** presented to an outstanding undergraduate or graduate student in any program in the College of Education; based on merit and

need, the recipient must be a U.S. citizen with first preference for a student in the top 20 percent of their class; second preference for a student with demonstrated financial need.

**Ernest L. and Janet M. Yeakey Education Scholarship:** presented to a deserving student in the College of Education with preference given to a student who is from the state of Iowa and pursuing math education.

**Ernest T. Pascarella Military Veteran Promise Award:** presented to a graduate student veteran in the College of Education who demonstrates exceptional career promise.

**Erwin and Louise Wasta International Scholarship:** presented to an international student in the College of Education.

**Franklin D. and Louise P. Stone International Scholarship:** presented to an outstanding international student pursuing a Ph.D. in the College of Education.

**Gladys and Margaret Harvey Education Scholarship:** presented to students who show financial need and are enrolled in the College of Education.

**Grace Phelps Stucker Scholarship:** presented to an undergraduate or graduate teacher education student.

**Guy and Gladys Peterson Scholarship:** presented to students admitted to the Teacher Education Program who have completed at least 12 s.h. of education coursework.

**Harvey H. Davis Memorial Scholarship:** presented to outstanding graduate students in educational leadership with preference given to students interested in the financing of education.

**H.D. Hoover Excellence Scholarship:** presented to a graduate student working on mathematics achievement testing in the elementary grades.

**Helen Mackin Nichol Memorial Scholarship:** presented to students from Iowa who are in secondary education and plan to teach and work with mentally and emotionally disturbed children.

**Hemphill/Jones Higher Education Masters Student Award:** presented to deserving students in the College of Education with preference given to historically underrepresented students of color working toward an M.A. degree in higher education and student affairs.

**Henry Kepner Math Education Scholarship:** presented to deserving students who are pursuing a degree in math education.

**Hubbard Family Legacy Award:** presented to students majoring in mathematics, physics, or chemistry who are pursuing a secondary education teaching certificate with the intention to teach at the secondary level.

**Jack Bagford Elementary Education Scholarship:** presented to an undergraduate or graduate student in elementary education who will be student teaching during the academic year following the award; recipient must be a resident of Iowa.

**Jake and Kimberly Chung Scholarship:** presented to a teacher education student for their student teaching semester.

**James and Coretta Stroud Fellowship:** presented to an outstanding graduate student in educational psychology.

**Jananne F. Nelson Elementary Education Scholarship:** presented to a student pursuing a degree in elementary education specializing in literacy.

**Jeanette Kinsey Elementary Education Scholarship:** presented to an elementary education student.

**John H. Haefner Memorial Scholarship:** presented to a student who will be student teaching in the area of social studies.

**John Leonard Davies Scholarship:** presented to a student who is a first- or second-semester senior in the Department of Teaching and Learning who is viewed as being creative and having outstanding potential for success in the field of K-12 education.

**Judith Young Saunders Scholarship:** presented to an undergraduate or graduate student who is pursuing a degree in teacher education, with preference given to students with severe visual impairments.

**Judy Skalsky Memorial Scholarship:** presented to an undergraduate or graduate student majoring in art education.

**Kathleen M. Ramsay and Family Scholarship:** presented to deserving students in the College of Education with preference given to third-year or higher-level students, or to students who have a focus in elementary or secondary education and demonstrate financial need.

**Kyle C. and Eula B. Jones Scholarship:** presented to undergraduate and graduate students planning careers in elementary and secondary education and administration.

**Laurie Jane Croft Scholarship:** presented to undergraduate or graduate students in the College of Education who are pursuing an endorsement in gifted education.

**Leonard A. Miller Memorial Scholarship:** presented to an outstanding first-year M.A. student in rehabilitation counseling.

**Lowell Brandt Rehabilitation Counseling Award:** presented to graduate students pursuing a master's degree in the rehabilitation counseling program.

**Margaret A. Sloan Scholarship:** presented to undergraduate or graduate students in the College of Education.

**Margaret P. Park Scholarship:** presented to deserving students in the College of Education with preference given to students from St. Louis County, Minnesota; Rock Island County, Illinois; or Iowa.

**Mary Ann DePrenger Scholarship for Elementary Education:** presented to students pursuing elementary education certification.

**Mary Bywater Cross and Robert P. Newman Research Award:** awarded to graduate students to provide support for travel and related expenses for attendance at conferences and events at which research is presented and shared, or to conduct research within the field of education.

**Mary Maxine Redmond Scholarship:** presented to undergraduate students from Iowa enrolled in the College of Education.

**Maureen Medberry Snell Education Award:** presented to outstanding students in the College of Education.

**Melvin R. Novick Award in Educational Measurement and Statistics:** presented to a third- or fourth-year doctoral

student in educational measurement and statistics who has at least a year of study remaining.

**Paul Larson Military/Veteran Student Scholarship:**

presented to College of Education student veterans and military students to help them achieve success in their studies in the College of Education.

**Paul Opstad Scholarship:** presented to a full- or part-time graduate student in the College of Education whose career or scholarly interests focus on the concerns and needs of international students.

**Perry Eugene McClenahan Memorial Scholarship:** presented to an outstanding graduate student in educational administration.

**Richard L. Sanner Scholarship:** presented to deserving graduate students in the College of Education.

**Robert L. Brennan Graduate Student Award:** presented to a graduate student in the educational measurement and statistics program based on their research.

**Rolland Ray Award:** presented to doctoral students completing a dissertation concerned with measurement in mathematics education, science education, social studies education, or English education.

**Sheila E. McFarland Memorial Scholarship:** presented to a student who will be student teaching for a full semester in the area of elementary education; preference for this award will be given to an Iowa resident.

**Student Teaching Abroad Scholarship:** presented to students who are doing their student teaching in a foreign country.

**T. Anne Cleary Psychological Research Scholarship:** presented to students in the Department of Psychological and Quantitative Foundations.

**University High School Innovative Developments in Education Award (IDEA):** presented to students during their secondary student teaching experience.

**Waronka Family Scholarship:** presented to one or more deserving students in elementary education who demonstrate merit and are in good academic standing.

**Women in Secondary Science/Math Education**

**Scholarship:** presented to a female student from a rural area studying secondary science or math education.

## Education Interdepartmental Courses

**EALL:4130 Introduction to Grant Writing 3 s.h.**

Comprehensive training in grant proposal writing; basics of project development and management; core principles for writing small and large proposals to public and private funding sources; finer points of grant writing to increase competitiveness of future proposals and applications; for students with limited grant writing experience. Same as MUSM:4150.

**EALL:5150 Introduction to Educational Research 3 s.h.**

Principles of empirical educational research; logic of inquiry for both quantitative and qualitative research methodologies.

**EALL:7475 Ph.D. ePortfolio in College Teaching 3 s.h.**

Framework for connecting authentic evidence of scholarly work and teaching competencies; use of advanced web and multimedia technologies to link artifacts to ePortfolio templates.

## Education Honors Opportunity Program Courses

**EHOP:4100 Honors Seminar in Education 2 s.h.**

Research in education and related professions in collaboration with a College of Education faculty member of student's choice; preparation for senior honors project.

**EHOP:4101 Senior Honors Project 1-2 s.h.**

Collaboration with a faculty member on research project; written report. Prerequisites: EHOP:4100.

### Courses

- Education Interdepartmental Courses [p. 1379]
- Education Honors Opportunity Program Courses [p. 1379]

Most College of Education courses are offered by the college's departments and programs. They are listed and described in the corresponding General Catalog sections. The college also offers the following interdepartmental courses.

# Education Studies and Human Relations, B.A.

The education studies and human relations major (ESHR) in the College of Education is a multidisciplinary program that enhances broad liberal arts and sciences education for students by providing strong academic preparation, including skills in critical thinking and interpersonal communication.

Students who plan to earn the major pursue their academic interests with a variety of courses from across the College of Education's four academic departments to further career goals or prepare for future graduate study. They may choose to select among all the course offerings for the ESHR major or select one of two subprograms.

The education studies subprogram is for students interested in pursuing careers in education policy, assessment and evaluation, education programming and management, learning technologies, organizational learning, school district support roles, as well as competitive preparation for future graduate study in educational measurement, education policy, educational psychology, higher education, learning sciences, and student affairs.

The human relations subprogram is for students who are interested in careers in helping fields that rely on interpersonal communication and personal problem solving (e.g., addiction, case management), as well as competitive preparation for future graduate study in professional counseling, health service psychology, couple and family therapy, community leadership, and related fields.

## Requirements

The Bachelor of Arts with a major in education studies and human relations (ESHR) requires a minimum of 120 s.h., including at least 30 s.h. of work for the major. Students must have a cumulative g.p.a. of at least 2.00 in all college coursework and in all UI coursework. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20]. A course used for the GE CLAS Core cannot also be used to count toward major requirements. All courses must be taken on a graded basis, unless a course is only offered as nongraded.

Students in their first year at the University of Iowa who have earned less than 30 s.h. are advised through the University's Academic Advising Center. Those with more than 30 s.h. are advised through the Academic Advising Office at the College of Education.

The major can be paired with one of the minors offered through the College of Education (educational psychology or human relations) or a major or minor from the College of Liberal Arts and Sciences. At most, only 3 s.h. may be counted toward another major or minor.

The major consists of a 15 s.h. core curriculum plus an additional 15 s.h. chosen from the list of approved elective courses in a student's declared program of study. Students may choose ESHR as their major; or one of the two subprograms within the major, either education studies or human relations. Students are required to earn a minimum of 18 s.h. in ESHR coursework at the University of Iowa.

The B.A. with a major in education studies and human relations requires the following coursework.

## Core Courses

All students must complete the following.

Code	Title	Hours
All of these:		
CSED:4199	Counseling for Related Professions	3
EDTL:2015	Teaching as a Human Endeavor	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

## Diversity/Multiculturalism Course

All students must complete the following.

Code	Title	Hours
One of these:		
CSED:4197	Citizenship in a Multicultural Society	3
EPLS:1240	Finding Your Path in Higher Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:3104	Multicultural Issues in Counseling and Psychology	3

## Electives

For the remaining 15 s.h. required for the major, students choose from the following list of courses, depending on their choice of subprogram or the major without a subprogram, to build a multidisciplinary slate of skills that enhances their future careers or graduate work. While students may choose any of these courses to earn the major without a subprogram, those who pursue the education studies (ES) subprogram or the human relations (HR) subprogram select courses relevant to their area.

## Concentration Areas

Whether students pursue ESHR or one of its subprograms, guidelines for informal concentration areas may provide a useful resource in choosing electives that are meaningful, useful, and a cohesive program of study. Guidelines for informal concentration areas are offered as a course selection aid to be used in consultation with an academic advisor and are not listed on a student's transcript or diploma. These informal concentration areas are meant to be fluid over time to best reflect trends and issues in the field of education and helping professions. Further, students may create their own concentration focus that will meet their own career trajectory. The guidelines for informal concentration areas are located on the College of Education website.

- Education Studies and Human Relations Electives [p. 1380]
- Education Studies Subprogram Electives [p. 1381]
- Human Relations Subprogram Electives [p. 1382]

## Education Studies and Human Relations Electives

Students in the education studies and human relations program must select 15 s.h., including at least two different College of Education areas (CSED, EDTL, EPLS, PSQF), from the following.

Code	Title	Hours
CSED:2081	Making a Vocational-Educational Choice	2-3
CSED:4110	Psychology of Food and Mood	3
CSED:4130	Human Sexuality	3
CSED:4131	Loss, Death, and Bereavement	3
CSED:4141	Helping Skills for Community Settings	3
CSED:4173	Trauma Across the Lifespan	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSED:4180	Topical Seminar for Helping Professionals (depending on topic; consult advisor)	3
CSED:4195	Ethics in Human Relations and Counseling	3
CSED:4197	Citizenship in a Multicultural Society (if not taken as diversity/multicultural course)	3
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts	3
EDTL:3002	Teaching and Learning Technologies	2-3
EDTL:3187	Early Literacy Instruction for Young Children	3
EDTL:3382	Language and Learning	2-3
EDTL:3393	Reading and Teaching Adolescent Literature	3
EDTL:3715	Experiential Teaching and Learning	3
EDTL:4093	Teaching and Learning for a Global Perspective	3
EDTL:4096	Topics in Teaching and Learning (depending on topic; consult advisor)	3
EDTL:4355	Approaches to Teaching Writing	3
EDTL:4630	Psychology of Music	2-3
EDTL:4900	Foundations of Special Education	3
EPLS:1240	Finding Your Path in Higher Education (if not taken as diversity/multicultural course)	3
EPLS:2098	The Student Affairs Profession	3
EPLS:3240	Undergraduate Topics in Education (depending on topic; consult advisor)	3
EPLS:4180	Human Relations for the Classroom Teacher (if not taken as diversity/multicultural course)	3
EPLS:4200	Diversity and Inclusion in Athletics	3
PSQF:2115	Introduction to Counseling Psychology	3
PSQF:2116	Applied Child and Adolescent Psychology	3
PSQF:3104	Multicultural Issues in Counseling and Psychology (if not taken as diversity/multicultural course)	3
PSQF:3333	Special Topics in Psychological and Quantitative Foundations (depending on topic; consult advisor)	3
PSQF:3700	Introduction to Understanding Trauma and Resilience	3
PSQF:4106	Child Development	3
PSQF:4133	The Adolescent and Young Adult	3
PSQF:4134	Parent-Teacher Communication	1-3
PSQF:4136	Home/School/Community Partnerships	3
PSQF:4143	Introduction to Statistical Methods	3
PSQF:4145	Marriage and Family Interaction	3
PSQF:4162	Introduction to Couple and Family Therapy	3
PSQF:4281	Cognitive Principles for How People Learn	3
PSQF:4760	Participatory Learning and Media: Creating, Remixing, Making, and Education	3
PSQF:4910	Theories of Family Development	3

  

<b>Education Studies Subprogram Electives</b>		
Code	Title	Hours
CSED:4197	Citizenship in a Multicultural Society (if not taken as diversity/multicultural course)	3
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts	3
EDTL:3002	Teaching and Learning Technologies	2-3
EDTL:3187	Early Literacy Instruction for Young Children	3
EDTL:3382	Language and Learning	2-3
EDTL:3393	Reading and Teaching Adolescent Literature	3
EDTL:3715	Experiential Teaching and Learning	3
EDTL:4093	Teaching and Learning for a Global Perspective	3
EDTL:4096	Topics in Teaching and Learning (depending on topic; consult advisor)	3

Students in the education studies subprogram must select 15 s.h., including at least two different College of Education areas (CSED, EDTL, EPLS, PSQF), from the following.

EDTL:4355	Approaches to Teaching Writing	3
EDTL:4630	Psychology of Music	2-3
EDTL:4900	Foundations of Special Education	3
EPLS:1240	Finding Your Path in Higher Education (if not taken as diversity/multicultural course)	3
EPLS:2098	The Student Affairs Profession	3
EPLS:3240	Undergraduate Topics in Education (depending on topic; consult advisor)	3
EPLS:4180	Human Relations for the Classroom Teacher (if not taken as diversity/multicultural course)	3
EPLS:4200	Diversity and Inclusion in Athletics	3
PSQF:3104	Multicultural Issues in Counseling and Psychology (if not taken as diversity/multicultural course)	3
PSQF:3333	Special Topics in Psychological and Quantitative Foundations (depending on topic; consult advisor)	3
PSQF:3700	Introduction to Understanding Trauma and Resilience	3
PSQF:4106	Child Development	3
PSQF:4133	The Adolescent and Young Adult	3
PSQF:4143	Introduction to Statistical Methods	3
PSQF:4281	Cognitive Principles for How People Learn	3
PSQF:4760	Participatory Learning and Media: Creating, Remixing, Making, and Education	3

### Human Relations Subprogram Electives

Students in the human relations subprogram must select 15 s.h., including at least two different College of Education areas (CSED, EDTL, EPLS, PSQF), from the following.

Code	Title	Hours
CSED:2081	Making a Vocational-Educational Choice	2-3
CSED:4110	Psychology of Food and Mood	3
CSED:4130	Human Sexuality	3
CSED:4131	Loss, Death, and Bereavement	3
CSED:4141	Helping Skills for Community Settings	3
CSED:4173	Trauma Across the Lifespan	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3

CSED:4180	Topical Seminar for Helping Professionals (depending on topic; consult advisor)	3
CSED:4195	Ethics in Human Relations and Counseling	3
CSED:4197	Citizenship in a Multicultural Society (if not taken as diversity/multicultural course)	3
EDTL:4096	Topics in Teaching and Learning (if not taken as diversity/multicultural course)	3
EPLS:3240	Undergraduate Topics in Education (depending on topic; consult advisor)	3
EPLS:4180	Human Relations for the Classroom Teacher (if not taken as diversity/multicultural course)	3
PSQF:2115	Introduction to Counseling Psychology	3
PSQF:2116	Applied Child and Adolescent Psychology	3
PSQF:3104	Multicultural Issues in Counseling and Psychology (if not taken as diversity/multicultural course)	3
PSQF:3333	Special Topics in Psychological and Quantitative Foundations (depending on topic; consult advisor)	3
PSQF:3700	Introduction to Understanding Trauma and Resilience	3
PSQF:4106	Child Development	3
PSQF:4133	The Adolescent and Young Adult	3
PSQF:4134	Parent-Teacher Communication	1-3
PSQF:4136	Home/School/Community Partnerships	3
PSQF:4143	Introduction to Statistical Methods	3
PSQF:4145	Marriage and Family Interaction	3
PSQF:4162	Introduction to Couple and Family Therapy	3
PSQF:4910	Theories of Family Development	3

### Academic Standards and Probation

Students are expected to meet academic standards set by the college and to demonstrate reasonable progress toward a degree. If they do not meet all grade-point average conditions, then students are placed on academic probation. Students usually are allowed only one session to return to good academic standing. While on probation, students engage in a number of activities to support their future success including meeting with an academic advisor. Students on

academic probation who withdraw registration after the deadline for dropping courses may be dismissed.

## Admission

### Direct Admissions Policy

Direct admission is designed for first-year students applying to the University of Iowa for the fall semester. Applicants who present an American College Test (ACT) composite score of 21 or higher and a final high school g.p.a. of at least 3.00 are eligible. Interested students who do not meet the criteria for direct admission are encouraged to consider regular admission.

### Regular Admissions Policy

Students who have completed a minimum of 12 s.h. of graded coursework at the University of Iowa and who have a UI cumulative g.p.a. of at least 2.50 are eligible for regular admission.

### Transfer Admissions Policy

Transfer students must have a cumulative g.p.a. of 2.50 or higher on at least 24 s.h. or 36 quarter hours earned after high school graduation of acceptable graded credit.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Education Studies and Human Relations, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Current University of Iowa students who have completed a minimum of 12 s.h. of graded coursework at the University of Iowa and who have a UI cumulative GPA of at least 2.50 are eligible for regular admission. Consult the College of Education's website for more information.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>12-14</b>
<b>Spring</b>		
PSQF:1075	Educational Psychology and Measurement	3

ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Natural Sciences without Lab <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
<b>Hours</b>		<b>13-15</b>

#### Second Year

##### Fall

EPLS:3000	Foundations of Education	3
GE CLAS Core: Historical Perspectives <sup>b</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>b</sup>		4
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

##### Spring

EDTL:2015	Teaching as a Human Endeavor	3
GE CLAS Core: International and Global Issues <sup>b</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>b</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>

#### Third Year

##### Fall

Major: diversity/multiculturalism course <sup>e, f</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>b</sup>		3
GE CLAS Core: Social Sciences <sup>b</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

##### Spring

CSED:4199	Counseling for Related Professions	3
Major: Elective course <sup>f, g</sup>		3
GE CLAS Core: Values and Culture		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

#### Fourth Year

##### Fall

Major: Elective course <sup>f, g</sup>		3
Major: Elective course <sup>f, g</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>

##### Spring

Major: Elective course <sup>f, g</sup>		3
Major: Elective course <sup>f, g</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3

Degree Application: Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>

<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>115-121</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- e See General Catalog for list of approved courses.
- f A course used for the GE CLAS Core cannot also be used to count toward major requirements.
- g Students must select major electives to total 15 s.h., including at least two different College of Education areas (CSED, EDTL, EPLS, PSQF). Subprograms or informal concentration areas may guide the selection of major electives. See General Catalog for list of approved courses and more information about subprograms and concentration areas.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.



# Applied Behavior Analysis

## Chair, Department of Teaching and Learning

- Lia M. Plakans

## Coordinator, Applied Behavior Analysis

- Seth A. King (Teaching and Learning)

**Graduate certificate:** applied behavior analysis

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/areas-study/continuing-education/certificates-and-endorsements/certificate-applied-behavior>

The purpose of the graduate Certificate in Applied Behavior Analysis (ABA) is to provide professionals who have a background in education, psychology, and related services with expertise in behavior intervention and intensive educational interventions. Students who complete the program are eligible for national certification as board-certified behavior analysts. ABA is a growing service sector with opportunities for employment in schools, universities, and independent clinics.

The Certificate in Applied Behavior Analysis is administered by the Department of Teaching and Learning [p. 1466] and is granted by the Graduate College.

For more information, visit Certificate in Applied Behavior Analysis on the College of Education website.

## Programs

### Graduate Program of Study Certificate

- Certificate in Applied Behavior Analysis [p. 1386]

# Applied Behavior Analysis, Graduate Certificate

## Requirements

The graduate Certificate in Applied Behavior Analysis requires 21 s.h. of graduate credit and is offered with hybrid and conventional courses. Students must maintain a g.p.a. of at least 2.50 in work for the certificate. They must earn at least a grade of C in each course required for the certificate. Courses must be taken on a graded basis.

The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students.

The certificate program develops skills in behavioral intervention and intensive instruction. The course sequence contributes to eligibility for certification as a board-certified behavior analyst (BCBA). In addition to the course sequence offered through the certification program, obtaining the BCBA requires completion of a supervised practicum experience and successful completion of the behavior certification exam offered through the Behavior Analyst Certification Board. For additional details regarding certification, visit the Behavior Analyst Certification Board website or contact the applied behavior analysis certificate coordinator.

The Certificate in Applied Behavior Analysis requires the following coursework.

Code	Title	Hours
All of these:		
EDTL:4950	Behavioral and Social Interventions	3
EDTL:4975	Explicit Instruction	3
EDTL:5961	Foundation of Applied Behavior Analysis	3
EDTL:5963	Ethics and Professional Conduct for Behavior Analysts and Psychologists	3
EDTL:5966	Advanced Topics in Applied Behavior Analysis	3
EDTL:7953	Seminar: Single Subject Design Research	3
PEDS:7264	Clinical Applications of Applied Behavior Analysis	3

For more information, visit Certificate in Applied Behavior Analysis on the College of Education website.

# Counselor Education

## Chair

- Noel Estrada-Hernandez

**Undergraduate minor:** human relations

**Graduate degrees:** M.A. in counselor education; Ph.D. in counselor education

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/about/administration/department-counselor-education>

The Department of Counselor Education prepares students to facilitate human development across the life span, to advocate for clients and students, and to serve local, national, and international communities through the delivery and creation of state-of-the-art counseling services. The department achieves these goals by advancing knowledge, skills, and attitudes appropriate for effective and ethical professional counseling practice and by conducting and disseminating related research.

The department prepares practitioners and scholars by offering graduate programs in four major areas within counselor education:

- clinical mental health counseling (offered in the M.A.);
- counselor education and supervision (offered in the Ph.D.);
- rehabilitation counseling program (offered in the M.A.); and
- school counseling (offered in the M.A.).

It also offers basic courses in interviewing and interpersonal skills for students in other professional and graduate programs. In addition, the department offers an undergraduate minor in human relations.

## Programs

### Undergraduate Program of Study

#### Minor

- Minor in Human Relations [p. 1394]

### Graduate Programs of Study

#### Majors

- Master of Arts in Counselor Education [p. 1395]
- Doctor of Philosophy in Counselor Education [p. 1401]

## Facilities

An on-campus counseling suite serves as a laboratory for training. In addition, a wide variety of supervised clinical experiences are available in community agencies, schools, and colleges, as well as throughout the University. Internships may be completed at approved sites nationwide.

## Admission

Prospective students must meet admission requirements for the individual programs as well as the department's general admission requirements. Criminal background checks may be required.

Applicants to any of the department's degree programs must satisfy the following admission requirements. Applicants

also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must submit the following:

- a completed graduate application form;
- copies of official transcripts of all previous undergraduate and graduate college work;
- official report of Graduate Record Exam (GRE) General Test verbal and quantitative scores (the GRE requirement has been suspended for the 2022-23 admissions cycle for M.A. programs only);
- a statement of an applicant's reasons for seeking an advanced degree in the department, including a statement of personal career objectives; and
- three current letters of recommendation from persons qualified to assess the applicant's prospects for completing the M.A. or Ph.D. and to assess the applicant's commitment to the profession.

The department may request a personal or telephone interview.

The following admission standards are considered for individual program admission decisions.

- M.A. applicants should have an undergraduate g.p.a. of at least 3.00.
- Ph.D. applicants should have a graduate g.p.a. of at least 3.00; those who have not been granted a graduate degree should have an undergraduate g.p.a. of at least 3.00.
- International applicants must score at least 80 (internet-based) on the Test of English as a Foreign Language (TOEFL). The department may require applicants with lower TOEFL scores to complete University of Iowa coursework in English language fluency. TOEFL scores must be submitted with the application for admission.
- Typically, doctoral students are not admitted unless they have completed a master's degree in counseling or a related field. Relevant work experiences are important. Students who are accepted without a related master's degree must complete core master's-level coursework before taking advanced Ph.D. courses. Required remedial courses and experiences are determined in consultation with the advisor and are included in a student's curriculum plan.

The criteria listed above are minimum standards for admission. Final admission decisions are made by faculty committees. Some of the department's programs have additional admission requirements; see the descriptions of the individual programs.

## Application

For application materials, visit Iowa Graduate Admissions and the Department of Counselor Education website.

Applications must be complete before they can be reviewed. Applicants are responsible for providing a complete application dossier; to check on whether an application dossier is complete, contact the Office of Student Services in the College of Education.

Applicants are notified in writing after their applications have been reviewed. Applicants who are accepted must reply in writing in order to maintain their admission status.

## Financial Support

Students in the department may apply for a wide variety of graduate assistantships. For example, many of the University's student service units award graduate assistantships. Applicants for assistantships should contact the department or the coordinator of the particular graduate program they plan to enter.

Applicants seeking fellowships or assistantships should complete their applications as early as possible.

## Courses

### Counselor Education Courses

#### **CSED:1029 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **CSED:1030 Belin-Blank Center Seminar 1 s.h.**

Presentations and discussions by University resource experts and Belin-Blank Center for Gifted Education staff. Requirements: Belin-Blank Center student.

#### **CSED:2081 Making a Vocational-Educational Choice 2-3 s.h.**

Vocational decision-making process, self-evaluation, exploration of the world of work; for students who are uncertain about their educational and vocational goals.

#### **CSED:2090 Parenting and Family Life 3 s.h.**

Parenting and family life with fathers who are currently incarcerated; enhancement of ongoing relationships with children and family; emphasis on assisting a father's relationship with his family with co-parenting strategies, nonviolent discipline, caring parenting styles, and behavioral management to foster successful child development; strategies for maintaining relationships with children and families; communication skills, building trust, positive discipline, behavioral management, conflict management, and positive visitation strategies. Requirements: Iowa Medical and Classification Center inmate.

#### **CSED:4109 Introduction to Athlete Mental Health 3 s.h.**

Overview of athlete mental health with emphasis on support services for high school and collegiate student-athletes as well as professional athletes; introduction to key players/stakeholders, ethical considerations, potential career paths for those pursuing careers in this industry, and importance of addressing mental health needs of athletes at all levels of sport participation.

#### **CSED:4110 Psychology of Food and Mood 3 s.h.**

Neurobehavioral and psychological determinants of food preference, behavior, and mood management; cultural meanings of food in North America, obesity, dieting, disordered eating; how we use food as a means of managing or damaging our food and health.

#### **CSED:4111 Building Leadership and Success at Work 3 s.h.**

Students learn and apply leadership components and skills to meet and exceed employer expectations; development of skills to evaluate and match student's interests with company leadership styles; effective use of leadership behaviors to influence, communicate, motivate, work in teams, and manage conflict; students gain understanding of self-identity; creation of an individualized leadership plan to use in career and personal life.

#### **CSED:4112 How to Interview to Get That Job! 3 s.h.**

Two approaches to job interviews—how to interview to obtain a job and how to interview applicants for a job; students gain knowledge and skills necessary to successfully conduct interviews from applicant and employer perspectives; review of interview processes and legal and ethical boundaries within interviews; examination of interview formats and styles to gain confidence and successfully respond to typical interview questions; development of interview questions as an applicant and as an employer; communication best practices prior, during, and following an interview.

#### **CSED:4113 Sleep, Sleep Deprivation, and Sleep Disorders 3 s.h.**

Theories and stages of sleep; aging and normal sleep; impact of sleep and sleep deprivation on mental and physical health; overview of sleep disorders and treatments.

#### **CSED:4114 Psychology of Body Modification and Self-Image 3 s.h.**

Exploration of psychology and practices of body modification as related to self-image; dynamic relationship between body and identity; body modification accomplished in many ways and for many reasons (beauty, social status, religious expression, improve function, to rebel); how gender, race, culture, age, and health shape our attitudes about our bodies and our decision to make modifications; risks and benefits (physical, emotional, social) of making a body modification to ones' sense of self as it relates to others and to oneself.

#### **CSED:4115 Developing Ethical Awareness and Decision Making Through Virtual Environments 3 s.h.**

Introduction to ethical and decision making models using experiential activities in a virtual world; development of role playing characters in the PC-based virtual world of Skyrim; students face a multitude of ethical dilemmas, personal situations that explore participants' value systems, and decisions to be made in different contextual environments; review of several ethical models including developmental perspectives, approaches to ethical decision making, values scales, and moral development models which are applied to reflective writing activities and case presentations.

#### **CSED:4119 Family Issues in Giftedness 1 s.h.**

Family dynamics and issues that arise when one or more children are identified as gifted; parent/child, sibling, school/family relationships.

#### **CSED:4120 Psychology of Giftedness 3 s.h.**

Theories of learning, child development, motivation; issues unique to gifted education. Same as PSQF:4120.

#### **CSED:4121 Identification of Students for Gifted Programs 3 s.h.**

Interpretation of standardized tests and other measurement instruments used to identify academic talent and program effectively for grades K-12; ability, aptitude, achievement tests; current issues in the uses of various instruments. Same as PSQF:4121.

- CSED:4123 Gender Issues and Giftedness** 1 s.h.  
Effect of gender on development of giftedness; differential needs of girls, boys; strategies for effective teaching, gender equity.
- CSED:4124 Ethnic and Cultural Issues and Giftedness** 1 s.h.  
Effect of ethnicity and culture on development of giftedness; special needs of Black, Hispanic, Native American, and Asian gifted students; strategies for identification, programming.
- CSED:4125 Counseling and Psychological Needs of the Gifted** 1 s.h.  
Psychological aspects of giftedness, counseling techniques appropriate for gifted children, adolescents; socio-emotional concerns, career development, underachievement. Same as PSQF:4125.
- CSED:4126 Cognitive and Affective Needs of Underachieving Gifted** 1 s.h.  
Diagnostic strategy for identifying types of underachievement, teaching and counseling interventions appropriate for each. Same as PSQF:4126.
- CSED:4128 Advanced Leadership Seminar in Gifted Education** 1 s.h.  
Development of administrative policies and programming based on empirical research; for experienced leaders in gifted education.
- CSED:4129 Creativity: Issues and Applications in Gifted Education** 1 s.h.  
Theories that underpin contemporary definitions of creativity; instruments developed to measure creativity; activities in the school environment that enhance or inhibit student creativity. Same as PSQF:4129.
- CSED:4130 Human Sexuality** 3 s.h.  
Introduction to human sexuality from a sociocultural perspective; readings and discussions of sensitive topics and explicit depictions/discussions of sexuality; students may relate their sexual experiences to course content; combination of formats.
- CSED:4131 Loss, Death, and Bereavement** 3 s.h.  
Psychological study of death, grief, loss, bereavement, and coping from a multidimensional and multidisciplinary perspective; loss and grief as natural experiences that are not often explicitly discussed; overview of topics relating to death, including multicultural attitudes toward death, death practices, theories on loss and bereavement, and grieving throughout the life cycle; hospice and palliative care, suicide, and making meaning of life out of death; development of critical thinking skills by engaging in empirically based discussions.
- CSED:4132 Introduction to Addictions and Impulse Control Disorders** 3 s.h.  
Exploration of addictions and impulse control disorders; legal, social, physical, and emotional issues related to addictions and impulse control disorders.
- CSED:4137 Introduction to Educating Gifted Students** 3 s.h.  
Fundamental issues such as curriculum, counseling, family issues, gender and minority issues. Same as EDTL:4137.
- CSED:4140 Foundations of Leadership for Community Agencies** 3 s.h.  
Preparation to become effective employees and leaders; emphasis on leadership roles in clinical and other human service or health care settings; how leadership transcends job title associated with high work performance; experiential activities that illustrate key didactic concepts and didactic lecture review, written assignments, experiential assignment, in-depth discussions illustrating key concepts.
- CSED:4141 Helping Skills for Community Settings** 3 s.h.  
Helping skills necessary for working in a variety of community settings; focus on communication, problem solving, interviewing skills, entry-level techniques (e.g., mindfulness), and résumé building opportunities including Iowa mandatory reporter training and QPR (Question, Persuade, and Refer) training.
- CSED:4145 Marriage and Family Interaction** 3 s.h.  
Contemporary American couple, marriage, and family relationships; mate selection. Same as PSQF:4145.
- CSED:4162 Introduction to Couple and Family Therapy** 3 s.h.  
Evolution of the family therapy movement and issues related to functional and dysfunctional family systems; significant models of family therapy and specific techniques. Same as PSQF:4162.
- CSED:4173 Trauma Across the Lifespan** 3 s.h.  
Current theory and practice models related to trauma and crisis intervention; overview of multi-system level definitions of trauma experience (historical, individual, interpersonal, family, organizational, community, global); various approaches to trauma response theory; unique contributions that counselors offer (strength, resiliency, coping); commitments to multicultural and systems factors; macro-to micro-level understanding of trauma.
- CSED:4174 Positive Psychology** 3 s.h.  
Promotion of human potential as a focus for counseling professionals that provides a supplement to diagnosis and treatment of pathology; how to achieve happiness, resilience, wellness, and life satisfaction through enhancement of human strengths and virtues.
- CSED:4175 Motivational Interviewing** 3 s.h.  
Motivational Interviewing (Miller & Rollnick) and the stages of change model.
- CSED:4176 Child Abuse: Assessment, Intervention, and Advocacy** 3 s.h.  
Preparation for work involving abused children or child abuse issues; appropriate for careers in counseling, education, health sciences, law, psychology, social work, and so forth; interactive approach.
- CSED:4178 Microcounseling** 3 s.h.  
Basic skills of listening, responding, empathy, focus; advanced skills of meaning, confrontation, reframing, directives, action skills.
- CSED:4179 Sexuality Within the Helping Professions** 3 s.h.  
Relationship between sexuality and mental health; varied ethical and professional issues in sex therapy.
- CSED:4180 Topical Seminar for Helping Professionals** arr.  
Topics for the continuing education of counselors and related professionals.

**CSED:4185 Introduction to Substance Abuse** 3 s.h.  
Theories of addiction and pharmacology of psychoactive drugs; legal, familial, biological, multicultural, historical issues related to substance use and misuse.

**CSED:4187 Introduction to Assistive Technology** 3 s.h.  
How assistive technology can be used for attainment of goals in education or work. Same as EDTL:4987.

**CSED:4188 Practicum in Teaching and Curriculum Development in Gifted Education** 1-6 s.h.  
Experience in developing course materials for classes offered through the Belin-Blank Center for Gifted Education. Same as EDTL:4188.

**CSED:4191 Advocacy: Awareness, Assertiveness, and Activism** arr.  
Introduction to advocacy skills—communicate, convey, negotiate or assert interests, desires, needs, and rights for self or others; opportunity to design and implement a plan of change; ecological model of human interaction that suggests a person must be viewed within context of one's environment(s); how having power on a personal and social level impacts one's environment and is central to a person's well-being; advocacy as a central function of helping professions.

**CSED:4193 Individual Instruction - Undergraduate** arr.

**CSED:4194 Interpersonal Effectiveness** 3 s.h.  
Paradigms and techniques that enhance interpersonal relationship skills.

**CSED:4195 Ethics in Human Relations and Counseling** 3 s.h.  
Morality and ethics; ethical issues; models and techniques for effective ethical decision making in personal and professional interactions.

**CSED:4197 Citizenship in a Multicultural Society** 3 s.h.  
Human relationships in the context of societal oppressions such as racism, sexism, able-bodyism, and heterosexism.

**CSED:4199 Counseling for Related Professions** 3 s.h.  
Counseling theories and techniques; ethical and multicultural considerations; small-group discussions, demonstrations, lectures.

**CSED:5200 Professional School Counselor** 3 s.h.  
Professional identity of school counselors, K-12 school counseling program delivery systems, legal and ethical issues.

**CSED:5202 Introduction to Group Counseling** 3 s.h.  
Research, theory, ethics, planning, and practice in group counseling; leadership styles and multicultural considerations; group participation. Requirements: counselor education enrollment.

**CSED:5203 Career Development and Counseling** 3 s.h.  
Preparation for counselors and student affairs professionals; career development concepts and theories, family and work, career counseling goals and objectives, exemplary techniques and materials, career program planning, evaluation procedures. Requirements: counselor education enrollment.

**CSED:5204 School Culture and Classroom Management for School Counselors** 3 s.h.  
American public elementary and secondary schools and the school counselor's role; classroom management for school counselors.

**CSED:5221 Theories of Counseling and Human Development Across the Life Span** 3 s.h.  
Philosophical bases, ethical considerations, processes, issues, multicultural and life-span developmental considerations in counseling theories and techniques. Requirements: counselor education M.A. enrollment.

**CSED:5222 Counseling Children and Adolescents in Schools** 3 s.h.  
Theory and practice of school-based counseling interventions; child and adolescent development; prevention; special topics. Prerequisites: CSED:5221 or CSED:5278.

**CSED:5226 Assessment of Giftedness** 3 s.h.  
Training and practice in assessment of gifted children. Same as PSQF:5226.

**CSED:5230 School Counseling Program Leadership and Management** 3 s.h.  
Comprehensive K-12 school counseling program components and structures; program leadership, planning, accountability; behavioral consultation and collaboration; ethical, multicultural, family considerations.

**CSED:5237 Seminar in Gifted Education** 2-3 s.h.  
Teaching and counseling needs of gifted students K-12; intensive 10-day residential program. Requirements: work as teacher with Belin Fellowship.

**CSED:5238 Advanced Seminar in Gifted Education** 1 s.h.  
Supervisory, administrative, and research issues; fellowships for seminar participants.

**CSED:5241 Professional Counseling Orientation and Ethical Practice** 3 s.h.  
Historical, philosophical, legislative, societal, and multicultural overview of mental health process and practice in community-based settings; roles of rehabilitation and mental health professionals, nature of agencies, resources, contemporary issues, and ethics.

**CSED:5248 Diagnosis and Treatment Planning for Traditional, Vulnerable, and Special Populations in Counseling** 3 s.h.  
Individual and group approaches to assessment and evaluation, including personal and environmental factors; psychiatric conditions, their diagnostic criteria using the DSM-5, and treatment planning considerations; biopsychosocial and psychiatric rehabilitation models used for case conceptualization and treatment planning, including functional assessment and client-driven rehabilitation planning for community reintegration; special considerations for diagnosing and treating vulnerable and special populations. Requirements: counselor education enrollment.

**CSED:5249 Medical and Psychopathological Aspects of Chronic Illness and Disability** 3 s.h.  
Description, classification, and theoretical perspectives related to psychiatric disorders; models of intervention in community-based settings.

**CSED:5250 Multiculturalism in Helping Professions** 3 s.h.  
Theory and application of multicultural competency in the helping professions; ethical treatment of clients in the context of a multiculturally diverse society; knowledge, skill, self-awareness components relevant for helping practitioners. Requirements: counselor education enrollment.

**CSED:5253 Forensic Rehabilitation and Case Management****3 s.h.**

Orientation to the profession of forensic rehabilitation or forensic vocational rehabilitation; development of knowledge and skills to act as a forensic professional in court proceedings involving persons with disabilities; emphasis on multiple areas of practice including social security determination, marital dissolution, personal injury, worker's compensation, and life care planning; students write expert testimony reports from assigned scenarios of injured workers for attorneys, insurance carriers, and administrative law judges.

**CSED:5254 Assessment and Appraisal****3 s.h.**

Presentation of materials related to assessment and appraisal for those who plan to work as professional counselors; didactic and experiential activities that enhance a counseling professional's work in the field; specifically, development of skills related to the administration, scoring, and interpretation of basic assessment materials and appraisal in a counseling setting.

**CSED:5270 Issues and Ethics in Counseling****3 s.h.**

Ethical standards and decision making; current issues; ethical, legal, and multicultural considerations for counseling in agencies and schools; emphasis on professional practice.

**CSED:5278 Applied Microcounseling****3 s.h.**

Development of basic and advanced counseling skills; preparation for work in education and community settings.

**CSED:5280 Topical Seminar in Counselor Education****arr.**

Special topics dealing with contemporary problems of concern to counselors in specific settings.

**CSED:5300 Culturally Relevant Social and Emotional Learning****3 s.h.**

Social-emotional learning (SEL) focuses on development of student competence in recognizing and managing emotions, developing empathy, making decisions, building relationships, and handling challenging situations; evidence on the impact of effective SEL has driven the introduction of state K-12 SEL standards and competencies; beyond applying principles of SEL, teachers need equitable instructional practices to link principles of learning with an understanding and appreciation for culture; examination of intersection of SEL and culturally relevant pedagogy (CRP); principles and applications of culturally relevant SEL in K-12 schools. Requirements: M.A. in teaching, leadership, and cultural competency program enrollment.

**CSED:5400 Suicide and Crisis Intervention in Counseling****3 s.h.**

Content related to suicide and crisis intervention work; students encounter many crisis situations in a variety of settings as future counselors and the importance of feeling prepared to engage in these situations; students often become leaders within their settings to carry out interventions; theoretical perspectives and techniques in crisis intervention and crisis counseling; history, models, current trends, and systemic issues of crisis counseling.

**CSED:6263 Consultation Theory and Practice****3 s.h.**

Review of concepts and practice of consultation and collaboration in educational and human services settings; focus on mental health, organizational, behavioral, and instructional models. Same as PSQF:6263.

**CSED:6293 Individual Instruction - Graduate****arr.****CSED:6300 Practicum in School Counseling****3 s.h.**

Supervised experience counseling and consulting in elementary and secondary school settings. Requirements: completion of school counseling core courses.

**CSED:6321 Internship in Elementary School Counseling****6,12 s.h.**

Supervised placement in an elementary school setting; performance of tasks, responsibilities of an elementary school counselor. Prerequisites: CSED:6300. Requirements: completion of all required school counseling courses.

**CSED:6322 Internship in Secondary School Counseling****6,12 s.h.**

Supervised placement in a secondary school setting; performance of tasks, responsibilities of a secondary school counselor. Prerequisites: CSED:6300. Requirements: completion of all required school counseling courses.

**CSED:6341 Occupational Information, Job Development, and Job Placement****3 s.h.**

Obtaining appropriate jobs for individuals with disabilities who have received rehabilitation services; client, counselor, employer, job specifications.

**CSED:6342 Psychosocial Aspects of Health and Disability Across the Developmental Lifespan****3 s.h.**

Dynamics of adjustment and coping for persons with chronic illness or those with disabilities through the life span; somatopsychological, psychosocial, and developmental perspectives on disability.

**CSED:6345 Winterim Session Field Experiences in Counseling****arr.**

Clinical experiences in mental health or rehabilitation agencies; supervision by faculty supervisor, site supervisor, and doctoral student in individual, triadic, and group formats; consultation between students, faculty supervisors, and site supervisors includes supervision and performance evaluation. Prerequisites: CSED:6346 or CSED:6349 or CSED:7360.

**CSED:6346 Practicum in Rehabilitation Counseling****3 s.h.**

Clinical preparation to work specifically with persons with mental health and other disabilities in order to effectively promote positive changes in their employment status (where applicable), level of social integration, level of independence, quality of life, and mental health; individual clinical preparation goals established within the parameters of the clinical continuum to ensure skill development and a strong knowledge base, which serve to promote qualified providers of rehabilitation counseling services.

**CSED:6347 Internship in Rehabilitation Counseling****arr.**

Advanced clinical experiences under faculty supervision in a community rehabilitation agency; student interns receive weekly individual and monthly group supervision; emphasis on application of rehabilitation and mental health counseling and case management methods, techniques, and vocational knowledge in work with clients; consultation with professionals, business, and industry as needed to enhance services to persons with disabilities for the purposes of job development/placement and/or independent living rehabilitation. Prerequisites: CSED:6346.

**CSED:6349 Practicum in Clinical Mental Health Counseling****arr.**

Experience in a community agency serving individuals with disabilities and mental health disorders, supervised by a certified rehabilitation counselor in an approved site. Prerequisites: CSED:6353.

**CSED:6352 Internship in Clinical Mental Health Counseling****arr.**

Full-time clinical experience in rehabilitation and mental health settings; training in wide range of rehabilitation and mental health functions under supervision of a qualified M.A. counselor with appropriate credentials. Prerequisites: CSED:6349.

**CSED:6353 Pre-Practicum and Case Management in Counseling****3 s.h.**

Development of accurate listening, empathy, reflection, and inquiry skills as well as goal setting techniques that are the foundation of counseling work; strong applied and experiential approach with special focus on development of self-awareness dexterity necessary for professionals in clinical mental health counseling; students learn and practice microcounseling skills in class and lab sessions that relate to working with individuals and small groups; applied pre-practicum allows students to work with an analog client as well as didactic instruction.

**CSED:6354 Advanced Practicum in Clinical Mental Health Counseling****3 s.h.**

Advanced clinical experiences in clinical mental health counseling; supervision provided by faculty supervisor and site supervisor, who meet with the student during the semester for supervision and performance evaluation; emphasis on application of clinical mental health counseling knowledge, methods, and techniques in work with clients, and in consulting with other professionals and agencies as needed to enhance services to persons with mental health disabilities; emphasis also on application of principles and professional standards to real life situations. Prerequisites: CSED:6353 and CSED:6349.

**CSED:6394 Research and Scholarship Internship 1-3 s.h.**

Preparation for comprehensive examination.

**CSED:6500 Research and Program Evaluation****3 s.h.**

Introduction to research methods for counselors; research strategies that have dominated counseling literature; key concepts related to development of researchable questions, use and interpretation of quantitative and qualitative analyses, factors impacting design integrity, and use of findings to effect counseling program modifications; focus on essential approaches needed to conceptualize and develop a research proposal.

**CSED:7255 Advanced Career Development and Counseling****3 s.h.**

Major concepts and research evidence about life-span vocational behavior; theories of vocational choice, adjustment, development in a multicultural world.

**CSED:7338 Essentials of Qualitative Inquiry****3 s.h.**

Principles, processes of qualitative research in education; methods of design, data collection and analysis, interpretation, trustworthiness. Requirements: Ph.D. enrollment and introductory research course.

**CSED:7347 Home/School/Community: System Interventions****3 s.h.**

Interventions used by school and support system personnel; focus on work with parents, siblings. Same as PSQF:7347.

**CSED:7353 Advanced Counseling and Psychotherapy****3 s.h.**

Theories, techniques, and ethics of counseling clients with personal and interpersonal problems; ethical and multicultural considerations.

**CSED:7360 Advanced Practicum in Counseling****arr.**

Supervised practice in counseling; intensive analysis of counselor ethics, styles, and methods. Requirements: Ph.D. enrollment, advanced graduate standing in counselor education, and counseling introductory practicum.

**CSED:7380 Internship in Teaching****arr.**

Supervised college teaching experience in counselor education courses; teaching in collaboration with faculty, observation and critiques of teaching, participation in course planning and evaluation procedures; ethical and multicultural considerations.

**CSED:7385 Teaching and Learning in Higher Education****3 s.h.**

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as EDTL:7385, EPLS:7385, GRAD:7385, PSQF:7385.

**CSED:7400 Seminar: Ethics and Issues in Counseling****3 s.h.**

Ethical, professional, and contemporary issues in counseling practice, education, and research. Requirements: counselor education Ph.D. enrollment.

**CSED:7438 Advanced Qualitative Research Seminar in Counselor Education****3 s.h.**

Exploration of qualitative research at advanced theoretical, practical, and technical level, inside and outside a typical classroom environment; scholarly discussions. Prerequisites: CSED:7338.

**CSED:7448 Integrated Developmental Theory and Counseling****3 s.h.**

Advanced issues, theoretical perspectives, and research in human development across the life span; influential theories in human development; related implications for counseling, supervision, and research; integrated understanding of perspectives through position papers, reflection papers, and research proposal project. Requirements: graduate standing in counselor education.

**CSED:7450 Advanced Social Psychology of Disability****3 s.h.**

Disability issues from individual and societal perspectives; psychosocial aspects of disability and disability studies; seminar. Requirements: Ph.D. enrollment.

**CSED:7451 Advanced Multiculturalism****3 s.h.**

Impact of culture, race, ethnicity, and intersections of identity on counseling in higher education and student affairs settings. Prerequisites: CSED:5250.

**CSED:7454 Supervision Theory and Practice****3 s.h.**

Conceptual models, ethics, multicultural considerations, research, and program design for counselor supervision and consultation.

**CSED:7455 Internship in Supervision****arr.**

Supervision of students enrolled in counseling practicum. Prerequisites: CSED:7454.



**CSED:7457 Seminar: Professional Orientation to Counselor Education, Supervision, Leadership, and Advocacy** 4 s.h.

Professional orientation for students seeking degrees and employment in counselor education and supervision (CES); analysis of by-laws, competency statements, and professional responsibilities for specialists in CES; identification of key leadership practices; evaluation of leadership principles as applied to CES; development of a plan for future leadership in CES; students analyze needs of client stakeholder groups, evaluate current approaches to advocacy, develop an advocacy plan, and examine their own professional awareness, knowledge, and skill sets for negotiating work/life in academia and/or administration.

**CSED:7458 Seminar: Issues and Trends in Counseling Research** 4 s.h.

Recent trends, including debates and findings in literature related to best practices for the profession. Same as PSQF:7459.

**CSED:7460 Seminar: Research in Counseling** 3 s.h.

Methods, examples, ethics, multicultural issues, problems of counseling research. Requirements: Ph.D. enrollment. Same as PSQF:7460.

**CSED:7461 Practicum in Research** arr.

Experience designing and implementing research relevant to student's plan of study, under supervision of counselor education faculty member.

**CSED:7465 Internship in Clinical Practice** arr.

Supervised experience in professional counseling, counselor supervision, consultation, and teaching counseling.

**CSED:7466 Leadership and Advocacy Internship in Counselor Education** 3 s.h.

Supervised experience in service learning activities in a variety of settings to build advocacy and leadership skills; leadership skill development opportunities that enhance doctoral students' future potential as counselor education advocates and consultants. Prerequisites: CSED:7360.

**CSED:7493 Ph.D. Thesis** arr.

# Human Relations, Minor

## Requirements

The undergraduate minor in human relations requires a minimum of 15 s.h. of credit, including 12 s.h. earned at the University of Iowa. Students must maintain a g.p.a. of at least 2.50 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass, but may count toward the minor if offered as S/U or S/F. Transfer credit must be approved by the chair of the Department of Counselor Education in order to count toward the minor.

The minor is open to all University of Iowa students enrolled in an undergraduate degree program.

The minor in human relations requires the following coursework.

Code	Title	Hours
This course:		
CSED:4199	Counseling for Related Professions	3
At least 12 s.h. from these:		
CSED:2081	Making a Vocational-Educational Choice	2-3
CSED:4109	Introduction to Athlete Mental Health	3
CSED:4110	Psychology of Food and Mood	3
CSED:4111	Building Leadership and Success at Work	3
CSED:4112	How to Interview to Get That Job!	3
CSED:4113	Sleep, Sleep Deprivation, and Sleep Disorders	3
CSED:4114	Psychology of Body Modification and Self-Image	3
CSED:4130	Human Sexuality	3
CSED:4131	Loss, Death, and Bereavement	3
CSED:4132	Introduction to Addictions and Impulse Control Disorders	3
CSED:4140	Foundations of Leadership for Community Agencies	3
CSED:4145	Marriage and Family Interaction	3
CSED:4162	Introduction to Couple and Family Therapy	3
CSED:4173	Trauma Across the Lifespan	3
CSED:4174	Positive Psychology	3
CSED:4175	Motivational Interviewing	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSED:4178	Microcounseling	3
CSED:4179	Sexuality Within the Helping Professions	3
CSED:4180	Topical Seminar for Helping Professionals	3
CSED:4185	Introduction to Substance Abuse	3

CSED:4187	Introduction to Assistive Technology	3
CSED:4191	Advocacy: Awareness, Assertiveness, and Activism	3
CSED:4193	Individual Instruction - Undergraduate	arr.
CSED:4194	Interpersonal Effectiveness	3
CSED:4195	Ethics in Human Relations and Counseling	3
CSED:4197	Citizenship in a Multicultural Society	3
EALL:4130	Introduction to Grant Writing	3
EPLS:4150	Leadership and Public Service I	3
EPLS:4151	Leadership and Public Service II	2
EPLS:4180	Human Relations for the Classroom Teacher (requires special permission for students not enrolled in TEP)	3
PSQF:2115	Introduction to Counseling Psychology	3
PSQF:2116	Applied Child and Adolescent Psychology	3
SSW:3700	Introduction to Understanding Trauma and Resilience	3

Contact the Department of Counselor Education for more information about the minor.

# Counselor Education, M.A.

## Maintaining Good Standing

M.A. students in the Department of Counselor Education must meet the following standards in order to remain in their degree programs and advance to candidacy and remain a candidate for a degree:

- maintain a g.p.a. of at least 3.00;
- successfully complete practicums and internships;
- maintain professional behavior consistent with the ACA Code of Ethics (American Counseling Association) and any additional code of professional ethics adhered to in any agency in which a student completes a practicum or internship; and
- demonstrate progress toward the degree through successful completion of semester hours specified in the curriculum plan and active registration each session (exceptions may be approved by the advisor).

Each student's academic and professional progress is reviewed annually. A written report is provided to the student and a copy is placed in the student's department file.

## Probational Status

Students who earn a cumulative g.p.a. lower than 3.00 are placed on probational status and are notified in writing. Students on probational status have two consecutive sessions to raise their grade-point average to the established standard. If that requirement is not met, a student may be removed from the program. Students are allowed one probational status during their program of study.

## Learning Outcomes

### Counselor Education Standards

The following are the standards of the Department of Counselor Education at the University of Iowa, which are the key performance indicators for M.A. students.

- acquire the awareness, knowledge, and skills of a professional counselor and/or counselor educator;
- develop a process of ongoing reflective practice in relation to cultural humility and the profession's multicultural, social justice, and ethical counseling competencies and education;
- develop counseling skills that will address problems in living from a developmental/life span approach;
- cultivate a commitment to ethical practices and behavior in counseling, counselor education, supervision, and research; and
- acquire an understanding of the social, vocational, educational, and psychological needs of individuals served in various settings such as schools, vocational, or counseling centers.

## Clinical Mental Health Counseling

The Master of Arts program in counselor education with a clinical mental health counseling subprogram requires a minimum of 60 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00. Full-time students can complete the program in approximately 20 months (four semesters).

The program prepares professional counselors to provide assistance with psychological wellness through flexible, consumer-oriented therapy to individuals experiencing various problems in living, including mental disorders and substance abuse. They combine traditional psychotherapy with a practical, problem-solving approach that creates a dynamic efficient path for change and problem resolution.

Clinical mental health counselors work in a variety of settings, including public government agencies; private practice; community mental health agencies; managed behavioral health care organizations; integrated delivery systems; hospitals, including the Veteran's Administration; employee assistance programs; and substance abuse treatment centers. They provide interventions designed to help individuals with their immediate needs such as assessment and diagnosis, psychotherapy, treatment planning, brief and solution-focused therapy, alcoholism and substance abuse treatment, psychoeducational and prevention, and crisis management.

The M.A. subprogram in clinical mental health counseling is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Graduates of the program are eligible for certification by the National Board for Certified Counselors. By completing the program's coursework, students also complete the courses they must take in order to apply for licensure as mental health counselors in Iowa.

The curriculum blends academic work with supervised clinical experiences. Students take two semesters of practicum and one semester of internship concurrently with academic courses. The program concludes with a full-time internship (40 hours per week) during a spring semester. Students are assigned to mental health agencies or facilities that meet CACREP accreditation standards and that have programs or clientele who match a student's interests and educational objectives. Clinical placements require criminal background checks. Supervised practicums, internships, and comprehensive examinations are not offered during summer sessions.

The M.A. in counselor education with a clinical mental health counseling subprogram requires the following work.

## Required Courses

Code	Title	Hours
All of these:		
CSED:5202	Introduction to Group Counseling	3
CSED:5203	Career Development and Counseling	3
CSED:5221	Theories of Counseling and Human Development Across the Life Span	3
CSED:5241	Professional Counseling Orientation and Ethical Practice	3
CSED:5248	Diagnosis and Treatment Planning for Traditional, Vulnerable, and Special Populations in Counseling	3
CSED:5249	Medical and Psychopathological Aspects of Chronic Illness and Disability	3
CSED:5250	Multiculturalism in Helping Professions	3

CSED:5254	Assessment and Appraisal	3
CSED:5278	Applied Microcounseling	3
CSED:6342	Psychosocial Aspects of Health and Disability Across the Developmental Lifespan	3
CSED:6349	Practicum in Clinical Mental Health Counseling	3
CSED:6352	Internship in Clinical Mental Health Counseling	12
CSED:6353	Pre-Practicum and Case Management in Counseling	3
CSED:6500	Research and Program Evaluation	3

**Total Hours** **51**

## Electives

Code	Title	Hours
At least three of these (9 s.h.), in consultation with advisor:		
CSED:4110	Psychology of Food and Mood	3
CSED:4113	Sleep, Sleep Deprivation, and Sleep Disorders	3
CSED:4114	Psychology of Body Modification and Self-Image	3
CSED:4130	Human Sexuality	3
CSED:4131	Loss, Death, and Bereavement	3
CSED:4132	Introduction to Addictions and Impulse Control Disorders	3
CSED:4162	Introduction to Couple and Family Therapy	3
CSED:4173	Trauma Across the Lifespan	3
CSED:4174	Positive Psychology	3
CSED:4175	Motivational Interviewing	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSED:4179	Sexuality Within the Helping Professions	3
CSED:4185	Introduction to Substance Abuse	3
CSED:4187	Introduction to Assistive Technology	3
CSED:5280	Topical Seminar in Counselor Education (may be taken more than once if the topic differs)	arr.

## Comprehensive Examination

The comprehensive examination consists of two exams totaling six hours: a three-hour departmental comprehensive examination and a three-hour written examination on the process and practice of clinical mental health counseling. Exams are offered only during fall and spring semesters.

## Admission

Applicants must meet the department's general admission requirements. They should have a good academic record and relevant experiences. No specific undergraduate major area of study is required for the M.A. program, but a major

in one of the social sciences is considered good preparation. Postbaccalaureate work and volunteer experiences relevant to the field of mental health counseling is preferred. The program encourages applications from persons traditionally underrepresented in the field, particularly those with a disability and/or members of minority or ethnic groups. A personal interview is required, either in person or by telephone.

Applications for full-time study are accepted for fall semester entry; applications for full-time study are reviewed beginning March 1. Applications for part-time study are accepted for fall and spring semesters and are considered when class space permits.

Students pursue a sequenced plan of study that begins in the fall semester. Although students may be admitted for any semester, the program highly recommends that full-time students begin in the fall.

## Rehabilitation Counseling Program

The Master of Arts program in counselor education with a rehabilitation counseling subprogram requires a minimum of 60 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00. Full-time students can complete the program in approximately 20 months (four semesters).

The program prepares professional counselors to provide assistance in psychological wellness, employment, independent living, and personal or economic development to persons with disabilities and other individuals who encounter barriers in meeting their own functional needs.

Rehabilitation counselors work in a variety of settings, including public agencies such as state vocational rehabilitation programs and Veterans Affairs vocational rehabilitation programs, independent living centers, community-based rehabilitation centers and supported employment, psychiatric rehabilitation programs, transition from school to work programs, and private for-profit worker's compensation and insurance rehabilitation agencies. They provide interventions designed to help persons with disabilities adapt to the demands of their environments. They also prepare the environments to accommodate an individual's needs. Assessment, personal and vocational counseling, development of rehabilitation and treatment plans, case management, service coordination, psychosocial adjustment, job development, placement, and follow-up are typical services that rehabilitation and mental health counselors provide.

The program in rehabilitation counseling is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Graduates of the program are eligible for certification by the Commission on Rehabilitation Counselor Certification (CRCC).

The curriculum blends academic work with supervised clinical experiences. Students take one semester of practicum and one semester of internship concurrently with academic courses. The program concludes with a full-time internship (40 hours per week) during a spring semester. Students are assigned to rehabilitation agencies or facilities that meet CACREP accreditation standards and that have programs or clientele who match a student's interests and educational objectives. Clinical placements require criminal background checks. Supervised practicums, internships, and

comprehensive examinations are not offered during summer sessions.

The M.A. in counselor education with a rehabilitation counseling subprogram requires the following work.

## Required Courses

Code	Title	Hours
All of these:		
CSED:5202	Introduction to Group Counseling	3
CSED:5221	Theories of Counseling and Human Development Across the Life Span	3
CSED:5241	Professional Counseling Orientation and Ethical Practice	3
CSED:5249	Medical and Psychopathological Aspects of Chronic Illness and Disability	3
CSED:5250	Multiculturalism in Helping Professions	3
CSED:5253	Forensic Rehabilitation and Case Management	3
CSED:5254	Assessment and Appraisal	3
CSED:5278	Applied Microcounseling	3
CSED:6341	Occupational Information, Job Development, and Job Placement	3
CSED:6342	Psychosocial Aspects of Health and Disability Across the Developmental Lifespan	3
CSED:6346	Practicum in Rehabilitation Counseling	3
CSED:6347	Internship in Rehabilitation Counseling	12
CSED:6500	Research and Program Evaluation	3
<b>Total Hours</b>		<b>48</b>

## Electives

Code	Title	Hours
At least four of these (12 s.h.), in consultation with advisor:		
CSED:4110	Psychology of Food and Mood	3
CSED:4113	Sleep, Sleep Deprivation, and Sleep Disorders	3
CSED:4114	Psychology of Body Modification and Self-Image	3
CSED:4130	Human Sexuality	3
CSED:4131	Loss, Death, and Bereavement	3
CSED:4132	Introduction to Addictions and Impulse Control Disorders	3
CSED:4162	Introduction to Couple and Family Therapy	3
CSED:4173	Trauma Across the Lifespan	3
CSED:4174	Positive Psychology	3
CSED:4175	Motivational Interviewing	3

CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSED:4179	Sexuality Within the Helping Professions	3
CSED:4185	Introduction to Substance Abuse	3
CSED:4187	Introduction to Assistive Technology	3
CSED:5280	Topical Seminar in Counselor Education	arr.

## Comprehensive Examination

The comprehensive examination consists of two exams totaling six hours: a three-hour departmental comprehensive examination and a three-hour written examination on the process and practice of rehabilitation counseling. Exams are offered only during fall and spring semesters.

## Admission

Applicants must meet the department's general admission requirements. They should have a good academic record and relevant experience such as assisting individuals with disabilities. No specific undergraduate major area of study is required for the M.A. program, but a major in one of the social sciences is considered good preparation. Postbaccalaureate work experience relevant to the field of rehabilitation counseling is preferred. The program encourages applications from persons traditionally underrepresented in the field, particularly those with a disability and/or members of minority or ethnic groups. A personal interview is required, either in person or by telephone.

Applications for full-time study are accepted for fall semester entry; applications for full-time study are reviewed beginning March 1. Applications for part-time study are accepted for fall and spring semesters and are considered when class space permits.

Students pursue a sequenced plan of study that begins in the fall semester. Although students may be admitted for any semester, the program highly recommends that full-time students begin in the fall.

## School Counseling

The Master of Arts program in counselor education with a school counseling subprogram requires a minimum of 60 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00.

The program prepares individuals to work effectively as counselors in K-12 school settings. It is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). Successful graduates are eligible for K-12 school counselor licensure in Iowa.

During the first few semesters, students take core counseling courses, including coursework focusing on counseling children and adolescents, school counseling programs, and courses focusing on clinical practice in the schools (practicum and internship). Students are expected to complete at least 100 clock hours in practicum and 600 clock hours in internship activities in an approved school setting, under the supervision of an experienced licensed school counselor and a University faculty supervisor.

Students who enter without teaching licensure are required to take the following classes in education: EPLS:3000

Foundations of Education, EDTL:4900 Foundations of Special Education, and PSQF:6200 Educational Psychology.

Students must complete program and department core courses as outlined on the Department of Counselor Education website before enrolling in CSED:6300 Practicum in School Counseling for the fall semester of their second year in the program. All students are required to complete a background check the semester before they enroll in the practicum. Students who are not licensed teachers must complete coursework in education before enrolling in the practicum.

Each student's progress is reviewed periodically by the major advisor and yearly by the school counseling program. Students who have successfully completed all prerequisites for CSED:6300 Practicum in School Counseling are reviewed in the semester before they take the practicum course, to assure that they are prepared for it. Additionally, students are evaluated to assure their readiness for the internship CSED:6321 Internship in Elementary School Counseling or CSED:6322 Internship in Secondary School Counseling, which requires assignment in approved schools for the fall and/or spring semesters.

The M.A. in counselor education with a school counseling subprogram requires the following work.

## Required Courses

The following schedule of required courses reflects a two-and-one-half year program of study. Students who do not have teacher licensure are required to complete the following courses in education: EPLS:3000 Foundations of Education, EDTL:4900 Foundations of Special Education, and PSQF:6200 Educational Psychology. Students who have completed the required courses should consult with their advisor regarding electives in order to fulfill the 60 s.h. requirement.

Code	Title	Hours
CSED:4137	Introduction to Educating Gifted Students	3
CSED:5200	Professional School Counselor	3
CSED:5202	Introduction to Group Counseling	3
CSED:5203	Career Development and Counseling	3
CSED:5204	School Culture and Classroom Management for School Counselors	3
CSED:5221	Theories of Counseling and Human Development Across the Life Span	3
CSED:5222	Counseling Children and Adolescents in Schools	3
CSED:5230	School Counseling Program Leadership and Management	3
CSED:5250	Multiculturalism in Helping Professions	3
CSED:5254	Assessment and Appraisal	3
CSED:5278	Applied Microcounseling	3
CSED:6300	Practicum in School Counseling	3
CSED:6321	Internship in Elementary School Counseling (consult advisor for options)	12

or CSED:6322	Internship in Secondary School Counseling	
CSED:6500	Research and Program Evaluation	3
EDTL:4940	Characteristics of Disabilities	3
Electives (consult advisor)		6
<b>Total Hours</b>		<b>60</b>

## Comprehensive Examination

Students are required to take comprehensive exams for the departmental core and for school counseling during their final semester of internship. Comprehensive exams include a written six-hour exam in the departmental core and school counseling. An oral exam also is required unless waived by the comprehensive exam committee.

## Admission

Applicants must meet the department's general admission requirements. They should have an undergraduate g.p.a. of 3.00 or higher. The department prefers that applicants have one year of teaching experience or successful experiences with children and/or adolescents, which they must document in a written statement. Graduate Record Exam (GRE) General Test scores must be on file at the University (however, the GRE requirement has been suspended for the 2022-23 admissions cycle).

Applications are accepted for summer and fall entry and should be submitted by January 25.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Counselor Education, M.A.

- Clinical Mental Health Counseling Subprogram [p. 1398]
- Rehabilitation Counseling Program Subprogram [p. 1399]
- School Counseling Subprogram [p. 1400]

### Clinical Mental Health Counseling Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
60 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CSED:5202	Introduction to Group Counseling	3
CSED:5203	Career Development and Counseling	3
CSED:5221	Theories of Counseling and Human Development Across the Life Span	3
CSED:5241	Professional Counseling Orientation and Ethical Practice	3

CSED:5248	Diagnosis and Treatment Planning for Traditional, Vulnerable, and Special Populations in Counseling	3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CSED:5249	Medical and Psychopathological Aspects of Chronic Illness and Disability	3
CSED:5250	Multiculturalism in Helping Professions	3
CSED:5254	Assessment and Appraisal	3
CSED:5278	Applied Microcounseling	3
CSED:6500	Research and Program Evaluation	3
<b>Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Fall</b>		
CSED:6342	Psychosocial Aspects of Health and Disability Across the Developmental Lifespan	3
CSED:6349	Practicum in Clinical Mental Health Counseling	3
CMHC Elective <sup>b</sup>		3
CMHC Elective <sup>b</sup>		3
CMHC Elective <sup>b</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CSED:6352	Internship in Clinical Mental Health Counseling	12
CSED:6353	Pre-Practicum and Case Management in Counseling	3
Final Exam <sup>c</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>60</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with academic advisor to determine appropriate graduate electives and sequence. Information about elective coursework is included in the General Catalog and on department website.

c Typically completed during final semester. In addition to the three-hour departmental MA comprehensive examination, another three-hour written examination on the process and practice of rehabilitation and mental health counseling is required.

## Rehabilitation Counseling Program Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
60 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

### First Year

#### Fall

CSED:5202	Introduction to Group Counseling	3
CSED:5221	Theories of Counseling and Human Development Across the Life Span	3
CSED:5241	Professional Counseling Orientation and Ethical Practice	3
CSED:5249	Medical and Psychopathological Aspects of Chronic Illness and Disability	3
CSED:5278	Applied Microcounseling	3
<b>Hours</b>		<b>15</b>

#### Spring

CSED:5250	Multiculturalism in Helping Professions	3
CSED:5253	Forensic Rehabilitation and Case Management	3
CSED:5254	Assessment and Appraisal	3
CSED:6341	Occupational Information, Job Development, and Job Placement	3
CSED:6500	Research and Program Evaluation	3
<b>Hours</b>		<b>15</b>

### Second Year

#### Fall

CSED:6342	Psychosocial Aspects of Health and Disability Across the Developmental Lifespan	3
CSED:6346	Practicum in Rehabilitation Counseling	3
RCP Elective <sup>b</sup>		3
RCP Elective <sup>b</sup>		3
RCP Elective <sup>b</sup>		3
<b>Hours</b>		<b>15</b>

#### Spring

CSED:6347	Internship in Rehabilitation Counseling	12
RCP Elective <sup>b</sup>		3
Final Exam <sup>c</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>60</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with academic advisor to determine appropriate graduate electives and sequence. Information about elective coursework is included in the General Catalog and on department website.

c Typically completed during final semester. In addition to the three-hour departmental MA comprehensive examination, another three-hour written examination on the process and practice of rehabilitation and mental health counseling is required.

## School Counseling Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
60 s.h. must be graduate level coursework; graduate transfer credits and course substitution allowed upon approval. More information is included in the General Catalog and on department website. a, b, c		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CESED:5200	Professional School Counselor	3
CESED:5221	Theories of Counseling and Human Development Across the Life Span	3
CESED:5250	Multiculturalism in Helping Professions	3
CESED:5278	Applied Microcounseling	3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CESED:5202	Introduction to Group Counseling	3
CESED:5203	Career Development and Counseling	3
CESED:5204	School Culture and Classroom Management for School Counselors	3
CESED:5222	Counseling Children and Adolescents in Schools	3
CESED:5254	Assessment and Appraisal	3
<b>Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Fall</b>		
EDTL:4940	Characteristics of Disabilities	3
CESED:4137	Introduction to Educating Gifted Students	3
CESED:5230	School Counseling Program Leadership and Management	3
CESED:6300	Practicum in School Counseling	3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CESED:6322 or CESED:6321	Internship in Secondary School Counseling or Internship in Elementary School Counseling	12
CESED:6500	Research and Program Evaluation	3
Final Exam <sup>e</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>60</b>

c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

d Work with academic advisor to determine appropriate graduate electives and sequence.

e Typically completed during final semester. Includes a written six-hour exam in the departmental core and school counseling; an oral exam also is required unless waived by the MA comprehensive exam committee.

a Prior to fall 2018 a minimum of 57 s.h. were required for degree completion. Therefore, students admitted prior to fall 2018 will complete 57 s.h. and will not be held to the 60 s.h. requirement.

b Students who enter without teaching licensure are required to take the following classes in education: EPLS:3000, EDTL:4900, and PSQF:6200; these three courses do not count towards the 60 s.h. required to complete the degree.



# Counselor Education, Ph.D.

## Maintaining Good Standing

Ph.D. students in the Department of Counselor Education must meet the following standards in order to remain in their degree programs and advance to candidacy and remain a candidate for a degree:

- maintain a g.p.a. of at least 3.00;
- successfully complete a practicum, internship, or equivalent professional experience;
- maintain professional behavior consistent with the ACA Code of Ethics (American Counseling Association) and any additional code of professional ethics adhered to in any agency in which a student completes a practicum or internship; and
- demonstrate progress toward the degree through successful completion of semester hours specified in the curriculum plan and active registration each session (exceptions may be approved by the advisor).

Each student's academic and professional progress is reviewed annually. A written report is provided to the student and a copy is placed in the student's department file.

## Probational Status

Students who earn a cumulative g.p.a. lower than 3.00 are placed on probational status and are notified in writing. Students on probational status have two consecutive sessions to raise their grade-point average to the established standard. If that requirement is not met, a student may be removed from the program. Students are allowed one probational status during their program of study.

## Learning Outcomes

### Counselor Education Standards

The following are the standards of the Department of Counselor Education at the University of Iowa, which are the key performance indicators for Ph.D. students.

- acquire the awareness, knowledge, and skills of a professional counselor and/or counselor educator;
- develop a process of ongoing reflective practice in relation to cultural humility and the profession's multicultural, social justice, and ethical counseling competencies and education;
- develop counseling skills that will address problems in living from a developmental/life span approach;
- cultivate a commitment to ethical practices and behavior in counseling, counselor education, supervision, and research; and
- acquire an understanding of the social, vocational, educational, and psychological needs of individuals served in various settings such as schools, vocational, or counseling centers.

## Requirements

The Doctor of Philosophy program in counselor education with a counselor education and supervision (CES) subprogram requires a minimum of 72 s.h. of graduate credit. The program provides students with knowledge and skills related to general

counseling (including mental health and school counseling), teaching, consulting, supervising counselors, and conducting research. Graduates enter professional work as counselors, counselor supervisors, counselor educators, researchers and/or consultants, or work in other positions requiring expertise in human relations. Students may choose an emphasis in an area agreed upon by faculty advisors.

Counselor education and supervision graduates are prepared to teach the knowledge and skills required of professional counselors and to supervise beginning and advanced counselors, perform counseling interventions with individuals and groups, and teach human relations skills in colleges or universities. They provide professional consultation with counseling practitioners, educators, and policymakers about counseling program development and evaluation. They also may perform research that contributes to knowledge about counseling, supervision, and counselor education.

The program is accredited by the Council for Accreditation of Counseling and Related Educational Programs (CACREP). The American Counseling Association (ACA), the Association for Counselor Education and Supervision (ACES), and The National Council on Rehabilitation Education (NCRE) are the professional organizations most related to program activities.

Curriculum includes required courses in counseling, in research tools and applications, and a dissertation.

Most students complete their coursework in three years and take a fourth year to complete the dissertation. Students who have not completed a master's degree program approved by the Council for Accreditation of Counseling and Related Educational Programs (CACREP) may need to remedy deficiencies by taking appropriate coursework at the master's degree level.

The Ph.D. in counselor education with a counselor education and supervision subprogram requires the following work.

## Required Courses

Code	Title	Hours
All of these:		
CSED:7255	Advanced Career Development and Counseling	3
CSED:7338	Essentials of Qualitative Inquiry	3
CSED:7353	Advanced Counseling and Psychotherapy	3
CSED:7360	Advanced Practicum in Counseling	3
CSED:7380	Internship in Teaching	3
CSED:7385	Teaching and Learning in Higher Education	3
CSED:7400	Seminar: Ethics and Issues in Counseling	3
CSED:7450	Advanced Social Psychology of Disability	3
CSED:7451	Advanced Multiculturalism	3
CSED:7454	Supervision Theory and Practice	3
CSED:7455	Internship in Supervision	3
CSED:7457	Seminar: Professional Orientation to Counselor Education, Supervision, Leadership, and Advocacy	4

CSED:7458	Seminar: Issues and Trends in Counseling Research	4
CSED:7460	Seminar: Research in Counseling	3
CSED:7465	Internship in Clinical Practice (at least 240 hours)	3
CSED:7466	Leadership and Advocacy Internship in Counselor Education	3
PSQF:6265	Program Evaluation	3
<b>Total Hours</b>		<b>53</b>

## Required Research Courses

Students must complete a specific sequence of research courses which include distributed coursework in both qualitative and quantitative areas. In consultation with the academic advisor, they select from basic and advanced doctoral research courses listed under Doctoral Research Requirements on the Department of Counselor Education website.

## Elective Minor Area

Students can elect to take a series of courses, typically a minimum of three, outside the Department of Counselor Education (in consultation with a major and minor advisor) to enhance and support their teaching and research interests.

## Master's Thesis Project or Equivalent

Students are required to submit a previously conducted master's thesis for faculty review and approval or to complete a new supervised experiential research project before taking comprehensive exams. Students without an approved M.A. or M.S. thesis enroll in the following.

Code	Title	Hours
CSED:6394	Research and Scholarship Internship	1-3

## Comprehensive Examination

The comprehensive examination consists of an oral defense of a student's portfolio, which covers six professional competency domains in counselor education, and an exam on the minor area. The examination may be taken during a student's final semester of coursework, which typically includes an internship.

## Dissertation

The major research project culminating in the doctoral thesis may be on any topic related to counseling and counselor education. The thesis advisor and the examining committee approve the topic and procedures at a formal prospectus meeting. The final oral examination on the thesis is conducted by the examining committee. Students usually earn 10 s.h. for dissertation work, but in some instances they may earn up to 15 s.h. The dissertation committee must include at least two counselor education and supervision faculty members.

Code	Title	Hours
CSED:7493	Ph.D. Thesis	10-15

## Admission

Applicants must meet the department's general admission requirements. In addition, applicants must provide evidence of successful experience in counseling or a closely related profession. Applicants without experience may be admitted if their credentials indicate exceptional strengths.

Applicants also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students may be admitted for fall, spring, or summer entry, but the department strongly advises application for fall entry. Consideration of applications begins January 15 for fall entry; all application materials should be received by this date.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Counselor Education, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Students are required to submit a previously conducted master's thesis for faculty review and approval or to complete a new supervised experiential research project before taking comprehensive exams. Students without an approved MA or MS thesis should enroll in RCE:6394.		
Students can elect to take a series of courses, typically a minimum of three, outside the Department of Counselor Education (in consultation with a major or minor advisor) to enhance and support their teaching and research interests.		
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Create a MyPlan <sup>b</sup>		
CSED:7255	Advanced Career Development and Counseling <sup>c</sup>	3
CSED:7457	Seminar: Professional Orientation to Counselor Education, Supervision, Leadership, and Advocacy	4
PSQF:6243	Intermediate Statistical Methods	3
		<b>10</b>
<b>Spring</b>		
CSED:7451	Advanced Multiculturalism	3
CSED:7400	Seminar: Ethics and Issues in Counseling	3
CSED:7338	Essentials of Qualitative Inquiry	3

CSED:7385	Teaching and Learning in Higher Education	3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
CSED:7353	Advanced Counseling and Psychotherapy	3
CSED:7458	Seminar: Issues and Trends in Counseling Research	4
CSED:7360	Advanced Practicum in Counseling	3
d	Advanced Quantitative/Qualitative Research course	3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
CSED:7454	Supervision Theory and Practice	3
CSED:7450	Advanced Social Psychology of Disability	3
d	Advanced Quantitative/Qualitative Research course	3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>e</sup>		
Dissertation Prospectus Defense <sup>f</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CSED:7380	Internship in Teaching	3
CSED:7465	Internship in Clinical Practice	3
PSQF:6265	Program Evaluation	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
CSED:7460	Seminar: Research in Counseling	3
CSED:7455	Internship in Supervision	3
CSED:7466	Leadership and Advocacy Internship in Counselor Education	3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
CSED:7493	Ph.D. Thesis	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
CSED:7493	Ph.D. Thesis	5
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>5</b>
<b>Total Hours</b>		<b>72</b>

f See College of Education website for specifics.  
g Dissertation defense.

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Develop in consultation with faculty advisor.

c Students may complete an equivalent course with faculty advisor approval.

d See College of Education website for lists of approved courses.

e Consists of an oral defense of a student's portfolio, which covers six professional competency domains in counselor education, and an exam on the minor area. The examination may be taken during a student's final semester of coursework, which typically includes an internship.

# Educational Policy and Leadership Studies

## Interim Chair

- Liz Hollingworth

## Program Coordinator, Educational Leadership

- Steven M. Triplett

## Program Coordinator, Higher Education and Student Affairs

- Jodi Linley

## Program Coordinator, Schools, Culture, and Society

- Katrina M. Sanders

## Program Coordinator, Ed.D. Program

- Megan A. McVancel

**Graduate degrees:** M.A. in educational policy and leadership studies; Ed.S. in educational policy and leadership studies; Ed.D. in educational policy and leadership studies; Ph.D. in educational policy and leadership studies

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/about/administration/departments-educational-policy-and-leadership-studies>

The Department of Educational Policy and Leadership Studies offers academic programs that prepare administrators, professional personnel, teachers, and researchers in the fields of educational leadership, higher education and student affairs, and schools, culture, and society. The department also offers combined programs with other College of Education departments and with other University of Iowa colleges.

The department offers graduate degree programs in several major areas within educational policy and leadership studies:

- educational leadership (offered in the M.A., Ed.S., and Ph.D.);
- higher education (offered in the Ed.D.);
- higher education and student affairs (offered in the M.A., Ed.S., and Ph.D.);
- PK-12 administration (offered in the Ed.D.); and
- schools, culture, and society (offered in the M.A. and Ph.D.).

The areas are described below under "Graduate Study Areas," followed by information about each degree program.

Applicants for admission to graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Graduate Study Areas

### Educational Leadership

Study in educational leadership prepares individuals for leadership positions. In addition to graduate degree programs, the area includes principal licensure and superintendent endorsement. See the Master of Arts [p. 1412], Specialist in

Education [p. 1417], Doctor of Education [p. 1419], and the Doctor of Philosophy [p. 1424] in this section of the Catalog.

### Licensure

To be eligible for recommendation by the University of Iowa for licensure in Iowa as a principal or superintendent/area education agency administrator, students must complete the appropriate program. The specific requirements for each program are available from the Department of Educational Policy and Leadership Studies and the Office of Student Services. Students who hold an M.A. must satisfy all core requirements and must complete at the University of Iowa the minimum semester-hour program for each licensure level they seek. Because each administrative license has specific requirements, candidates are required to plan their programs with their advisors' approval.

### Superintendent Endorsement

The superintendent endorsement curriculum is designed to prepare individuals for licensure as a school superintendent (pre-K-12) as well as for other school district leadership positions; for the chief administrator position in Iowa's area education agencies (AEA) as well as other AEA leadership positions; and for leadership positions in state or federal departments of education and related agencies. The superintendent endorsement requires a total of 30 s.h. of credit.

Students in the endorsement program must have an Iowa administrator license. They obtain the superintendent endorsement (State of Iowa endorsement 171) upon completing the required Ed.S. coursework and at least three years of principal experience.

### Higher Education

The higher education program prepares educational leaders to be scholar practitioners who apply the knowledge, skills, and inquiry strategies to solve significant problems related to educational policies and practices in higher education. See the Doctor of Education [p. 1419] in this section of the Catalog.

### Higher Education and Student Affairs

Advanced study in higher education and student affairs draws upon diverse perspectives from varied disciplines and professional fields to analyze critical issues and policies and their effects on students, faculty, administrators, staff, and other members of the higher education community. It also explores the complex interactive relationships among institutions of higher education, the external environment, and society at large.

The higher education and student affairs (HESA) program coalesces around a shared sense of responsibility to produce research and spark innovative thinking that addresses the contemporary challenges and persistent inequities permeating higher education. HESA offers educational leaders, scholars, and practitioners comprehensive expertise built from a range of intellectual traditions. Faculty have diverse philosophies, methods, disciplinary training, and personal backgrounds, ensuring students gain a deep understanding and interconnected view of the field.

Graduate degree programs in higher education and student affairs prepare professionals and scholar practitioners to serve as administrators, researchers, educators, and analysts in institutions of higher and postsecondary education and in related public and private agencies. See the Master of Arts

[p. 1412], Specialist in Education [p. 1417], and the Doctor of Philosophy [p. 1424] in this section of the Catalog.

## PK-12 Administration

The PK-12 administration program prepares educational leaders to be scholar practitioners who apply the knowledge, skills, and inquiry strategies to solve significant problems related to educational policies and practices in PK-12 educational settings. In addition to the graduate degree, individuals may complete requirements for superintendent endorsement. See the Doctor of Education [p. 1419] in this section of the Catalog.

## Schools, Culture, and Society

Schools, culture, and society is an interdisciplinary area that enhances students' ability to analyze the influence of social and historical factors that frame contemporary issues in the formal social enterprise of education. See the Master of Arts [p. 1413] and the Doctor of Philosophy [p. 1425] in this section of the Catalog.

## Graduate Certificates

### Institutional Research and Effectiveness

The graduate Certificate in Institutional Research and Effectiveness develops skills in institutional research appropriate to the education sector, and for fields and professional settings that are associated with educational interventions, programs, and outcomes. The certificate is offered by the Department of Educational Policy and Leadership Studies. To learn more, see the Certificate in Institutional Research and Effectiveness [p. 1432] in the Catalog.

### K-12 Equity and Inclusion

The graduate Certificate in K-12 Equity and Inclusion provides educational professionals or nondegree-seeking students currently working in K-12 schools, districts, and area education agencies expertise in equity and inclusion to better support the needs and interests of a diversifying K-12 student population. The certificate is offered by the Department of Educational Policy and Leadership Studies. For more information, see the Certificate in K-12 Equity and Inclusion [p. 1434] in the Catalog.

## Programs

## Graduate Programs of Study

### Majors

- Master of Arts in Educational Policy and Leadership Studies [p. 1411]
- Specialist in Education in Educational Policy and Leadership Studies [p. 1416]
- Doctor of Education in Educational Policy and Leadership Studies [p. 1419]
- Doctor of Philosophy in Educational Policy and Leadership Studies [p. 1423]

## Courses

## Educational Policy and Leadership Studies Courses

- EPLS:1029 First-Year Seminar** **1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.
- EPLS:1240 Finding Your Path in Higher Education** **3 s.h.**  
Overview of the liberal arts experience in higher education; theories of student success, socialization, and development; history of American liberal education; issues of diversity, equity, and social justice including privileged and marginalized identities, structural oppression, racism, classicism, sexism, ableism, and genderism; organizational structures of higher education. GE: Diversity and Inclusion.
- EPLS:2098 The Student Affairs Profession** **3 s.h.**  
Introduction to field of student affairs in context of higher education; focus on foundations of profession, including a brief history of field, professional associations, institutional differences, professional and ethical standards, functional areas in higher education, student learning and developmental theory, overview of graduate preparation, and current topics.
- EPLS:3000 Foundations of Education** **3 s.h.**  
Overview of American education, preschool through secondary; aims, history, philosophy of education; professional ethics, legal responsibilities; school curriculum, organization, finance, school law, political and social issues.
- EPLS:3240 Undergraduate Topics in Education** **arr.**  
Seminar for extensive study of an education topic or issue.
- EPLS:4110 Administration and Policy in Gifted Education** **2 s.h.**  
Policy, administrative, evaluation issues in developing and maintaining gifted programs in a school setting; participants develop gifted program and policies for a school; for school executives and coordinators of gifted programs.
- EPLS:4111 Evaluation of Gifted Programs** **1 s.h.**  
Fundamentals of program evaluation essential for exemplary gifted programs.
- EPLS:4113 Staff Development for Gifted Programs** **1 s.h.**  
Planning, content, and delivery of staff development regarding gifted students and their needs.
- EPLS:4150 Leadership and Public Service I** **3 s.h.**  
Preparation for providing public service to a local community; leadership skills for effective mentoring of children in grades 6-10.
- EPLS:4151 Leadership and Public Service II** **2 s.h.**  
Preparation to provide leadership and public service to a local community agency; being a leader and a public servant in the context of societal oppressions such as racism, sexism, able-bodyism; part of the human relations minor. Prerequisites: EPLS:4150.
- EPLS:4180 Human Relations for the Classroom Teacher** **3 s.h.**  
Influence of social factors such as discrimination, diversity, equity, racism, sexism, and ethnic and socioeconomic pluralism on American schools and classrooms; for teacher education candidates. GE: Values and Culture.

- EPLS:4200 Diversity and Inclusion in Athletics 3 s.h.**  
Diversity and inclusion as major issues for coaches, sports managers, physical activity professionals, and athletic administration staff in their workplaces; define, discuss, and analyze effects of diversity and inclusion in the athletic organizational environment; experience of underrepresented groups in sport settings, covering differences of religion, race, ethnic origins, gender, sex, ability, appearance, and age; understanding power differences, based on diversity within an organizational environment, that help future leaders implement successful practices inclusive of all persons. Requirements: undergraduate standing and enrollment in interscholastic athletics/activities director certificate program.
- EPLS:5090 Instructional Coaching for Teaching Excellence 3 s.h.**  
Dynamics of coaching to improve K-12 classroom teaching; appropriate for aspiring teacher leaders. Requirements: admission to the online M.A. in teaching program.
- EPLS:5100 Issues and Policies in Higher Education 3 s.h.**  
Development of the idea of a university; selected functions, issues, policies of American higher education.
- EPLS:5102 History of American Education 3 s.h.**  
Purposes of public education, diversity, and control of schooling from a historical perspective; emphasis on conflicting interpretations of pivotal events and educational movements; connections between educational policies and larger historical developments.
- EPLS:5123 History of Ethnic/Minority Education 2-3 s.h.**  
Educational histories of American ethnic and minority groups; comprehensive understanding of American educational history, context for contemporary educational policy discussions.
- EPLS:5126 Twentieth-Century Educational Movements 2-3 s.h.**  
Current educational policy debates concerning diversity and equity, historical roots of these policies; historical context for 20th-century equal education opportunity movements.
- EPLS:5130 Sociology of Education 3 s.h.**  
Effects of school and school organization on educational outcomes; course-taking patterns and tracking, desegregation, differences in school sector; focus on entire span of student's academic career; examination of school and organizational effects at the primary, secondary, and postsecondary levels of education. Same as SOC:5130.
- EPLS:5131 Race, Class, and Gender Inequalities in Education 3 s.h.**  
Role of ascribed characteristics (e.g., race, class, gender) on educational opportunities and outcomes; achievement gaps, school desegregation, social and cultural capital, peer influence, family attributes, neighborhood influence, influence of significant others, course-taking patterns, and educational destinations. Same as SOC:5165.
- EPLS:5134 Education and the World of Work 2-3 s.h.**  
Relationship between education and work in individual and organizational behavior, and between educational and economic systems; economics, psychology, sociology, education.
- EPLS:5142 Sociology of Higher Education 3 s.h.**  
Sociological approach to study of higher education; issues of inequality and stratification in higher education; focus on relationship between higher education and larger economic and demographic processes; college access, college destinations, attainment, and returns to a college degree. Same as SOC:5680.
- EPLS:5165 Introduction to Program and Project Evaluation 3 s.h.**  
Skills and knowledge required for conducting evaluations of products, projects, and programs; recent scholarship on evaluation and project management. Same as PSQF:5165.
- EPLS:5210 Education and Social Change 2-3 s.h.**  
Role of educational institutions, in connection with political and economic structures, in the process of social change; illumination of theories of social change through case studies of educational systems in both less-developed and industrialized nations. Same as SOC:5810.
- EPLS:5240 Topics in Education arr.**  
Seminar for intensive study of one problem, issue, or work field.
- EPLS:5245 The American Professoriate 3 s.h.**  
Research on college and university faculty members; perspectives on faculty careers, values, beliefs, role in shared governance; tenure process and policies; issues unique to faculty members of color and women faculty members.
- EPLS:5247 Multiculturalism in Higher Education 3 s.h.**  
Theory and application of multicultural competency in higher education.
- EPLS:5250 Introduction to Higher Education and Student Affairs 3 s.h.**  
Foundations of student affairs work; overview of institutional cultures, legal issues, ethical principles, standards of practice in student affairs.
- EPLS:5251 College Students and Their Environments 3 s.h.**  
Characteristics of college students and issues they face; students' institutional, social, cultural environments; impact of environments on student learning, development.
- EPLS:5252 Administration of Higher Education and Student Affairs 3 s.h.**  
Administrative structures and processes in higher education settings. Requirements: higher education and student affairs major.
- EPLS:5253 Research, Assessment, and Evaluation in Higher Education 3 s.h.**  
Theories, practices, and issues relevant to assessment of student outcomes and institutional effectiveness in higher education; basic overview of research, assessment, and evaluation; elements of assessment design, including methods for data collection and analysis; relevant ethical and political dilemmas; practical assessment activities. Requirements: M.A. standing in higher education and student affairs program.
- EPLS:5278 Helping Skills in Student Affairs Work 3 s.h.**  
Development of ability to identify, understand, and intentionally apply the active attending and influencing skills; readings and class presentations.
- EPLS:6201 Foundations of School Administration 3 s.h.**  
Organization and administration of American public education; principles and concepts of leadership and organizations; socioeconomic, political, and professional factors relating to education and school administration.
- EPLS:6206 Research Process and Design 3 s.h.**  
Research process, with emphasis on fundamentals of experimental design, internal and external validity, correlational designs, and statistical inference.

- EPLS:6209 Survey Research and Design** 3 s.h.  
Survey design and implementation; writing and evaluation of survey questions; error in survey research; techniques to reduce error; sampling; postcollection processing of survey data. Prerequisites: EPLS:6206 or PSQF:4143. Same as PSQF:6209.
- EPLS:6216 Finance in Higher Education** 3 s.h.  
Theory, research, policy, and practice related to public and private funding of higher and postsecondary education.
- EPLS:6217 Theory and Practice of Leadership** 2-3 s.h.  
Theory-based literature and critiques of leadership as applied to educational institutions.
- EPLS:6218 The Law and Higher Education** 3 s.h.  
The role of law as it affects postsecondary institutions; analysis of case law in specific areas of concern to administrators, faculty, staff, students.
- EPLS:6220 History of Higher Education** 3 s.h.  
History of postsecondary education in the United States; emphasis on conflicting interpretations of pivotal developments; consideration of access, curriculum, student life, academic freedom, role of universities in society, and balance of teaching, research and service from a historical perspective.
- EPLS:6221 The College Curriculum** 3 s.h.  
Issues, principles, policies, and practices in college curriculum development; diverse philosophical, historical, cultural, social, psychological, political foundations of contemporary college curricula; perspectives on and models of college curriculum, related processes of teaching and learning; principles and practices that guide design and change of higher education curriculum.
- EPLS:6222 Introduction to Educational Policy** 3 s.h.  
Theoretical and technical approaches to analysis and evaluation of contemporary public policies.
- EPLS:6224 Organizational Theory and Administrative Behavior** 3 s.h.  
Theories and concepts of organizational behavior applied in structural, organizational, administrative contexts of American education.
- EPLS:6225 Higher Education Policy** 3 s.h.  
Overview of state level higher education structures and policies; research on state level policy processes.
- EPLS:6226 Educational Management** 2-3 s.h.  
Literature and research on management; emphasis on American education.
- EPLS:6228 K-12 Education Finance and Policy** 3 s.h.  
Emphasis on policy funding and finance for administration and management in education and other settings.
- EPLS:6236 Special Education Administration** 3 s.h.  
Builds a foundation of dispositions, knowledge, and skills for tasks performed by directors of special education, building leaders, and administrators, when supervising needs of special education students and economically and socially deprived students; knowledge and application of legal aspects, individual educational programs, and continuum of academic and social/emotional behavior supports; for prospective school administrative personnel. Same as EDTL:6936.
- EPLS:6237 History of the Teaching Profession** 3 s.h.  
History of public school teaching, and teachers' problematic professional status; teacher education in the 19th and 20th centuries; formation and activities of teacher unions in the 20th century.
- EPLS:6238 Gender and Education in Historical Perspective** 3 s.h.  
Gender in context of history of education in the United States; coeducation in common schools, academies, and high schools; women's arrival and experiences as college students; masculinity in higher education; single-sex versus coeducation; emphasis on conflicting historical interpretations. Same as GWSS:6238.
- EPLS:6239 LGBTQ History in Education** 3 s.h.  
Lesbian, gay, bisexual, transgender, and questioning (LGBTQ) issues in context of history of education in United States; LGBTQ teachers, students, and studies in K-12 and higher education; emphasis on differences in historical interpretations. Same as GWSS:6239.
- EPLS:6242 Research for Effective School Leaders** 3 s.h.  
Fundamental language of contemporary research; identification and application of basic research components to contemporary educational leadership problems; applicability of research toward effective decision making.
- EPLS:6260 Contemporary Management Strategies for the Pre-K-12 Principal** 3 s.h.  
Leadership skills and management techniques for daily organization and operation of schools; emphasis on climate, communication, group processes, conflict resolution, curriculum management.
- EPLS:6265 Standards-Based Education and Accountability** 3 s.h.  
Standards-based education; academic content standards, K-12 articulation, alignment studies, use of standardized test results to evaluate academic programs.
- EPLS:6266 Program Evaluation** 3 s.h.  
Theoretical issues and considerations in evaluation of educational and social programs; evaluation design, methodology; metaevaluation; evaluation utilization. Same as PSQF:6265.
- EPLS:6270 Policy and Politics** 3 s.h.  
Current issues from academic journals, states, think tanks, consortia.
- EPLS:6273 College Students** 3 s.h.  
Overview of theories, research, practices, and issues relevant to understanding students in institutions of higher education. Requirements: Ph.D. standing in Higher Education and Student Affairs program.
- EPLS:6275 Diversity and Equity in Higher Education** 3 s.h.  
Impact of culture, race, ethnicity, and intersections of social and cultural identity within context of educational settings including higher education/student affairs, K-12, and as it relates to government and community agency settings; implications of cultural context on practices in research, educational settings, and society. Requirements: Ph.D., Ed.D., or advanced-level M.A. standing. Recommendations: introductory course on issues of race, culture, gender, sociopolitical issues, or structural oppression strongly recommended.
- EPLS:6277 Readings in Diversity and Equity in Higher Education** 3 s.h.  
Historical, contemporary, theoretical, and empirical aspects of diversity and equity in higher education; unique experiences of members of historically underrepresented groups; focus on compelling literature in the field.

- EPLS:6285 School and Community Relationships** 3 s.h.  
Community analysis, politics and education, power groups and influences, school issues and public responses, public relations strategies.
- EPLS:6290 Master's Project** arr.  
Research for the nonthesis program; topic approved by advisor.
- EPLS:6293 Individualized Instruction** arr.  
Readings, special projects, and/or studies that reflect joint instructor/student interest.
- EPLS:6298 Legal Aspects of School Personnel** 3 s.h.  
Teacher and student: liability, negotiations, rights, privileges, responsibilities of school personnel; principles of law derived from court decisions; constitutional and statutory provisions; for teachers and administrators.
- EPLS:6301 Professional Seminar I** 1 s.h.  
Orientation to field; writing and academic support.
- EPLS:6302 Professional Seminar in Student Affairs II** 1 s.h.  
Working with groups in higher education.
- EPLS:6303 Professional Seminar in Student Affairs III** 1 s.h.  
Consulting, training, and curriculum development in student affairs.
- EPLS:6304 Professional Seminar in Student Affairs IV** 1 s.h.  
Professional identity, job search support.
- EPLS:6305 Higher Education and Student Affairs Capstone** 3 s.h.  
Completion of an applied project that synthesizes the full M.A. curriculum.
- EPLS:6307 Professional Seminar for Ed.D. Students: Orientation to the Ed.D.** 1 s.h.  
Orientation to the educational doctorate; how to approach courses and professional work as a scholar-practitioner. Requirements: admission to the Ed.D. program in educational policy and leadership studies.
- EPLS:6311 Seminar: Research Topic in Education** 1-3 s.h.  
Topic submitted by students, faculty.
- EPLS:6315 Orientation to the Superintendency** 3 s.h.  
Leadership theory and research of the superintendent's role of increasing student achievement; personal goals for communication; ethics, integrity, flexibility, reflective, and collaborative leadership; expectations of the superintendent by the board of directors; defining one's role; developing an entry plan; dealing with social/emotional isolation of superintendency; and influences in the larger political, social, economic, legal, and cultural context.
- EPLS:6317 Operational Leadership and Management** 1 s.h.  
Managing fiscal and physical resources responsibly, efficiently, and effectively; effective communication of school operations; leadership and management of nutrition program, transportation program, facilities, construction; board policy, legal issues; state reporting, ethical decision-making; relationship building, problem solving amidst barriers and various stakeholder groups.
- EPLS:6319 Human Resources Leadership** 2 s.h.  
Leadership theory and research of the superintendent's role of aligning human resources practice and increasing student achievement; employment law; contract negotiations process/collective bargaining; contract maintenance; recruiting, selecting, developing, and retaining employees; working with labor unions and Public Employee Relations Board; special education law; Evaluator 2 Training. Requirements: Evaluator 1 Training.
- EPLS:6321 Social Advocacy Summit** 1 s.h.  
Summit format; challenges and opportunities in Iowa's K-12 schools with changing demographics; opportunity for K-12 school districts and higher education institutions to engage in conversation on how to meet the needs of students and local school districts.
- EPLS:6323 School Finance** 2 s.h.  
Manage fiscal and physical resources; communicate effectively with internal and external audiences regarding school operations; comply with state and federal mandates and local board policies; align educational programs, plans, actions, and resources with the district vision and goals.
- EPLS:6325 Organizational and Educational Leadership** 2 s.h.  
Facilitate connections of students and families to health and social services that support a focus on learning as a district level leader in a school district; collaboratively establish a culture that welcomes and honors families and community and seeks ways to engage them in students learning; AEA structure, compliance and regulatory functions including special education.
- EPLS:6329 Legislative Summit** 1 s.h.  
Collaborate with families and community members, respond to diverse community interests and needs, and mobilize community resources as a district level leader in a school district; work with legislators, build advocacy groups in a community, engage stakeholders, how to lobby legislators and meet with local senate and house representatives to participate in lobbying.
- EPLS:6332 Conceptual Foundations of College Student Development** 3 s.h.  
Foundations of college student development theory; contexts of student development; theoretical concepts of cognitive growth and developing sense of self; application of concepts to student affairs practice.
- EPLS:6333 Practicum in Higher Education and Student Affairs** arr.  
Small-scale research projects; supervised experience in planning, design, management, analysis, reporting of research activities; assignments to current and personal faculty research projects; student assumes major responsibility.
- EPLS:6334 Theoretical Foundations of College Student Development** 3 s.h.  
Self-authorship; intercultural maturity; reconceptualized and intersectional models of identity; learning partnerships and leadership; socialization; moral decision-making; faith and spirituality; application of theories to student affairs practice. Prerequisites: EPLS:6332.
- EPLS:6336 Impact of College on Students** 3 s.h.  
Introduction to literature; career and economic returns, educational attainment and persistence, values and attitudes, learning and cognitive development, college student theory, assessment and methodological issues of studying college outcomes. Recommendations: introductory graduate-level research design course.



- EPLS:6352 Action Research in Educational Settings** 3 s.h.  
Theory and practice of action research design and methodology; understanding of positionality and bias in action research, how to assess strengths and weaknesses of action research studies; completion of an action research cycle.
- EPLS:6370 Quantitative Methods for Policy Analysis** 3 s.h.  
Methodological strategies for quantitative research; analysis of secondary data to investigate educational issues and policies; recoding variables, summation scaling and factor analysis, missing data, sample design and survey estimation, model building; implementation of linear and binary regression, regression diagnostics; hands-on experience conducting statistical analysis of social data. Prerequisites: PSQF:4143 and PSQF:6243.
- EPLS:6381 Analysis and Appraisal of Curriculum** 3 s.h.  
Comprehensive investigation of systematic procedures and resources for identifying and evaluating essential features and constituent elements of a given school district's curricular offering; state and federal requirements of the curricular program; for persons in administration, curriculum, and supervision programs or positions.
- EPLS:6383 Supervision and Evaluation** 3 s.h.  
Data collection and management skills; data-driven leadership; coaching and feedback techniques; teacher quality legislation; research and best practice regarding teacher evaluation, supervision; teaching standards.
- EPLS:6400 Early Childhood Leadership Clinical** 3 s.h.  
Classroom instruction and supervised experience with problems in early childhood educational administration; organization, planning, evaluation, decision making.
- EPLS:6401 Elementary Leadership Clinical** 3 s.h.  
Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.
- EPLS:6402 Secondary Leadership Clinical** 3 s.h.  
Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.
- EPLS:6403 Special Education Leadership Clinical** 3 s.h.  
Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.
- EPLS:6404 Central Administration Clinical** 3 s.h.  
Supervised experience working with problems in educational administration, including organization, planning, evaluation, decision making; individual project in a school setting.
- EPLS:6405 Superintendent Entry Plan and Portfolio Development** 1 s.h.  
Creating an effective entry plan, and where applicable, a professional portfolio as part of the series of clinical expectations for the superintendent preparation program; development of plan helps to create prior mutual expectation among the superintendent, board, staff, and community. Requirements: in final semester of superintendent endorsement program.
- EPLS:6415 Orientation to the Superintendency: Clinical** 2 s.h.  
Clinical experience aligned with course topics and assignments in a K-12 school or other educational organization; development of a clinical plan with the guidance of a university professor and local school district mentor based on course requirements, career goals, and interests.
- EPLS:6417 Operational Leadership Clinical** 1 s.h.  
Clinical experience aligned with course topics and assignments in the operational leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.
- EPLS:6419 Human Resources Leadership Clinical** 2 s.h.  
Clinical experience aligned with course topics and assignments in the human resources leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.
- EPLS:6425 Organizational and Educational Leadership Clinical** 1 s.h.  
Clinical experience aligned with course topics and assignments in the organizational and educational leadership course; completion of clinical in a K-12 school or other appropriate educational organization; development of a clinical plan based on course requirements, career goals, and student interests with guidance from a university professor and local school district mentor.
- EPLS:7373 Qualitative Research Design and Methods** 3 s.h.  
Theory and practice of qualitative research design and methodology; exploratory field experience in collection and analysis of data; individual and focus group interviews, participant observation. Requirements: Ph.D. standing.
- EPLS:7380 Practicum in College Teaching** arr.  
Supervised college teaching experience in courses related to major academic areas; collaboration with faculty course instructors.
- EPLS:7385 Teaching and Learning in Higher Education** 3 s.h.  
Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as CSED:7385, EDTL:7385, GRAD:7385, PSQF:7385.
- EPLS:7392 Mixed Methods Research** 3 s.h.  
Introduction to mixed methods research in education; knowledge and skills necessary to conduct mixed methods study; history and language of mixed methods research; identification and processing arguments for and against mixed methods research; extend understanding of research in education; how to assess strengths and weaknesses of published mixed methods studies; investigation of one or more mixed methods research designs in depth; application of mixed methods research design to a research proposal. Prerequisites: EALL:5150. Requirements: formal introduction to quantitative and qualitative research methods, and familiarity with basic steps of research process. Recommendations: direct experience conducting research studies not required. Same as EDTL:7410.

**EPLS:7395 Educational Specialist Research arr.**

Individual instruction in the design, research, and writing of a research project of significant quality for upper-level graduate work.

**EPLS:7432 Multicultural Initiatives 3 s.h.**

Impact of culture, race, ethnicity, and intersection of identity in higher education, student affairs, and community agency settings; knowledge, skills, and competencies needed by teachers, student affairs professionals, social workers, counselors, and educational administrators to facilitate individual empowerment through relationships; focus on different ways to design multicultural initiatives to various professional work settings to promote diversity.

Requirements: Ph.D. standing or advanced-level M.A. standing. Recommendations: introductory course on issues of race, culture, gender and/or any course on sociopolitical issues or structural oppression strongly recommended.

**EPLS:7433 Current Issues in Higher Education and Student Affairs 3 s.h.**

Current issues related to higher education; opportunity to clarify perspectives; review of literature in a particular area of interest; readings, class discussions, independent research, consultations with professionals in the field, student presentations. Requirements: higher education and student affairs Ph.D. standing.

**EPLS:7444 Advanced Practicum in Student Affairs arr.**

Supervised work experience in student affairs settings.

**EPLS:7483 Ed.D. Capstone Proposal 1-3 s.h.**

Supervision of Ed.D. capstone proposal research, design, and writing. Requirements: completion of all Ed.D. core and research coursework.

**EPLS:7485 Ed.D. Capstone 1-4 s.h.**

Supervision of Ed.D. capstone research, design, and writing. Prerequisites: EPLS:7483. Requirements: educational policy and leadership studies Ed.D. standing and completion of capstone proposal meeting.

**EPLS:7493 Ph.D. Thesis arr.**

Supervision of research, design, and writing of Ph.D. thesis; individual instruction.

# Educational Policy and Leadership Studies, M.A.

## Learning Outcomes

### Specialized Content Knowledge

The M.A. will support students in acquiring and displaying a mastery of content knowledge suitable to their professional specialization (schools, culture, and society; educational leadership; or higher education and student affairs). This content knowledge aligns with and extends the stated external professional society standards for earning a master's degree in each field.

### Critical Thinking and Analytical Writing

Students will acquire capacities for theoretical and evidentiary based analysis to critique and synthesize disparate and interdisciplinary perspectives within their specialization.

### Impact and Practical Application

Students will acquire professional experiences through supervised experiential learning and practice through internships, practica, capstone, or other applied coursework.

### Empirical Skills

Students will develop skills for conducting assessment, evaluation, and research appropriate to the master's level.

### Leadership and Collaboration

Students will be able to analyze, articulate, and respond to complex problems using theory, evidence, and cooperation with individuals, communities, and organizations affected by the issues. Students will be able to analyze, articulate, and respond to complex problems using theory, evidence, and cooperation with those affected by the issues.

### Ethical, Inclusive, and Equitable Practice

Students will gain skills in identifying and responding to educational inequities at the individual, organizational, and institutional level. Specifically, students will apply their skills to advance student learning and development, inclusion, and facilitate organizational change and reform.

## Educational Leadership

The Master of Arts program in educational policy and leadership studies with an educational leadership subprogram requires a minimum of 36 s.h. of graduate credit. Students must earn a cumulative g.p.a. of at least 3.00 in major coursework.

The program prepares individuals for appointments as school principals and for positions in area education agencies and state departments of education. Upon completion of this degree, students will have completed the requirements to earn a master's degree and to obtain pre-K-12 principal and pre-K-12 supervisor of special education endorsement (State of Iowa endorsement 189). In order to obtain the State of Iowa endorsement, an individual must have at least three years of teaching at the pre-K-12 level.

With the aid of an advisor, each M.A. student prepares a plan of study that includes the following core requirements.

## Core Requirements

Code	Title	Hours
All of these:		
EPLS:6201	Foundations of School Administration	3
EPLS:6236	Special Education Administration	3
EPLS:6242	Research for Effective School Leaders	3
EPLS:6260	Contemporary Management Strategies for the Pre-K-12 Principal	3
EPLS:6285	School and Community Relationships	3
EPLS:6298	Legal Aspects of School Personnel	3
EPLS:6381	Analysis and Appraisal of Curriculum	3
EPLS:6383	Supervision and Evaluation	3

## Clinical Courses

For Iowa licensure as a principal, students must hold an Iowa teacher license, have taught for three years, and meet the human relations requirement of the State of Iowa. Students complete the core requirements listed above and the following required clinical courses.

Code	Title	Hours
EPLS:6400	Early Childhood Leadership Clinical	3
EPLS:6401	Elementary Leadership Clinical	3
EPLS:6402	Secondary Leadership Clinical	3
EPLS:6403	Special Education Leadership Clinical	3

## Electives

Students earning an M.A. without principal licensure are not required to complete the clinical courses. Instead, they complete the core requirements listed above and a series of electives (12 s.h.) approved by their advisors. For more detailed information, see the Educational Leadership website.

## Comprehensive Examination

Students in the M.A. program with licensure or the M.A. program without licensure are required to take comprehensive examinations at the end of their program of study. The comprehensive examination is in the format of a mock interview for a building principal or similar leadership position. The faculty provides candidates with a scenario on which they are expected to prepare a presentation to the educational leadership faculty who acts as the hiring team. The presentation is followed by questioning and feedback. Students must be registered in the Graduate College during their comprehensive examination semester if they plan to graduate at the end of the semester.

## Admission

Applicants to the M.A. program in educational leadership must meet the admission requirements of the Graduate College. Admission decisions are made through a faculty review process. Factors considered include recommendations, grade-point average, and a statement of purpose from candidates focused on leadership, time management, social justice, and meeting the needs of all students. The review team also considers additional evidence of academic ability and professional promise.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

### Higher Education and Student Affairs

The Master of Arts program in educational policy and leadership studies with a higher education and student affairs (HESA) subprogram requires a minimum of 40 s.h. of graduate credit. Students must earn a cumulative g.p.a. of at least 3.00 in major coursework.

The program prepares individuals for careers in higher education, including academic administration, policy analysis, first-year programs, student activities and leadership, enrollment management, program evaluation, multicultural affairs, academic and career advising, residence life, and international student services.

The higher education and student affairs program curriculum consists of coursework in postsecondary administration, college students and their environments, college student development, and current and emerging issues in higher education, as well as in research and assessment. The curriculum integrates theory and practice and is designed to be completed in two years of full-time study or equivalent part-time study.

The curriculum includes the HESA core, a supervised practice, and integrative experiences. Elective coursework is subject to advisor approval. An internship at an approved site is required for full admission to the program.

The M.A. in educational policy and leadership studies with a higher education and student affairs subprogram requires the following work.

## Requirements

### Common Core

Code	Title	Hours
All of these:		
EPLS:5100	Issues and Policies in Higher Education	3
EPLS:5247	Multiculturalism in Higher Education	3
EPLS:5250	Introduction to Higher Education and Student Affairs	3
EPLS:5251	College Students and Their Environments	3

EPLS:5252	Administration of Higher Education and Student Affairs	3
EPLS:5253	Research, Assessment, and Evaluation in Higher Education	3
EPLS:6332	Conceptual Foundations of College Student Development	3
EPLS:6334	Theoretical Foundations of College Student Development	3

## Integrative Experiences

Code	Title	Hours
All of these:		
EPLS:6301	Professional Seminar I	1
EPLS:6305	Higher Education and Student Affairs Capstone	3
EPLS:6333	Practicum in Higher Education and Student Affairs (required once; students may enroll a maximum of 3 times; those with appropriate professional experiences may, with faculty approval, waive this requirement)	3

## Electives

Students choose elective coursework in consultation with their advisor.

Code	Title	Hours
9-12 s.h. from these:		
EPLS:5278	Helping Skills in Student Affairs Work	3
EPLS:6206	Research Process and Design	3
EPLS:6216	Finance in Higher Education	3
EPLS:6218	The Law and Higher Education	3
EPLS:6220	History of Higher Education	3
EPLS:6224	Organizational Theory and Administrative Behavior	3
EPLS:6225	Higher Education Policy	3
EPLS:6275	Diversity and Equity in Higher Education	3
EPLS:6293	Individualized Instruction (may be taken once up to 3 s.h.)	3
EPLS:6336	Impact of College on Students	3
EPLS:7380	Practicum in College Teaching (may be taken once up to 3 s.h.)	3
EPLS:7385	Teaching and Learning in Higher Education	3
EPLS:7432	Multicultural Initiatives	3

Courses from other departments also may be approved; students should consult their advisor.

## Admission

Applicants must meet the admission requirements of the Graduate College. Admission is based on grade-point average and promise for professional growth. Transcripts, a résumé or curriculum vita, three letters of recommendation, and a personal statement are required. The Graduate Record Examination (GRE) General Test is optional. The statement of purpose (one to three pages) should include professional goals, whether the applicant plans to enroll full- or part-time, and how the applicant's goals and experiences are consistent with the higher education and student affairs program's mission and values.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

Application deadline is January 1 for admission the following fall. Applicants who are recommended for admission are invited to come to campus on spring Campus Visit Day, during which they interview for internships. Full-time students must be employed at an approved site (usually in an approved internship).

## Schools, Culture, and Society

The Master of Arts program in educational policy and leadership studies with a schools, culture, and society subprogram requires a minimum of 32 s.h. of graduate credit and is offered without thesis, although a thesis option is available. Students must earn a cumulative g.p.a. of at least 3.00 in major coursework.

The program develops students' ability to analyze the influence of social and historical factors that frame contemporary issues in education. Students complete at least 21 s.h. in schools, culture, and society courses in two disciplinary areas: sociology and history. They earn 12 s.h. in one of the disciplinary areas and 9 s.h. in the other area. The remaining 11 s.h. of coursework must be in a concentration area outside the schools, culture, and society disciplinary areas appropriate to the student's career and academic goals.

Students must satisfactorily complete a six-hour comprehensive examination covering their disciplinary concentration area and other two areas of study. Alternately, students may choose to write a thesis. The examining committee may elect to hold an oral examination after the exam.

## Admission

Applicants must meet the admission requirements of the Graduate College. A personal interview with one or more members of the program's faculty is recommended. Undergraduate and/or graduate emphases in education, sociology, and the humanities (philosophy, history, and so forth) provide good background for graduate study of schools, culture, and society, although other emphases also may be useful.

Applicants must submit a personal statement explaining their professional goals, experiences, and research plans; undergraduate and graduate grade-point averages; undergraduate and graduate transcripts; three letters of recommendation; a résumé; and scores on the Graduate

Record Exam (GRE) General Test (however, the GRE requirement has been suspended for the 2022-23 admissions cycle). Application deadline is February 15 for admission the following fall.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Educational Policy and Leadership Studies, M.A.

- Educational Leadership Subprogram [p. 1413]
- Higher Education and Student Affairs Subprogram [p. 1414]
- Schools, Culture, and Society Subprogram [p. 1414]

### Educational Leadership Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
36 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Work with academic advisor to determine sequence		
EPLS:6201	Foundations of School Administration	3
EPLS:6236	Special Education Administration	3
EPLS:6242	Research for Effective School Leaders	3
EPLS:6260	Contemporary Management Strategies for the Pre-K-12 Principal	3
EPLS:6285	School and Community Relationships	3
EPLS:6298	Legal Aspects of School Personnel	3
EPLS:6381	Analysis and Appraisal of Curriculum	3
EPLS:6383	Supervision and Evaluation	3
<b>Hours</b>		<b>24</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3

Final Exam <sup>c</sup>	
<b>Hours</b>	<b>12</b>
<b>Total Hours</b>	<b>36</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Up to 12 s.h. required by the end of year two; work with academic advisor to select electives.
- c Two-part written comprehensive exam taken in the final semester.

## Higher Education and Student Affairs Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
40 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
EPLS:5250	Introduction to Higher Education and Student Affairs	3
EPLS:5251	College Students and Their Environments	3
EPLS:6301	Professional Seminar I	1
EPLS:6332	Conceptual Foundations of College Student Development	3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
EPLS:5247	Multiculturalism in Higher Education	3
EPLS:6333	Practicum in Higher Education and Student Affairs <sup>b</sup>	3
EPLS:6334	Theoretical Foundations of College Student Development	3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
EPLS:5100	Issues and Policies in Higher Education	3
EPLS:5253	Research, Assessment, and Evaluation in Higher Education	3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
EPLS:5252	Administration of Higher Education and Student Affairs	3
EPLS:6305	Higher Education and Student Affairs Capstone	3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>40</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Required once; students enroll in this course a maximum of 3 times. Students with appropriate experience, with faculty approval, may waive this requirement.
- c See catalog for list of approved electives; courses outside the program require faculty advisor approval.

## Schools, Culture, and Society Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
32 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Disciplinary Area course	<sup>b, c</sup>	3
Disciplinary Area course	<sup>b, c</sup>	3
Disciplinary Area course	<sup>b, c</sup>	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Disciplinary Area course	<sup>b, c</sup>	3
Disciplinary Area course	<sup>b, c</sup>	3
Disciplinary Area course	<sup>b, c</sup>	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Disciplinary Area course	<sup>b, c</sup>	3
Cognate course <sup>d</sup>		3
Cognate course <sup>d</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Cognate course <sup>d</sup>		3
Cognate course <sup>d</sup>		2
Final Exam <sup>e</sup>		
<b>Hours</b>		<b>5</b>
<b>Total Hours</b>		<b>32</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Students complete at least 21 s.h. in schools, culture and society courses in two disciplinary areas: sociology and history; they earn 12 s.h. in one of the disciplinary areas and 9 s.h. in the other area.
- c Sociology area courses include: EPLS:5130, EPLS:5131, EPLS:5134, EPLS:5142, EPLS:5210, EPLS:5240. History area courses include EPLS:5102, EPLS:5123, EPLS:5240, EPLS:6220, EPLS:6237, EPLS:6238, EPLS:6239.
- d Students must complete at least 11 s.h. in a concentration area outside the schools, culture and society disciplinary areas appropriate to their career and academic goals. Work with academic advisor to determine appropriate cognate coursework and sequence.

e MA Comprehensive Exam taken during the final semester,  
written required; oral at discretion of exam committee

# Educational Policy and Leadership Studies, Ed.S.

## Learning Outcomes

Graduates will be able to:

- apply the knowledge, skills, and inquiry strategies to solve significant problems related to educational policies and practices;
- demonstrate through their clinical experiences their participation in, and ability to navigate, day-to-day responsibilities of a school administrator;
- utilize data effectively to enhance learning opportunities for all students;
- recognize and address inequities imposed on students and educators, and promote necessary change;
- understand and apply evidence of effective organizational and systemic change for equity, inclusion, and justice;
- identify and meet contemporary challenges facing schools and school leaders;
- impact and enact policy defined by school board or legislative action;
- manage and distribute resources to enact the optimum impact upon programs at the building and district level;
- embrace differences of persons and perspectives, and understand the challenges faced at all levels of a school system PK-12; and
- exhibit the ability to successfully develop a district overview or administrative problem in practice.

## Educational Leadership

The Specialist in Education program in educational policy and leadership studies with an educational leadership subprogram requires 36 s.h. of graduate credit and is offered for educators who already have their master's degree and Iowa administrator license. Students must earn a cumulative g.p.a. of at least 3.00 in major coursework.

The program prepares candidates to be superintendents in Iowa or to hold other district-level leadership positions in K-12 school districts. It also prepares them for appointments as area education agency chief administrators and for jobs in state or federal departments of education.

Students complete 26 s.h. of coursework, 10 s.h. of clinical work, and present an entry plan. Many educational leadership courses are offered by distance education; see MyUI for information about courses offered during current semesters. At the conclusion of the program, students are required to present their first-year entry plan. For detailed information, refer to Ed.S. programs on the Educational Leadership website.

Students seeking superintendent endorsement must have an Iowa administrator license. They obtain the superintendent endorsement (State of Iowa endorsement 171) upon completing the required Ed.S. coursework and at least three years of principal experience.

The Ed.S. in educational policy and leadership studies with an educational leadership subprogram requires the following work.

## Required Courses

Code	Title	Hours
All of these:		
EPLS:6270	Policy and Politics	3
EPLS:6315	Orientation to the Superintendency	3
EPLS:6317	Operational Leadership and Management	1
EPLS:6319	Human Resources Leadership	2
EPLS:6321	Social Advocacy Summit	1
EPLS:6323	School Finance	2
EPLS:6325	Organizational and Educational Leadership	2
EPLS:6329	Legislative Summit	1
EPLS:6265	Standards-Based Education and Accountability	3
Three electives (two 3 s.h. courses and one 2-3 s.h. course)		8-9

The course EPLS:6323 School Finance is provided through the Iowa Superintendent's Finance and Leadership Consortium (ISFLC), a partnership between the University of Northern Iowa and the Iowa Association of School Boards. Students enroll and participate in the two 2-day sessions offered yearly by ISFLC. During the first session, all students take the introductory school finance course. During the second session, students may choose from a variety of related school finance offerings.

Students enroll in this program through University of Northern Iowa Continuing Education, and are expected to transfer the hours to the University of Iowa so they may count toward the superintendent's endorsement.

## Clinical Courses

Code	Title	Hours
All of these:		
EPLS:6404	Central Administration Clinical	3
EPLS:6405	Superintendent Entry Plan and Portfolio Development	1
EPLS:6415	Orientation to the Superintendency: Clinical	2
EPLS:6417	Operational Leadership Clinical	1
EPLS:6419	Human Resources Leadership Clinical (Iowa Evaluator Approval Training opportunities are available through the School Administrators of Iowa or the local Area Education Agency)	2
EPLS:6425	Organizational and Educational Leadership Clinical	1

Students are required to spend 40 clock hours of effort for each semester hour of clinical courses. Documentation of these hours must be maintained and submitted at the end of the course. Documentation should include date, time spent, description of the activity, and reflections. Each activity must be identified with the corresponding National Educational



Leadership Preparation (NELP) standard. A syllabus will be provided to guide the clinical activity.

## Comprehensive Examination

The comprehensive exam is satisfied by taking EPLS:6405 Superintendent Entry Plan and Portfolio Development that is listed above.

## Superintendent Endorsement

Students seeking superintendent endorsement must have an Iowa administrator license. They obtain the superintendent endorsement (State of Iowa endorsement 171) upon completing the required Ed.S. coursework and at least three years of principal experience.

## Admission

Applicants must meet the admission requirements of the Graduate College and of the educational leadership program. Required application materials include transcripts, three letters of recommendation, and a personal statement of career goals. Official Graduate Record Examination (GRE) General Test scores are optional. Admission is based on grade-point average and GRE scores, promise for scholarly and professional growth, and recommendations. Application deadline for fall semester is July 1; for spring semester, December 1; and for summer session, April 30. Complete applications are reviewed as they are received.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

## Higher Education and Student Affairs

The Specialist in Education program in educational policy and leadership studies with a higher education and student affairs subprogram requires 60 s.h. of graduate credit. Students must earn a cumulative g.p.a. of at least 3.00 in major coursework.

The program provides advanced graduate study in administration, policy studies, and specializations developed in consultation with an advisor. The Ed.S. also may be awarded upon completion of a combined program of graduate work in higher education and another academic field, or upon completion of a higher education sequence following a master's degree program in a different field.

## Required Courses

The Ed.S. program of study must include the following.

Code	Title	Hours
	Professional Education and Related Field Courses	18
	Electives (approved by advisor)	10
	Specialization Area Courses	28
EPLS:7395	Educational Specialist Research	4
<b>Total Hours</b>		<b>60</b>

Depending on the student's career goals, the program may include an appropriate structured and supervised internship, determined in consultation with the advisor.

## Comprehensive Examination

A culminating experience is required of all students, the nature of which is contracted with the advisor. An oral examination of the culminating experience may be required.

## Related Field

Students majoring in another field who want to complete a related field in higher education and student affairs should consult with a higher education and student affairs faculty member early in their study. Plans of study are developed individually.

## Admission

Applicants must meet the admission requirements of the Graduate College. Admission is based on grade-point average, Graduate Record Exam (GRE) General Test scores (however, the GRE requirement has been suspended for the 2022-23 admissions cycle), and promise for professional growth. Transcripts, GRE scores, three letters of recommendation, and a statement of educational goals are required.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Educational Policy and Leadership Studies, Ed.S.

#### Educational Leadership Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
60 s.h. of graduate level coursework must be completed; maximum of 30 s.h. of graduate transfer credits can be applied upon approval to fulfill the degree requirements. More information is included in the General Catalog and on department website. a, b, c		
Graduate College Major Program GPA of at least 3.00 is required.		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Work with academic advisor to determine sequence of coursework.		
EPLS:6265	Standards-Based Education and Accountability	3
EPLS:6270	Policy and Politics	3
EPLS:6315	Orientation to the Superintendency	3

EPLS:6321	Social Advocacy Summit	1
EPLS:6323	School Finance	2
EPLS:6329	Legislative Summit	1
EPLS:6404	Central Administration Clinical <sup>d</sup>	3
EPLS:6415	Orientation to the Superintendency: Clinical <sup>d</sup>	2
Elective		2 - 3
<b>Hours</b>		<b>20-21</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Work with academic advisor to determine sequence of coursework.		
EPLS:6317	Operational Leadership and Management	1
EPLS:6319	Human Resources Leadership	2
EPLS:6325	Organizational and Educational Leadership	2
EPLS:6405	Superintendent Entry Plan and Portfolio Development <sup>d, e</sup>	1
EPLS:6417	Operational Leadership Clinical <sup>d</sup>	1
EPLS:6419	Human Resources Leadership Clinical <sup>d</sup>	2
EPLS:6425	Organizational and Educational Leadership Clinical <sup>d</sup>	1
Elective		3
Elective		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>0</b>
<b>Total Hours</b>		<b>36-37</b>

- a Complete most course requirements prior to taking clinical requirements; work with academic advisor to select electives.
- b 36 s.h. of graduate level coursework is the minimum required for students entering the program with a master's degree. Note: must hold Iowa Administrator License and have 3 years of experience as a principal prior to completion of the program.
- c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- d Students are required to spend 40 clock hours of effort for each semester hour of clinical courses; see department website for specifics.
- e Satisfies the Comprehensive Exam requirement.
- f Present First Year Entry Plan.

# Educational Policy and Leadership Studies, Ed.D.

The Doctor of Education (Ed.D.) in educational policy and leadership studies is designed for educators who seek a terminal doctoral degree to practice upper-level leadership in pre-kindergarten through higher education (PK-20) settings. Based on the scholar-practitioner model, the Ed.D. differs from the Ph.D. degree in that it allows for a more practical-based approach to use and perform applied research in educational settings grounded in problem-based learning pedagogy. Students elect to join their cohort class either on campus in Iowa City or through a hybrid program. The Ed.D. employs a blended learning delivery of online, in-person, condensed, and weekend courses.

## Learning Outcomes

Ed.D. graduates will be able to:

- apply the knowledge, skills, and inquiry strategies to solve significant problems related to educational policies and practices;
- evaluate and use data to make judgments to improve practice and policy;
- understand and apply evidence of effective organizational and systemic change for equity, inclusion, and justice;
- frame situations from multiple perspectives;
- identify and meet contemporary challenges facing schools and higher education;
- embrace differences of persons and perspectives;
- develop a critical and professional perspective that is ethical and promotes change for equity and inclusion;
- link theory with systematic inquiry and assessment to improve educational policy and practice; and
- execute a scholarly project that addresses real and complex problems in practice.

## Higher Education

The Doctor of Education program in educational policy and leadership studies with a higher education subprogram requires a minimum of 75 s.h. of graduate credit. Up to 36 s.h. in transfer credit may be applied to the degree with advisor approval. Students who earned an Ed.S. degree may apply up to 48 s.h. toward the Ed.D. with advisor approval. All students must earn a cumulative g.p.a. of at least 3.00 in UI and transfer coursework.

The Ed.D. in educational policy and leadership studies with a higher education subprogram requires the following work.

## Core Courses

Code	Title	Hours
All of these:		
EPLS:6217	Theory and Practice of Leadership	3
EPLS:6307	Professional Seminar for Ed.D. Students: Orientation to the Ed.D.	1
EPLS:6321	Social Advocacy Summit	1
One of these:		

EPLS:5240	Topics in Education (when topic is facilitating controversial dialogue/facilitator preparation)	3
EPLS:6275	Diversity and Equity in Higher Education	3
EPLS:7432	Multicultural Initiatives	3

## Applied Research

Code	Title	Hours
All of these:		
EPLS:6266	Program Evaluation	3
EPLS:6352	Action Research in Educational Settings	3
EPLS:7483	Ed.D. Capstone Proposal	3
EPLS:7485	Ed.D. Capstone	4
An introduction to quantitative research in education course (consult advisor)		3

## Higher Education Coursework

Students complete coursework in higher education as follows.

Code	Title	Hours
All of these:		
EPLS:5252	Administration of Higher Education and Student Affairs	3
EPLS:6216	Finance in Higher Education	3
EPLS:6218	The Law and Higher Education	3
EPLS:6225	Higher Education Policy	3
EPLS:6336	Impact of College on Students	3

## Electives

In consultation with their advisor, students complete the remaining semester hours in elective coursework.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have earned a bachelor's degree from a regionally accredited U.S. institution or an equivalent degree from another country as determined by the Office of Admissions; a master's degree with a g.p.a. of at least 3.00 in higher education, student affairs, student development, K-12 leadership, or another related field; and have at least three years of full-time experience in education.

Required application materials include transcripts from all higher education institutions attended, a résumé or curriculum vitae, letters of recommendation from an administrator and a faculty member, and a statement of purpose. Official Graduate Record Examination (GRE) General Test scores are optional.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

## PK-12 Administration

The Doctor of Education program in educational policy and leadership studies with a PK-12 administration subprogram requires a minimum of 75 s.h. of graduate credit. Up to 36 s.h. in transfer credit may be applied to the degree with advisor approval. Students who earned an Ed.S. degree may apply up to 48 s.h. toward the Ed.D. with advisor approval. Students who have a current endorsement (State of Iowa endorsement 171) may include up to 42 s.h. transfer credit applied to the degree with advisor approval. All students must earn a cumulative g.p.a. of at least 3.00 in UI and transfer coursework.

The Ed.D. in educational policy and leadership studies with a PK-12 administration subprogram requires the following work.

### Core Courses

Code	Title	Hours
All of these:		
EPLS:6217	Theory and Practice of Leadership	3
EPLS:6307	Professional Seminar for Ed.D. Students: Orientation to the Ed.D.	1
EPLS:6321	Social Advocacy Summit	1
One of these:		
EPLS:5240	Topics in Education (when topic is facilitating controversial dialogue/facilitator preparation)	3
EPLS:6275	Diversity and Equity in Higher Education	3
EPLS:7432	Multicultural Initiatives	3

### Applied Research

Code	Title	Hours
All of these:		
EPLS:6266	Program Evaluation	3
EPLS:6352	Action Research in Educational Settings	3
EPLS:7483	Ed.D. Capstone Proposal	3
EPLS:7485	Ed.D. Capstone	4
An introduction to quantitative research in education course (consult advisor)		3

### PK-12 Administration Coursework

Students complete coursework in PK-12 administration as follows.

Code	Title	Hours
All of these:		
EPLS:6265	Standards-Based Education and Accountability	3
EPLS:6270	Policy and Politics	3
EPLS:6329	Legislative Summit	1
Additional coursework toward the superintendency endorsement or electives		8

To obtain superintendent endorsement, all requirements for the endorsement must be met including an additional 12 s.h. in PK-12 administration.

## Electives

In consultation with their advisor, students complete the remaining semester hours in elective coursework.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have earned a bachelor's degree from a regionally accredited U.S. institution or an equivalent degree from another country as determined by the Office of Admissions; a master's degree with a g.p.a. of at least 3.00 in higher education, student affairs, student development, K-12 leadership, or another related field; and have at least three years of full-time experience in education.

Required application materials include transcripts from all higher education institutions attended, a résumé or curriculum vitae, letters of recommendation from an administrator and a faculty member, and a statement of purpose. Official Graduate Record Examination (GRE) General Test scores are optional.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

The Ed.D. prepares students for careers in PK-12 and higher education administrative leadership in educational institutions and related organizations.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Educational Policy and Leadership Studies, Ed.D.

- Higher Education Subprogram [p. 1420]
- PK-12 Administration Subprogram [p. 1421]

### Higher Education Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
75 s.h. must be graduate level coursework; up to 36 s.h. of graduate transfer credits from a previous graduate degree from an accredited university allowed upon approval. More information is included in the General Catalog and on department website. a, b		
		<b>0</b>
<b>Hours</b>		

#### First Year Fall

EPLS:6307	Professional Seminar for Ed.D. Students: Orientation to the Ed.D.	1
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PSQF:6241	Quantitative Policy Analysis for Practitioners <sup>c</sup>	3
Higher Education course <sup>d</sup>		3
<b>Hours</b>		<b>7</b>
<b>Spring</b>		
EPLS:6217	Theory and Practice of Leadership	3
Higher Education course <sup>d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Summer</b>		
EPLS:6321	Social Advocacy Summit <sup>e</sup>	1
EPLS:7432	Multicultural Initiatives <sup>e</sup>	3
or EPLS:6275	or Diversity and Equity in Higher Education	
or EPLS:5240	or Topics in Education	
Higher Education course <sup>d</sup>		3
<b>Hours</b>		<b>7</b>
<b>Second Year</b>		
<b>Fall</b>		
EPLS:6266	Program Evaluation	3
Higher Education course <sup>d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
EPLS:6352	Action Research in Educational Settings	3
Higher Education course <sup>d</sup>		3
<b>Hours</b>		<b>6</b>
<b>Third Year</b>		
<b>Fall</b>		
EPLS:7483	Ed.D. Capstone Proposal <sup>f</sup>	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
EPLS:7485	Ed.D. Capstone <sup>g</sup>	4
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>39</b>

a Students who enter with fewer than 36 s.h. of graduate transfer credits need to work directly with their faculty advisor to select appropriate graduate level coursework to complete the degree requirements. Students must have a related master's degree to be admitted to the program and are expected to have been practicing in education for a minimum of three years.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Consult with faculty advisor to select appropriate course.

d Higher Education subprogram coursework must include EPLS:5252, EPLS:6216, EPLS:6218, EPLS:6225, and EPLS:6336.

e Typically offered every summer; may be completed either prior to the first fall semester in the program or after the first year.

f Students must have successfully completed all other core/applied research coursework (except for EPLS:7485) and at least 80% of the subprogram coursework, and be concurrently enrolled in any outstanding subprogram courses, in order to take EPLS:7483.

g Student must successfully complete EPLS:7483, including passing a committee proposal defense meeting, before enrolling in EPLS:7485.

## PK-12 Administration Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
75 s.h. must be graduate level coursework; up to 36 s.h. of graduate transfer credits from a previous graduate degree from an accredited university allowed upon approval. More information is included in the General Catalog and on department website. a, b, c		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
EPLS:6307	Professional Seminar for Ed.D. Students: Orientation to the Ed.D.	1
PSQF:6241	Quantitative Policy Analysis for Practitioners <sup>d</sup>	3
PK-12 Administration course <sup>e</sup>		3
<b>Hours</b>		<b>7</b>
<b>Spring</b>		
EPLS:6217	Theory and Practice of Leadership	3
PK-12 Administration course <sup>e</sup>		3
<b>Hours</b>		<b>6</b>
<b>Summer</b>		
EPLS:7432	Multicultural Initiatives <sup>f</sup>	3
or EPLS:6275	or Diversity and Equity in Higher Education	
or EPLS:5240	or Topics in Education	
EPLS:6321	Social Advocacy Summit <sup>f</sup>	1
PK-12 Administration course <sup>e</sup>		3
<b>Hours</b>		<b>7</b>
<b>Second Year</b>		
<b>Fall</b>		
EPLS:6266	Program Evaluation	3
PK-12 Administration course <sup>e</sup>		3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
EPLS:6352	Action Research in Educational Settings	3
PK-12 Administration course <sup>e</sup>		3
<b>Hours</b>		<b>6</b>
<b>Third Year</b>		
<b>Fall</b>		
EPLS:7483	Ed.D. Capstone Proposal <sup>g</sup>	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
EPLS:7485	Ed.D. Capstone <sup>h</sup>	4
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>39</b>

a To obtain superintendent endorsement, all requirements for the endorsement must be met including an additional 12 s.h. in PK-12 Administration.

b Students who enter with fewer than 36 s.h. of graduate transfer credits need to work directly with their faculty

- advisor to select appropriate graduate level coursework to complete the degree requirements. Students must have a related master's degree to be admitted to the program and are expected to have been practicing in education for a minimum of three years.
- c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
  - d Consult with faculty advisor to select appropriate course.
  - e PK-12 Administration subprogram coursework must include EPLS:6265, EPLS:6270, EPLS:6329, and at least 8 s.h. of superintendent endorsement or elective coursework.
  - f Typically offered every summer; may be completed either prior to the first fall semester in the program or after the first year.
  - g Students must have successfully completed all other core/applied research coursework (except for EPLS:7485) and at least 80% of the subprogram coursework, and be concurrently enrolled in any outstanding subprogram courses, in order to take EPLS:7483.
  - h Student must successfully complete EPLS:7483, including passing a committee proposal defense meeting, before enrolling in EPLS:7485.

# Educational Policy and Leadership Studies, Ph.D.

## Learning Outcomes

### Specialized Content Knowledge

The department expects students to acquire and display mastery of a broad and deep knowledge of disciplines associated with one's specialization (schools, culture, and society; educational leadership; or higher education and student affairs) covering content that contributes to the historical, current, philosophical, and applied dimensions of the field.

### Critical Thinking and Analytical Writing

Students will acquire capacities for theoretical and evidentiary based analysis to critique and synthesize disparate and interdisciplinary perspectives within their specialization.

### Empirical Skills

Students will develop skills for conducting assessment, evaluation, and research on phenomenon associated with individuals and organizations associated with educational organizations, educationally aligned sectors, and individuals affiliated with or impacted by education.

### Impact and Practical Application

Students will acquire skills for engaging in the higher education professional communities by participating in research and/or practitioner organizations focused on translation and application.

### Leadership and Collaboration

Students will be able to analyze, articulate, and respond to complex problems using theory, evidence, and cooperation with those affected by the issues.

### Ethical, Inclusive, and Equitable Practice

Students will gain skills in identifying and responding to educational inequities at the individual, organizational, and institutional level. Specifically, students will apply their skills to advance educational inclusion and facilitate organizational change and reform.

## Educational Leadership

The Doctor of Philosophy program in educational policy and leadership studies with an educational leadership subprogram requires a minimum of 90 s.h. of graduate credit. Students must earn a cumulative g.p.a. of at least 3.00 in major coursework.

The program prepares scholarly professionals for leadership positions in a wide range of educational and public sector settings. Students acquire strong backgrounds in leadership, policy, and research. They equip themselves to discover, integrate, and apply knowledge as transformational leaders.

The Ph.D. in educational policy and leadership studies with an educational leadership subprogram requires the following work.

Code	Title	Hours
Common Courses		12
Cognate Courses		9
Electives		29
Concentration Area Courses		12
Research Courses		18
Dissertation		10
<b>Total Hours</b>		<b>90</b>

Students also complete the comprehensive examination and a dissertation, described below.

Many educational leadership courses are offered by distance education; see MyUI for information about courses offered during current semesters.

For more detailed coursework information, see Educational Leadership on the Department of Educational Policy and Leadership Studies website.

## Research Courses

All educational leadership Ph.D. students must complete either EALL:5150 Introduction to Educational Research or EPLS:6206 Research Process and Design during the first year of their Ph.D. program. They also must complete a minimum of 15 s.h. in qualitative and quantitative coursework, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed under Ph.D. Research Requirements on the college's Graduate Student Life website.

## Comprehensive Examination

Students must satisfactorily complete a written take-home comprehensive examination consisting of three parts. The first part covers a student's major area of study, and the second covers two additional concentration areas. The third is on the student's outside area of study and is prepared by faculty members outside the Department of Educational Policy and Leadership Studies. The written exams are followed by an oral examination.

## Dissertation

Students must write a dissertation based on an original research project in an area of educational leadership. Students must earn 10 s.h. of credit for dissertation research. The doctoral program culminates with a final oral defense of the dissertation. Students must be registered at the University of Iowa during the session in which they graduate.

## Admission

Applicants must meet the admission requirements of the Graduate College and of the educational leadership program. They also must satisfy the residency requirement of two full-time (at least 9 s.h.) registrations. Required application materials include transcripts, official Graduate Record Examination (GRE) General Test scores, three letters of recommendation, and a personal statement of career goals. Admission is based on grade-point average and GRE scores (however, the GRE requirement has been suspended for the 2022-23 admissions cycle), promise for scholarly and professional growth, and recommendations. Complete applications are reviewed as they are received.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores

from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

## Higher Education and Student Affairs

The Doctor of Philosophy program in educational policy and leadership studies with a higher education and student affairs (HESA) subprogram requires a minimum of 90 s.h. of graduate credit. At least 39 s.h. must be earned while registered in the Graduate College at the University of Iowa, and after formal program admission. Students must earn a cumulative g.p.a. of at least 3.00 in major coursework.

The doctoral program prepares individuals to be leaders in student affairs and academic administration, graduate faculty at research universities, leaders in conducting research about college students and higher education, policy analysts in postsecondary institutions and public or private agencies, and teachers and academic leaders at two-year and four-year colleges. The HESA program integrates academic experience with the cocurricular learning experiences of students and studies the outcomes of both.

The Ph.D. in educational policy and leadership studies with a higher education and student affairs subprogram requires the following coursework.

Code	Title	Hours
	Substantive Core Courses	18
	Research Methods Courses	18-21
	Concentration Area Courses	18
	Graduate Electives	24
	Dissertation	12
<b>Total Hours</b>		<b>90-93</b>

## Substantive Core

The substantive core provides foundational understanding of higher education and general knowledge that all students must master, regardless of their career goals and interests. All courses in the core (18 s.h.) must be completed at the University of Iowa.

Code	Title	Hours
All of these:		
EPLS:6216	Finance in Higher Education	3
EPLS:6220	History of Higher Education	3
EPLS:6224	Organizational Theory and Administrative Behavior	3
EPLS:6273	College Students	3
EPLS:6275	Diversity and Equity in Higher Education	3
EPLS:6311	Seminar: Research Topic in Education	3

## Research Methods

Research methods courses (at least 18 s.h.) assure that students achieve scholarly autonomy and initiative.

### Basic Research Methods

Code	Title	Hours
Both of these (6 s.h.):		
EPLS:6206	Research Process and Design	3

EPLS:7373	Qualitative Research Design and Methods (or approved substitute)	3
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## Statistics/Linear Regression

These courses (6-7 s.h.) must be taken in this order.

Code	Title	Hours
This course:		
PSQF:6243	Intermediate Statistical Methods	3
One of these:		
EPLS:6370	Quantitative Methods for Policy Analysis	3
PSQF:6244	Correlation and Regression	4

## Advanced/Specialized Research Methods

Students consult with their advisor to choose two courses (at least 6 s.h.) from either list appropriate to their dissertation design and intended learning outcomes.

### Qualitative Methods

Code	Title	Hours
EPLS:5240	Topics in Education (when topic is introduction to historical methodology or critical qualitative inquiry)	3
EPLS:7392	Mixed Methods Research	3
EDTL:7071	Critical Discourse Analysis in Educational Research	3
EDTL:7072	Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting	3
EDTL:7073	Ethnographic Methods, Theories, and Texts	3

Another comparable research methods course approved by advisor

### Quantitative Methods

Code	Title	Hours
EPLS:5240	Topics in Education (when topic is multilevel modeling)	3
EPLS:6209	Survey Research and Design	3
POLI:7003	Advanced Methodology	4
PSQF:6246	Design of Experiments	3
SOC:7170	Advanced Statistical Modeling of Data	3
SOC:7180	Structural Equation Modeling	3

Another comparable research methods course approved by advisor

## Concentration Area

The concentration area (18 s.h.) gives students the opportunity to develop expertise in one area. Students consult with their advisor to develop the concentration curriculum.

## Graduate Electives

Students choose 24 s.h. of elective graduate coursework in consultation with their advisors. A student and their advisor may determine that some of the graduate elective work may



be drawn from appropriate previous graduate coursework that complements other aspects of the student's doctoral program.

## Comprehensive Examination

The Ph.D. comprehensive examination consists of a question written by the student in consultation with their advisor, and formally approved by the HESA faculty. Students are expected to construct a well-supported argument informed by knowledge of the theory, research, and practice that constitutes the field of higher education based on the substantive core and the student's concentration. The written examination is followed by an oral examination.

## Dissertation

The dissertation is a major research study planned in collaboration with the student's advisor. Students must write a formal dissertation proposal and submit it for approval, first to their advisor and then to the members of their doctoral committee. Students and their advisors determine when the proposal is complete. Students must earn 12 s.h. of dissertation research credit. The doctoral program culminates with a final oral defense of the dissertation.

Students must be registered at the University of Iowa each fall and spring semester from the semester in which they complete their comprehensive examination through the semester in which they defend their dissertation and graduate.

## Admission

Applicants must meet the admission requirements of the Graduate College. Each applicant must submit a personal statement, undergraduate and graduate grade-point averages, undergraduate and graduate transcripts, three letters of recommendation, a résumé or curriculum vita, and scores on the Graduate Record Exam (GRE) General Test (however, the GRE requirement has been suspended for the 2022-2023 admissions cycle). The statement of purpose (one to three pages) should include professional and/or research interests, whether the applicant plans to enroll full- or part-time, and how the applicant's goals and experiences are consistent with the higher education and student affairs program's mission and values.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

The early action application deadline is December 1; the regular decision application deadline is April 15 for admission the following fall.

For more information on higher education and student affairs programs, see the Department of Educational Policy and Leadership Studies website.

## Schools, Culture, and Society

The Doctor of Philosophy program in educational policy and leadership studies with a schools, culture, and society subprogram requires a minimum of 90 s.h. of graduate credit. Students must earn a cumulative g.p.a. of at least 3.00 in major coursework.

The program develops students' ability to analyze the influence of social and historical factors that frame contemporary issues in education.

The Ph.D. in educational policy and leadership studies with a schools, culture, and society subprogram requires the following coursework.

Code	Title	Hours
Common Core Courses		9
Disciplinary Foundation Courses		12
Interdisciplinary Focus Courses		12
Cognate Courses		27
Research Tools		18
Dissertation		12
<b>Total Hours</b>		<b>90</b>

## Common Core

Students complete all three courses in the common core.

Code	Title	Hours
EPLS:5102	History of American Education	3
EPLS:5126	Twentieth-Century Educational Movements	3
EPLS:5130	Sociology of Education	3

## Disciplinary Foundation

Students choose one of two disciplinary foundation areas: sociology or history. They complete 12 s.h. in the area by taking three courses offered by the Department of Educational Policy and Leadership Studies (prefix EPLS) and one course offered by the corresponding department in the College of Liberal Arts and Sciences: sociology (prefix SOC) or history (prefix HIST). The following lists provide examples of courses appropriate for the two disciplinary foundation areas.

### Sociology

Code	Title	Hours
EPLS:5131	Race, Class, and Gender Inequalities in Education	3
EPLS:5134	Education and the World of Work	3
EPLS:5142	Sociology of Higher Education	3
EPLS:5210	Education and Social Change	3
EPLS:5240	Topics in Education (when topic is sociology of education)	3

### History

Code	Title	Hours
EPLS:5123	History of Ethnic/Minority Education	3
EPLS:5240	Topics in Education (when topic is history of education)	3
EPLS:6220	History of Higher Education	3
EPLS:6237	History of the Teaching Profession	3
EPLS:6238	Gender and Education in Historical Perspective	3
EPLS:6239	LGBTQ History in Education	3

## Interdisciplinary Focus

Students choose one of two interdisciplinary focus areas: diversity and equity, or policy contexts. They take four courses in that area (total of 12 s.h.) chosen from the corresponding list. At least two of the courses (6 s.h.) must be from outside their disciplinary foundation area (see "Disciplinary Foundation" above).

### Diversity and Equity

Code	Title	Hours
EPLS:5123	History of Ethnic/Minority Education	3
EPLS:6237	History of the Teaching Profession	3
EPLS:6238	Gender and Education in Historical Perspective	3
EPLS:6239	LGBTQ History in Education	3
EPLS:6277	Readings in Diversity and Equity in Higher Education	3

One relevant course from another department, with advisor's approval

### Policy Contexts

Code	Title	Hours
EPLS:5134	Education and the World of Work	3
EPLS:5210	Education and Social Change	3
EPLS:6225	Higher Education Policy	3
EPLS:6237	History of the Teaching Profession	3
EPLS:6270	Policy and Politics	3

One relevant course from another department, with advisor's approval

## Cognate Courses

Students complete at least 27 s.h. of additional graduate-level coursework in a field or fields that are relevant to their scholarly and professional goals. Students commonly complete some or all of the 27 s.h. with relevant graduate-level coursework from other University of Iowa programs or with approved transfer credit from other institutions. A student's advisor, in consultation with other faculty members in the program, determine which coursework to accept.

## Research Tools

Students take at least 18 s.h. in research methods.

### Basic Research Methods

Code	Title	Hours
Both of these:		
EPLS:6206	Research Process and Design	3
EPLS:7373	Qualitative Research Design and Methods	3
With approval, students may substitute a course above for one of the following:		
CSED:7338	Essentials of Qualitative Inquiry	3

EDTL:7070	Qualitative Research Methods in Teaching and Learning	3
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PSQF:7331	Qualitative Educational Research Methods	3
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## Intermediate Statistics and Linear Regression

Code	Title	Hours
Both of these:		
PSQF:6243	Intermediate Statistical Methods	3
EPLS:6370	Quantitative Methods for Policy Analysis	3

## Advanced and/or Specialized Research Methods

Students consult with their advisor to choose two courses from either list appropriate to their dissertation design.

### Qualitative or Non-Quantitative Courses

Code	Title	Hours
EPLS:5240	Topics in Education (when topic is historical methodology in education or analysis of philosophical argumentation)	3
EPLS:7392	Mixed Methods Research	3
EDTL:7071	Critical Discourse Analysis in Educational Research	3
EDTL:7072	Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting	3
EDTL:7073	Ethnographic Methods, Theories, and Texts	3
EDTL:7751	Advanced Qualitative Data Analysis	3
PSQF:6265	Program Evaluation	3

Other comparable research methods courses approved by student's advisor and schools, culture, and society program

### Quantitative Courses

Code	Title	Hours
EPLS:5240	Topics in Education (when topic is multilevel modeling)	3
EPLS:6209	Survey Research and Design	3
EPLS:6370	Quantitative Methods for Policy Analysis	3
POLI:7003	Advanced Methodology	4
PSQF:6249	Factor Analysis and Structural Equation Models	3
SOC:5160	Research Design and Methods	3
SOC:7170	Advanced Statistical Modeling of Data	3
SOC:7180	Structural Equation Modeling	3

Other comparable research methods courses approved by student's advisor and schools, culture, and society program

Students who want to enroll in an advanced/specialized course not listed above, and wish to receive credit toward their program requirements, must obtain prior approval from their advisor and from the schools, culture, and society program.

## Comprehensive Examination

The comprehensive examination consists of two take-home exams, each with a maximum of 15 pages. The first exam covers the student's disciplinary foundation (history or sociology), and the second covers the student's interdisciplinary focus area (diversity and equity, or policy contexts) and the common core (history or sociology, not including the disciplinary focus).

## Dissertation

After completing the comprehensive examination, students write a formal dissertation prospectus and submit it for approval first to their dissertation advisor and then to the members of their dissertation committee. The dissertation prospectus must be formally approved by the dissertation advisor and the dissertation committee before a student may begin dissertation research.

Students must earn 12 s.h. of dissertation research credit. The dissertation process culminates with a final oral defense of the dissertation. Students must register at the University of Iowa each fall and spring semester until the dissertation is successfully defended and the Ph.D. is awarded.

## Admission

Applicants must meet the admission requirements of the Graduate College. A personal interview with one or more members of the program's faculty is recommended. Undergraduate and/or graduate emphases in education, sociology, and the humanities (philosophy, history, and so forth) provide good background for graduate study of schools, culture, and society, although other emphases also may be useful.

Applicants must submit a personal statement explaining their professional goals, experiences, and research plans; undergraduate and graduate grade-point averages; undergraduate and graduate transcripts; three letters of recommendation; and scores on the Graduate Record Exam (GRE) General Test (however, the GRE requirement has been suspended for the 2022-23 admissions cycle).

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). For specific score requirements, see the Manual of Rules and Regulations on the Graduate College website.

Admission is for fall semester entry. Application deadline is January 15 for admission the following fall.

For more information on schools, culture, and society programs, see the Department of Educational Policy and Leadership Studies website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Educational Policy and Leadership Studies, Ph.D.

- Educational Leadership Subprogram [p. 1427]
- Higher Education and Student Affairs Subprogram [p. 1428]
- Schools, Culture, and Society Subprogram [p. 1429]

### Educational Leadership Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
90 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Distribute the following graduate elective hours between years 1-4 with advisor approval: <sup>b</sup>		
Elective course		3
Elective course		3
Elective course		3
Elective course		3
Elective course		3
Elective course		3
Elective course		3
Elective course		3
Elective course		2
<b>Hours</b>		<b>29</b>
<b>First Year</b>		
<b>Fall</b>		
EPLS:6217	Theory and Practice of Leadership	3
EPLS:6224	Organizational Theory and Administrative Behavior	3
EPLS:6226	Educational Management	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
EPLS:6311	Seminar: Research Topic in Education	3
Research course <sup>c</sup>		3
Research course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Concentration Area course <sup>d</sup>		3
Research course <sup>c</sup>		3
Research course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Concentration Area course <sup>d</sup>		3
Research course <sup>c</sup>		3
Research course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>

**Third Year****Any Semester**Comprehensive Exam <sup>e, f</sup>

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Concentration Area course <sup>d</sup>		3
Cognate course <sup>g</sup>		3
Cognate course <sup>g</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Concentration Area course <sup>d</sup>		3
Cognate course <sup>g</sup>		3
<b>Hours</b>		<b>6</b>
<b>Fourth Year</b>		
<b>Fall</b>		
EPLS:7493	Ph.D. Thesis <sup>h</sup>	5
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
EPLS:7493	Ph.D. Thesis <sup>h</sup>	5
Final Exam (Dissertation Defense) <sup>i, j</sup>		5
<b>Hours</b>		<b>5</b>
<b>Total Hours</b>		<b>90</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Complete a total of 29 s.h. in a related field; work with academic advisor for approval of graduate transfer credit and/or to select electives. Students are encouraged to present their MA degree as the related field, where appropriate.

c Complete at least 18 s.h. of graduate courses in research design, quantitative, and qualitative required methods appropriate for doctoral-level research in Educational Leadership. Work with academic advisor to select appropriate courses approved by the College of Education.

d Complete at least 12 s.h. in a concentration area; work with academic advisor to select appropriate graduate level courses. See the General Catalog and the College of Education website for specifics.

e Typically taken after most required coursework is completed; work with academic advisor to complete the exam.

f Required written and oral examination covering three areas: major area of study, other concentration area, and the student's chosen outside area of study.

g Students must complete a 9 s.h. cognate outside of the Educational Policy and Leadership Studies department. Work with academic advisor to determine appropriate graduate courses and sequence.

h Maximum total of 10 s.h. of thesis credit allowed.

i Must be completed within five years of Comprehensive Exam.

j An original research project is to be developed, presented and defended in an area of Educational Leadership.

**Higher Education and Student Affairs Subprogram**

<b>Course</b>	<b>Title</b>	<b>Hours</b>
<b>Academic Career</b>		
<b>Any Semester</b>		
90 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Distribute between years 1-4 with advisor approval; work with academic advisor to determine sequence.		
EPLS:6216	Finance in Higher Education <sup>b</sup>	3
EPLS:6220	History of Higher Education <sup>b</sup>	3
EPLS:6224	Organizational Theory and Administrative Behavior <sup>b</sup>	3
EPLS:6273	College Students <sup>b</sup>	3
EPLS:6275	Diversity and Equity in Higher Education <sup>b</sup>	3
EPLS:6311	Seminar: Research Topic in Education <sup>b</sup>	3
EPLS:6206	Research Process and Design <sup>c</sup>	3
EPLS:7373	Qualitative Research Design and Methods <sup>c</sup>	3
PSQF:6243	Intermediate Statistical Methods <sup>d</sup>	3
PSQF:6244	Correlation and Regression <sup>d</sup>	3 - 4
	or EPLS:6370 or Quantitative Methods for Policy Analysis	
Advanced/Specialized Research Methods course <sup>e, f</sup>		3 - 4
Advanced/Specialized Research Methods course <sup>e, f</sup>		3 - 4
Concentration Area course <sup>g</sup>		3
Concentration Area course <sup>g</sup>		3
Concentration Area course <sup>g</sup>		3
Concentration Area course <sup>g</sup>		3
Concentration Area course <sup>g</sup>		3
Concentration Area course <sup>g</sup>		3
Concentration Area course <sup>g</sup>		3
Graduate Elective <sup>h</sup>		3
Graduate Elective <sup>h</sup>		3
Graduate Elective <sup>h</sup>		3
Graduate Elective <sup>h</sup>		3
Graduate Elective <sup>h</sup>		3
Graduate Elective <sup>h</sup>		3
Graduate Elective <sup>h</sup>		3
Graduate Elective <sup>h</sup>		3
<b>Hours</b>		<b>78-81</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>i</sup>		
<b>Hours</b>		<b>0</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
Final Exam (Dissertation Defense) <sup>j</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
EPLS:7493	Ph.D. Thesis <sup>k</sup>	6
<b>Hours</b>		<b>6</b>

**Spring**

EPLS:7493	Ph.D. Thesis <sup>k</sup>	6
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>90-93</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Substantive Core course.

c Basic Research Methods course.

d Statistics/Linear Regression course.

e 6 s.h. from Qualitative courses EPLS:5240, EPLS:7392, EDTL:7071, EDTL:7072, EDTL:7073, or 6-8 s.h. from Quantitative courses EPLS:5240, EPLS:6209, POLI:7003, PSQF:6246, SOC:7170, SOC:7180

f Work with academic advisor to select either Qualitative or Quantitative Advanced/Specialized Research Methods coursework appropriate to dissertation design.

g Work with academic advisor to select appropriate graduate level coursework in the specialization area. See the General Catalog and the College of Education website for specifics.

h Work with academic advisor for approval to select electives in related field, including graduate transfer credits.

i Typically taken after most required coursework is completed; work with advisor to complete the exam.

j Must be completed within 5 years of Comprehensive Exam.

k Maximum total of 12 s.h. of thesis credit allowed.

**Schools, Culture, and Society Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
90 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

**First Year****Any Semester**

Cognate course <sup>b</sup>		3
Cognate course <sup>b</sup>		3
Cognate course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>

**Fall**

EPLS:5126	Twentieth-Century Educational Movements	3
EPLS:6206	Research Process and Design <sup>c</sup>	3
Disciplinary Foundation course <sup>d, e</sup>		3
<b>Hours</b>		<b>9</b>

**Spring**

Disciplinary Foundation course <sup>d, e</sup>		3
Disciplinary Foundation course <sup>d, e</sup>		3
Disciplinary Foundation course <sup>d, e</sup>		3
<b>Hours</b>		<b>9</b>

**Second Year****Any Semester**

Cognate course <sup>b</sup>		3
Cognate course <sup>b</sup>		3

Cognate course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>

**Fall**

EPLS:5130	Sociology of Education	3
Interdisciplinary Focus course <sup>f</sup>		3
Interdisciplinary Focus course <sup>f</sup>		3
<b>Hours</b>		<b>9</b>

**Spring**

EPLS:7373	Qualitative Research Design and Methods <sup>c</sup>	3
Interdisciplinary Focus course <sup>f</sup>		3
Interdisciplinary Focus course <sup>f</sup>		3
<b>Hours</b>		<b>9</b>

**Third Year****Any Semester**

Comprehensive Exam <sup>g, h</sup>		
Cognate course <sup>b</sup>		3
Cognate course <sup>b</sup>		3
Cognate course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>

**Fall**

EPLS:5102	History of American Education	3
PSQF:6243	Intermediate Statistical Methods <sup>i</sup>	3
<b>Hours</b>		<b>6</b>

**Spring**

EPLS:6370	Quantitative Methods for Policy Analysis <sup>i</sup>	3
Advanced/Specialized Research Methods course <sup>j</sup>		3
Advanced/Specialized Research Methods course <sup>j</sup>		3
<b>Hours</b>		<b>9</b>

**Fourth Year****Fall**

EPLS:7493	Ph.D. Thesis <sup>k</sup>	6
<b>Hours</b>		<b>6</b>

**Spring**

EPLS:7493	Ph.D. Thesis <sup>k</sup>	6
Final Exam (Dissertation Defense) <sup>l</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>90</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Students must complete a 27 s.h. cognate in a field that is relevant to their scholarly and professional goals. This requirement is commonly satisfied by coursework from other University of Iowa programs or with approved graduate transfer credit from other institutions; work with academic advisor for approval of transfer credit and/or to select appropriate electives.

c Basic Research Methods requirement course; students may substitute one of the following with approval: EDTL:7070, PSQF:7331, RCE:7338.

d Students complete at least 12 s.h. in schools, culture and society courses in two disciplinary areas: sociology and history; they earn 9 s.h. in one of the disciplinary areas and 3 s.h. in the other area.

e Sociology area courses include: EPLS:5131, EPLS:5134, EPLS:5142, EPLS:5210, EPLS:5240. History area courses

include EPLS:5123, EPLS:5240, EPLS:6220, EPLS:6237, EPLS:6238, EPLS:6239.

- f Students must choose an interdisciplinary focus area (either diversity and equity, or policy contexts) and complete four courses (total of 12 s.h.) in the selected area with at least two courses (6 s.h.) from outside the disciplinary foundation area.
- g Consists of two take-home exams, each with a maximum of 15 pages. The first exam covers the student's disciplinary foundation area; the second covers the student's interdisciplinary focus area and the common core.
- h Typically taken after most required coursework is completed; work with academic advisor to complete the exam.
- i Intermediate Statistics and Linear Regression requirement course.
- j Work with academic advisor to select either qualitative or quantitative coursework (6-7 s.h.) appropriate to dissertation design.
- k Students must earn 12 s.h. of dissertation research credit.
- l Must be completed within five years of Comprehensive Exam.

# Institutional Research and Effectiveness

## Interim Chair, Department of Educational Policy and Leadership Studies

- Liz Hollingworth

**Graduate certificate:** institutional research and effectiveness

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/areas-study/continuing-education/certificates-and-endorsements/certificate-institutional-research>

The purpose of the graduate Certificate in Institutional Research and Effectiveness (IRE) is to prepare professionals to use data for institutional decision making, reporting, and accountability in higher education and K-12 contexts. This certificate amends and complements students' competence in other areas (business affairs, information technology, student affairs, development, among other areas) to prepare them with the skills and capabilities to use data for educational improvement, accountability, quality, and equity. Students learn about data collection, management, and analysis, as well as the reporting and dissemination of results for communicating with a diverse range of audiences and stakeholders. This training program draws upon the unique strengths of the College of Education, which possesses substantial expertise on methodology for educational research, evaluation, and assessment.

The Certificate in Institutional Research and Effectiveness is administered by the Department of Educational Policy and Leadership Studies [p. 1404] and is granted by the Graduate College.

### Programs

## Graduate Program of Study Certificate

- Certificate in Institutional Research and Effectiveness [p. 1432]

# Institutional Research and Effectiveness, Graduate Certificate

## Requirements

The graduate Certificate in Institutional Research and Effectiveness requires 15 s.h. of graduate credit and is offered with hybrid and conventional courses. Students must maintain a g.p.a. of at least 2.50 in work for the certificate. They must earn at least a grade of C in each course required for the certificate. Courses must be taken on a graded basis.

The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students.

The certificate program develops skills in institutional research appropriate to the education sector, and for fields and professional settings that are associated with educational interventions, programs, and outcomes. The course sequence contributes to development of the competencies necessary for performing well in the administrative area of institutional research: quantitative statistical skills, knowledge of a range of social science research design and methods, familiarity with complex data environments, and facility with reporting and presenting information to a range of internal and external audiences.

The Certificate in Institutional Research and Effectiveness requires the following coursework.

Code	Title	Hours
All of these:		
EPLS:6352	Action Research in Educational Settings	3
EPLS:6370	Quantitative Methods for Policy Analysis	3
PSQF:6242	Selected Applications of Statistics	3
An introduction to institutional research and effectiveness course (consult advisor)		3
One of these:		
EPLS:6209	Survey Research and Design	3
EPLS:6266	Program Evaluation	3

For more information, contact the Department of Educational Policy and Leadership Studies.



# K-12 Equity and Inclusion

## Interim Chair, Department of Educational Policy and Leadership Studies

- Liz Hollingworth

**Graduate certificate:** K-12 equity and inclusion

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/areas-study/continuing-education/certificates-and-endorsements/certificate-k-12-equity-and>

The purpose of the graduate Certificate in K-12 Equity and Inclusion is to offer educational professionals or nondegree-seeking students currently working in K-12 schools, districts, and area education agencies expertise in equity and inclusion to better support the needs and interests of a diversifying K-12 student population. The certificate also is available to currently enrolled graduate students across the College of Education and may be of interest to graduate students outside of the college, especially those enrolled in the Departments of Political Science or Sociology and Criminology, the Schools of Social Work or Planning and Public Affairs, and in public health programs.

Participating students use the knowledge and skills learned in the certificate program to effectively and immediately implement change in their respective K-12 educational contexts to better support students from historically marginalized backgrounds and to address systemic racism and oppression.

The Certificate in K-12 Equity and Inclusion is administered by the Department of Educational Policy and Leadership Studies [p. 1404] and is granted by the Graduate College.

### Programs

## Graduate Program of Study

### Certificate

- Certificate in K-12 Equity and Inclusion [p. 1434]

# K-12 Equity and Inclusion, Graduate Certificate

## Requirements

The graduate Certificate in K-12 Equity and Inclusion requires 12 s.h. of credit and is offered with hybrid and conventional courses. Students must maintain a g.p.a. of at least 2.50 in work for the certificate. They must earn at least a grade of C in each course required for the certificate. All courses must be taken on a graded basis.

The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students.

This certificate program encourages the development of the knowledge and skills necessary to meet standard 3 (equity and cultural responsiveness) of the Professional Standards for Educational Leaders, adopted by the School Administrators of Iowa. Course offerings contribute to the development of competencies in the areas of research, policy, practice and student advocacy. These competencies are essential for effectively dismantling educational disparities for K-12 students from historically marginalized backgrounds (including race, gender identity, sexual orientation, socioeconomic class, immigration status, language spoken at home, and disability status).

The Certificate in K-12 Equity and Inclusion requires 12 s.h. of coursework from two categories: practice and policy. Participating students must choose at least one course from each category. The remainder of the courses may be from either category.

The certificate program recommends that students focus course-specific content on a problem of practice related to equity, inclusion, anti-racism, and/or anti-oppression. Students work with the certificate advisor to devise a specific program of study and develop appropriate course-related projects.

The Certificate in K-12 Equity and Inclusion requires the following coursework.

## Practice

Code	Title	Hours
At least one of these:		
EPLS:5240	Topics in Education (when topic is critical conversations)	3
EPLS:6242	Research for Effective School Leaders	3
EPLS:6266	Program Evaluation	3
EPLS:6321	Social Advocacy Summit	1
EPLS:6329	Legislative Summit	1
EPLS:7432	Multicultural Initiatives	3

## Policy

Code	Title	Hours
At least one of these:		
EPLS:5123	History of Ethnic/Minority Education	3

EPLS:5126	Twentieth-Century Educational Movements	3
EPLS:5131	Race, Class, and Gender Inequalities in Education	3
EPLS:6222	Introduction to Educational Policy	3
EPLS:6239	LGBTQ History in Education	3
EPLS:6270	Policy and Politics	3
EDTL:7040	Advanced Topics in Teaching and Learning (when topic is disability studies perspectives in education)	3

For more information, contact the Department of Educational Policy and Leadership Studies.

# Online Teaching

## Interim Chair, Department of Psychological and Quantitative Foundations

- Saba R. Ali

## Coordinator, Online Teaching

- Kathy L. Schuh (Psychological and Quantitative Foundations)

**Graduate certificate:** online teaching

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/areas-study/continuing-education/certificates-and-endorsements/certificate-online-teaching>

The growth of online teaching presents a need to address course quality, instructor training, assessment of teaching effectiveness and student learning, and retention. The Certificate in Online Teaching is an online graduate program designed to prepare students for the realities of online teaching and to help them expand their career options.

The Certificate in Online Teaching is administered by the Department of Psychological and Quantitative Foundations [p. 1437] and is granted by the Graduate College.

## Programs

## Graduate Program of Study Certificate

- Certificate in Online Teaching [p. 1436]

# Online Teaching, Graduate Certificate

## Requirements

The graduate Certificate in Online Teaching requires 12 s.h. of graduate credit and is offered completely online. Students must maintain a g.p.a. of at least 2.50 in work for the certificate. Certificate courses must be taken on a graded basis.

The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students.

The certificate program develops students' skills in using technology to solve instructional problems associated with distance and time. The certificate's online format uses the techniques and approaches that the program teaches.

The Certificate in Online Teaching requires the following coursework.

<b>Code</b>	<b>Title</b>	<b>Hours</b>
PSQF:6205	Design of Instruction	3
PSQF:6211	Universal Design and Accessibility for Online Instruction	3
PSQF:6215	Online Instruction: Design and Facilitation	3
PSQF:6216	Tools and Utilities for Online Teaching	3

For more information, visit Certificate in Online Teaching on the College of Education website.

# Psychological and Quantitative Foundations

## Interim Chair

- Saba R. Ali

**Undergraduate minor:** educational psychology  
**Graduate degrees:** M.A. in psychological and quantitative foundations; Ed.S. in psychological and quantitative foundations; Ph.D. in psychological and quantitative foundations

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/about/administration/department-psychological-and-quantitative-foundations>

The Department of Psychological and Quantitative Foundations offers programs in these areas: counseling psychology, couple and family therapy, educational measurement and statistics, educational psychology, learning sciences, and school psychology. These programs have two general goals: to help students acquire the knowledge and skills that are necessary to function effectively in settings that require the application of psychological and quantitative principles, and to extend knowledge and understanding of the teaching/learning process as it occurs in a variety of settings. The department's degree programs incorporate both goals, but the Master of Arts and Specialist in Education programs emphasize the first goal, and the Doctor of Philosophy programs emphasize the second.

The department offers graduate degree programs in the following major areas within psychological and quantitative foundations:

- counseling psychology (offered in the Ph.D.);
- couple and family therapy (offered in the Ph.D.);
- educational measurement and statistics (offered in the M.A. and Ph.D.);
- educational psychology (offered in the Ph.D.);
- learning sciences (offered in the M.A.); and
- school psychology (offered in the Ed.S. and Ph.D.).

In addition to the graduate degrees and the undergraduate minor offered as programs of study, the department offers the following College of Liberal Arts and Sciences GE CLAS Core [p. 20] courses: PSQF:1020 Elementary Statistics and Inference, approved for the Quantitative or Formal Reasoning area; and PSQF:2115 Introduction to Counseling Psychology, approved for the Social Sciences area.

Applicants for admission to the graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Programs

### Undergraduate Program of Study Minor

- Minor in Educational Psychology [p. 1446]

## Graduate Programs of Study Majors

- Master of Arts in Psychological and Quantitative Foundations [p. 1447]
- Specialist in Education in Psychological and Quantitative Foundations [p. 1450]
- Doctor of Philosophy in Psychological and Quantitative Foundations [p. 1451]

## Courses

Students may receive credit for only two of these three courses: STAT:1010 Statistics and Society, STAT:1020 Elementary Statistics and Inference (same as PSQF:1020 Elementary Statistics and Inference), and STAT:1030 Statistics for Business. Credit for STAT:1010 is given only if the course is taken before STAT:1020 (same as PSQF:1020) or STAT:1030.

## Psychological and Quantitative Foundations Courses

**PSQF:1020 Elementary Statistics and Inference 3 s.h.**  
 Graphing techniques for presenting data, descriptive statistics, correlation, regression, prediction, logic of statistical inference, elementary probability models, estimation and tests of significance. Requirements: one year of high school algebra or MATH:0100. GE: Quantitative or Formal Reasoning. Same as STAT:1020.

**PSQF:1027 Mindfulness Foundations in the Helping Professions 3 s.h.**  
 Training in Mindfulness-Based Practices; application to personal and professional life.

**PSQF:1029 First-Year Seminar 1 s.h.**  
 Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

**PSQF:1039 Undergraduate Excellence Seminar 1 s.h.**  
 Designed to enhance student's ability to successfully navigate the undergraduate experience by providing an opportunity to develop new skills and behaviors, as well as reflect on attitudes, in order to achieve academic and personal success.

**PSQF:1050 Learning Online Successfully 2 s.h.**  
 Experiences in an online environment and opportunities to engage with digital materials for learning to develop skills and strategies for future classes; assess resources for successful online learning, participate in a variety of online learning environments including online discussions and collaborations, develop strategies for reading and marking digital materials, managing time for working and studying online, and plan for future courses that may be online or include digital course materials.

**PSQF:1075 Educational Psychology and Measurement 3 s.h.**  
 Principles and classroom applications of cognitive and social development, learning and cognition, motivation, and assessment.

**PSQF:2115 Introduction to Counseling Psychology 3 s.h.**  
 Historical and philosophical foundations of counseling psychology; theories, application, and work of counseling psychologists. GE: Social Sciences.

- PSQF:2116 Applied Child and Adolescent Psychology** 3 s.h.  
Overview of child and adolescent development, psychopathology, and basic-level intervention; foundation for working in applied child and adolescent mental health settings; typical areas of psychological difficulty, including developmental disorders, ADHD, depression, anxiety, substance use; contextual and environmental factors, including abuse, poverty, neglect.
- PSQF:3028 Mindfulness for Educators: Psychological Foundations, Applications, and Practices** 1-2 s.h.  
Exploration of research-based implications for teaching, learning, and daily living; skillful engagement of demands educators face in personal and professional lives; mindfulness as paying attention in present moment and relating wisely to what is occurring; specific mindfulness practices that integrate awareness into daily living; how research and program evaluations throughout the world document that consistent practice of mindfulness improves attention and concentration; ability to respond skillfully to stress, self-regulation of emotion, physical and mental health, communication, life satisfaction.
- PSQF:3075 Brain Behavior** 3 s.h.  
Course is applied in nature, so that students not only learn brain behavior and anatomy, but also learn how these are directly related to neurological and neurobehavioral disorders; helps to understand the biological aspects of disorders that are needed to treat in practice settings; for students in applied psychology or other applied programs of study. Prerequisites: PSY:2701 and PSQF:2115 with a minimum grade of C-.
- PSQF:3103 Early Childhood Guidance** 4 s.h.  
Effective communication, understanding child development and behavior, appropriate limits and rules, structuring problem solving and consequences, fostering self control, organizing classroom environment and curriculum to support child behavior, methods to address persistent and challenging behaviors; nurturance and child guidance via parenting, child rearing practices, and child-family relations.
- PSQF:3104 Multicultural Issues in Counseling and Psychology** 3 s.h.  
Introduction to multicultural competencies and its importance to counseling, psychology, and helping professions; psychological concepts and research pertaining to privilege; racism, race, culture, sexual orientation, social class and classism, and their application in culturally adapted psychotherapy interventions; how these matters and other cultural identities and constructs are handled and used in applied psychology and counseling; focus on intersection of research and practice.
- PSQF:3191 Asian American Experiences** 3 s.h.  
Aggregate experiences of Asian Pacific Americans, starting from developments in countries of origin to their contemporary issues; histories of various Asian Pacific American groups (e.g., Chinese, Korean, Filipino, Japanese, Asian Indian, Hawaiians, Vietnamese, etc.), as well as culture, politics, the media, and stereotypes; similarities among the different Asian Pacific American groups, as well as a comparative look at how African, Latino, and Native American experiences help shape and contribute to Asian Pacific America.
- PSQF:3333 Special Topics in Psychological and Quantitative Foundations** arr.  
Topics related to psychological and quantitative foundations.
- PSQF:3700 Introduction to Understanding Trauma and Resilience** 3 s.h.  
Introduction to understanding key concepts of trauma-informed systems of care in multiple settings; identification of various types of trauma along with behaviors and responses seen in survivors of trauma; students trace effects of historical trauma of marginalized communities and multiple trauma survivor groups to understand the consequences of trauma and its impact in the culture; resilience and strategies to offset consequences of trauma. Same as SSW:3700.
- PSQF:4106 Child Development** 3 s.h.  
Theories and research findings about typical course of child development, differences in development. Requirements: junior standing.
- PSQF:4111 Human Motivation** 3 s.h.  
Principles of motivation and their application to applied settings, especially to the classroom as teachers try to motivate students. Requirements: junior standing.
- PSQF:4120 Psychology of Giftedness** 3 s.h.  
Theories of learning, child development, motivation; issues unique to gifted education. Same as CSED:4120.
- PSQF:4121 Identification of Students for Gifted Programs** 3 s.h.  
Interpretation of standardized tests and other measurement instruments used to identify academic talent and program effectively for grades K-12; ability, aptitude, achievement tests; current issues in the uses of various instruments. Same as CSED:4121.
- PSQF:4122 Math Programming for High Ability Students** 1 s.h.  
Unique challenges and opportunities confronted by teachers of high-ability students; theory and practice, development of program outlines for implementation. Same as EDTL:4022.
- PSQF:4123 Academic Acceleration: Providing Excellence and Equity in Education for High Ability Students** arr.  
Acceleration as an effective curricular intervention for high-ability students; forms of acceleration, research evidence for acceleration, and process of implementing acceleration; reasons for persistent negative attitudes about acceleration; advocacy for acceleration; skills for effective practice and implementation. Requirements: computer with internet access, sound card, Adobe Reader, and Adobe Flash Player.
- PSQF:4125 Counseling and Psychological Needs of the Gifted** 1 s.h.  
Psychological aspects of giftedness, counseling techniques appropriate for gifted children, adolescents; socio-emotional concerns, career development, underachievement. Same as CSED:4125.
- PSQF:4126 Cognitive and Affective Needs of Underachieving Gifted** 1 s.h.  
Diagnostic strategy for identifying types of underachievement, teaching and counseling interventions appropriate for each. Same as CSED:4126.
- PSQF:4128 Neuroscientific Implications for Gifted** 1 s.h.  
Neurology of behavior and neurodegenerative disease; the psychology of learning and memory, its application to gifted education.
- PSQF:4129 Creativity: Issues and Applications in Gifted Education** 1 s.h.  
Theories that underpin contemporary definitions of creativity; instruments developed to measure creativity; activities in the school environment that enhance or inhibit student creativity. Same as CSED:4129.

- PSQF:4130 Early Adolescent Development** 3 s.h.  
Psychological growth and development of the early adolescent (ages 10-14), including the physical, cognitive, social, emotional, and sexual development of the middle-school aged child.
- PSQF:4133 The Adolescent and Young Adult** 3 s.h.  
Psychological and social aspects of adolescence and young adulthood; emphasis on theory, research, and practical applications.
- PSQF:4134 Parent-Teacher Communication** 1-3 s.h.  
Realities of working with parents; interpersonal skills; options for parent support services. Same as EDTL:4934.
- PSQF:4136 Home/School/Community Partnerships** 3 s.h.  
Issues related to collaboration among families, educators, community members in implementing school programs. Same as EDTL:4936.
- PSQF:4143 Introduction to Statistical Methods** 3 s.h.  
Analysis, interpretation of research data; descriptive statistics; introduction to probability, sampling theory, statistical inference (binomial, normal distribution, t-distribution models); linear correlation, regression. Same as STAT:4143.
- PSQF:4145 Marriage and Family Interaction** 3 s.h.  
Contemporary American couple, marriage, and family relationships; mate selection. Same as CSED:4145.
- PSQF:4150 Introduction to Educational Measurement** 3-4 s.h.  
Test development procedures, reliability, validity, item writing, evaluation of item and test characteristics; classroom assessment methods; interpretation of scores from standardized achievement and aptitude tests; no background in statistics assumed.
- PSQF:4162 Introduction to Couple and Family Therapy** 3 s.h.  
Evolution of the family therapy movement and issues related to functional and dysfunctional family systems; significant models of family therapy and specific techniques. Same as CSED:4162.
- PSQF:4281 Cognitive Principles for How People Learn** 3 s.h.  
Survey of contemporary cognitive science; history, intellectual tools, and utility in life and applied settings (e.g., teaching, research, industry, government).
- PSQF:4520 Bayesian Statistics** 3 s.h.  
Bayesian statistical analysis, with focus on applications; Bayesian and frequentist methods compared; Bayesian model specification, choice of priors, computational methods; hands-on Bayesian data analysis using appropriate software; interpretation and presentation of analysis results. Prerequisites: STAT:3200 and (STAT:3101 or STAT:4101 or STAT:3120). Same as IGPI:4522, STAT:4520.
- PSQF:4740 Issues in K-12 Assessment** 3 s.h.  
Examination of research, policies, and practices related to classroom and large-scale educational assessment; focus on use and construct of formative and summative assessments for classroom teaching and basics of educational measurement; coverage of educational assessment including development of plans that integrate teaching and assessment; use of formative assessment strategies and providing effective feedback to students; crafting objective, performance, and portfolio assessments; evaluation of students; interpretation of state-mandated tests and standardized achievement tests.
- PSQF:4750 Learning Environments: Design, Context, and Activity** 3 s.h.  
Students explore the design of learning environments and the kinds of activities that take place there; includes a general background on design of learning environments; emphasis on project- and problem-based learning (considered to be keys to 21st-century learning), media inclusion, and how teacher facilitation/questioning and cooperative learning are foundational for success.
- PSQF:4760 Participatory Learning and Media: Creating, Remixing, Making, and Education** 3 s.h.  
Teaching and learning with 21st-century digital media; pedagogical approaches characterized by participatory learning that expands and blurs boundaries of the classroom; remixing educational, social, and entertainment-based media toward pedagogical ends that meet instructional goals; engagement with social media, web-based video, interactive media, podcasts, games, and simulations.
- PSQF:4910 Theories of Family Development** 3 s.h.  
Overview of historical and contemporary theories across disciplines about family development and family relationships; examination of family as a context for relationships between partners and between parents and children across the life course; evaluation of research on family system (e.g., coupling, "doing" gender, parenting, work and family balance, family transitions, economic hardship).
- PSQF:5150 Introduction to Counseling and Skills** 3 s.h.  
Introduction to the field of counseling and psychology; provides students with clinical foundational skills; students explore the counseling process, how to conduct interviews, and how to integrate theory into their assessment and clinical work; introduction to basic concepts of working relationship and alliance, common factors, and interventions; practice provides students with experiences needed to understand concepts.
- PSQF:5151 Health and Wellness Counseling Psychology** 3 s.h.  
Introduction to the concepts of health psychology and wellness in counseling and psychology; focus on psychological, biological, and ecological factors impacting health and wellness in multiple cultural contexts; research on psychological and holistic interventions, prevention strategies for clients across the lifespan.
- PSQF:5152 Assessment and Diagnosis** 3 s.h.  
Group and individual appraisal techniques used to support career, educational, and personal planning and development; exploration of standardized and non-standardized data and information gathering methods, validity, reliability, psychometric statistics, factors influencing appraisals, use and interpretation of appraisal results with varied populations; assessment techniques and interviews connected to psychological diagnosis through standardized diagnostic frameworks, such as the DSM and ICD.
- PSQF:5165 Introduction to Program and Project Evaluation** 3 s.h.  
Skills and knowledge required for conducting evaluations of products, projects, and programs; recent scholarship on evaluation and project management. Same as EPLS:5165.
- PSQF:5193 Special Readings and Projects** arr.  
Supervised individual study. Requirements: senior standing.
- PSQF:5194 Continuing Education Individual Study** arr.  
Supervised individual study.

- PSQF:5199 Topical Workshop in Psychological and Quantitative Foundations** **arr.**  
School, educational, and counseling psychology and allied disciplines; for professionals and graduate students in education, mental health, social services, related fields.
- PSQF:5219 Foundations of Health Service/School Psychology** **3 s.h.**  
Introduction to health service/school psychology; becoming competent leaders in health service in community settings; roles and functions of psychologists in health service; ethical standards, issues, and professional practices related to health service psychology; legal issues; current topics and trends.
- PSQF:5226 Assessment of Giftedness** **3 s.h.**  
Training and practice in assessment of gifted children. Same as CSED:5226.
- PSQF:5262 Advanced Couple and Family Therapy** **3 s.h.**  
Review and critique couple and family therapy theory, ethics, and techniques as applied to problems of couple and family over the life span; multicultural considerations. Requirements: advanced graduate standing. Recommendations: PSQF:4162.
- PSQF:5265 Research Methods in Couple and Family Therapy** **3 s.h.**  
Review and analysis of pertinent literature in area of research methods in couple and family therapy; exploration of stages of clinical trials and the process of federal funding of intervention research in couple and family therapy and family psychology; commonly used research methods in couple and family therapy reviewed and critically analyzed; students use these methods to survey research literature in top journals of the field.
- PSQF:5900 Psychometrics** **1-3 s.h.**  
Psychometric theory and techniques associated with development, interpretation, and evaluation of tests and measures; psychometric principles necessary for test inference, validation, construction, and use.
- PSQF:6200 Educational Psychology** **3 s.h.**  
Psychology of the learning/instruction process: theoretical perspectives on learning, instruction, motivation, and assessment; developmental concepts, social processes, individual variation, learning and technology, biological basis of learning.
- PSQF:6203 Tools and External Representations in Individual and Social Learning** **3 s.h.**  
Theories and approaches to research and practice regarding the use of technology and scientific representations in teaching and learning; historical, cultural, cross-species, and contemporary informal lenses applied to understanding human knowledge as it interacts with tools and how tools mediate thinking and learning; project to design a technology-supported learning solution for a problem related to teaching and learning.
- PSQF:6204 Foundations of the Learning Sciences** **3 s.h.**  
Foundations of interdisciplinary science of learning; theory and method of study of cognition in sociocultural context; design-based approaches to research on learning; history of several key concepts traced to determine origins; how contemporary literature is situated in this intellectual history.
- PSQF:6205 Design of Instruction** **3 s.h.**  
Introduction to processes used to design, develop, implement, and evaluate effective instruction; projects.
- PSQF:6206 Advanced Child Development** **3 s.h.**  
Theories of social and cognitive development; in-depth study of several current issues in the field.
- PSQF:6208 Digital Media and Learning** **3 s.h.**  
Theory, design, and evaluation of instructional media.
- PSQF:6209 Survey Research and Design** **3 s.h.**  
Survey design and implementation; writing and evaluation of survey questions; error in survey research; techniques to reduce error; sampling; postcollection processing of survey data. Prerequisites: EPLS:6206 or PSQF:4143. Same as EPLS:6209.
- PSQF:6211 Universal Design and Accessibility for Online Instruction** **3 s.h.**  
Universal Design for Learning (UDL) framework; introduction to accessibility for online learning environment; use of UDL with any curriculum to provide more students with access to learning, including online learning environment.
- PSQF:6213 Advanced Lifespan Development** **3 s.h.**  
Selected theories and research in development across the lifespan; focus on relevance for instruction and counseling.
- PSQF:6214 Design of Learning Environments: Theory, Practice, and Method** **3 s.h.**  
Theory, practice, and research method of the design of learning environments; broadly conceived understanding of technology-based learning environments; includes a semester-long project to design or evaluate the design of a learning environment, technology-based or otherwise.
- PSQF:6215 Online Instruction: Design and Facilitation** **3 s.h.**  
Theory and practice of designing and facilitating online learning environments to support or deliver instruction; student project to create an instructional online environment that draws on the theory and principles of online learning and instructional design.
- PSQF:6216 Tools and Utilities for Online Teaching** **3 s.h.**  
Guidance for future online teachers in making well-informed decisions on what technologies need to be adopted and applied for high quality, successful online educational programming in a variety of environments (e.g., K-12, higher education, business and industry); choosing, learning, evaluating, and using different types of technologies to produce online instruction; how to learn; initiating and managing learning and professional development for effective online teaching. Corequisites: PSQF:6205, if not taken as a prerequisite.
- PSQF:6217 Seminar in College Teaching** **1-3 s.h.**  
Preparation for college teaching; for graduate students planning to teach. Same as GRAD:6217.
- PSQF:6220 Quantitative Educational Research Methodologies** **3 s.h.**  
Procedures for planning, conducting, and reporting research; evaluation of current methods in educational research; quantitative designs and methods. Prerequisites: PSQF:4143 or STAT:4143.
- PSQF:6223 Introduction to Counseling Psychology Practice/Research I** **3 s.h.**  
Historical, theoretical, professional, scientific traditions associated with counseling psychology; professional ethical principles.
- PSQF:6225 Introduction to Counseling Psychology Practice/Research II** **3 s.h.**  
Learning and performance of basic helping skills; integration of these skills with counseling theories, broader counseling strategies; laboratory-based.



- PSQF:6230 Research in Educational Psychology 1-3 s.h.**  
Design, implementation, and presentation of an educational psychology empirical research project. Requirements: graduate standing in educational psychology.
- PSQF:6233 Ethics for Behavioral Psychologists 1 s.h.**  
Ethics that are unique to applied behavior analysis; ethical considerations.
- PSQF:6235 Multicultural Counseling 3 s.h.**  
Theoretical and practical aspects of the cultural adaptation process; implications for interventions in diverse populations; issues. Requirements: counseling skills introductory course.
- PSQF:6238 Assessment of Learning Differences 3-4 s.h.**
- PSQF:6241 Quantitative Policy Analysis for Practitioners 3 s.h.**  
Introduction to applied research and statistics with focus on understanding quantitative research, data collection and analysis, and reporting results for decision making.
- PSQF:6242 Selected Applications of Statistics 3 s.h.**  
Application and interpretation of correlation techniques, chi-square, t- and f-tests, interval estimation, simple cases of analysis of variance. Prerequisites: PSQF:4143.
- PSQF:6243 Intermediate Statistical Methods 3 s.h.**  
Statistical inference and uncertainty estimation using general linear models (i.e., linear regression, analysis of variance); interpreting and conveying statistical results. Requirements: for PSQF:6243—PSQF:4143; for STAT:6513—STAT:4143. Same as STAT:6513.
- PSQF:6244 Correlation and Regression 4 s.h.**  
Correlation techniques; selected bivariate procedures, multiple, partial, curvilinear correlation; multiple linear regression; sampling theory applied to regression analysis and correlation coefficients; simple causal models. Requirements: for PSQF:6244—PSQF:6243; for STAT:6514—STAT:6513. Same as STAT:6514.
- PSQF:6246 Design of Experiments 3 s.h.**  
Theory and methods in the planning and statistical analysis of experimental studies; testing of hypotheses about linear contrasts among means in single-factor and multifactor, completely randomized, and repeated measurement designs. Requirements: for PSQF:6246—PSQF:6243; for STAT:6516—STAT:6513. Same as STAT:6516.
- PSQF:6247 Nonparametric Statistical Methods 3 s.h.**  
Selected nonparametric methods; one- and two-sample location tests and estimation methods, measures of association, analyses of variance; emphasis on relationships to classical parametric procedures. Same as STAT:6547.
- PSQF:6248 Research Synthesis and Meta-Analysis 3 s.h.**  
Rationale and methods for research synthesis and meta-analysis; conceptual issues in quantitative research synthesis in the social sciences and other disciplines, including medicine; thorough understanding of concept of sampling distribution is needed to understand the statistical methods introduced. Prerequisites: PSQF:6246 or PSQF:6244.
- PSQF:6249 Factor Analysis and Structural Equation Models 3 s.h.**  
Foundations of exploratory and confirmatory factor analysis methods; least squares and maximum likelihood approaches; problems in factor extraction, rotation, interpretation; structural equation models via LISREL; assumptions and limitations of alternative approaches. Prerequisites: PSQF:6244 and PSQF:6246.
- PSQF:6250 Computer Packages for Statistical Analysis 1-3 s.h.**  
Computer programs and systems designed to execute statistical analysis (SAS, SPSS, BMDP, and others); lectures on regression techniques, analysis of variance, multivariate techniques; practice in entering data, calling up desired programs, interpreting computer output. Prerequisites: PSQF:6243. Requirements: elementary knowledge of computer programming.
- PSQF:6252 Introduction to Multivariate Statistical Methods 3 s.h.**  
Selected topics in multivariate analysis, including multivariate significance tests, principal components and factor analysis, discriminant analysis, canonical correlation, multivariate analysis of variance (MANOVA). Prerequisites: PSQF:6244 and PSQF:6246.
- PSQF:6254 Causal Inference and Observational Designs 3 s.h.**  
Conceptual and technical issues in the design of observational and quasi-experimental studies in natural settings and the appropriate analysis of data for making causal inferences. Requirements: PSQF:6220 and PSQF:6244 and PSQF:6246.
- PSQF:6255 Construction and Use of Evaluation Instruments 3 s.h.**  
Design and construction of measures used in educational evaluation: achievement tests, attitude scales, performance measures, questionnaires; emphasis on methods of instrument development and evaluation of instrument characteristics. Prerequisites: PSQF:4143 and PSQF:6257.
- PSQF:6257 Educational Measurement and Evaluation 3 s.h.**  
Evaluation and use of standardized tests and inventories in individual and group assessment; analyzing reliability, validity, normative data; interpreting measures of achievement, intelligence, aptitude, interests, attitudes, personality; current issues; for counselors, administrators, teachers, measurement specialists. Corequisites: PSQF:4143.
- PSQF:6258 Theory and Technique in Educational Measurement 3 s.h.**  
Mathematical foundations, principal results, and applications of classical test theory; perspectives on conditional error variance; binomial error model and applications; introduction to generalizability theory; advanced measurement topics. Prerequisites: PSQF:6243 and PSQF:6257.
- PSQF:6259 Scaling Methods 3 s.h.**  
Unidimensional and multidimensional scaling techniques; item response theory with a focus on polytomous models; introduction to available computer programs for scaling; applications in educational and psychological research. Prerequisites: PSQF:6262. Corequisites: PSQF:6249 and PSQF:6252.
- PSQF:6260 Diagnostic Assessment 3 s.h.**  
Model-based approaches to providing diagnostic information about test takers along with implications for design of diagnostic assessments; primary focus on how psychometric models can be used with diagnostic subscores to provide reliable information that can be used in educational curricula. Prerequisites: PSQF:6243 and (PSQF:6258 or PSQF:6262).
- PSQF:6262 Item Response Theory 3 s.h.**  
Theoretical foundations and practical applications; mathematical models and estimation techniques; emphasis on current applications and issues in testing; computer estimation programs. Prerequisites: PSQF:6243 and PSQF:6257.

- PSQF:6263 Consultation Theory and Practice** 3 s.h.  
Review of concepts and practice of consultation and collaboration in educational and human services settings; focus on mental health, organizational, behavioral, and instructional models. Same as CSED:6263.
- PSQF:6265 Program Evaluation** 3 s.h.  
Theoretical issues and considerations in evaluation of educational and social programs; evaluation design, methodology; metaevaluation; evaluation utilization. Same as EPLS:6266.
- PSQF:6270 Generalized Linear Models** 3 s.h.  
Applied treatment of generalized linear models for predicting non-normal outcomes (e.g., binary, ordinal, nominal, count, zero-inflated, skewed responses); univariate models for single outcomes, multivariate models using path analysis; may include additional topics (e.g., quantile regression). Recommendations: PSQF:6243 and familiarity with general linear models for cross-sectional data (multiple linear regression, analysis of variance).
- PSQF:6271 Longitudinal Multilevel Models** 3 s.h.  
Applied treatment of analysis of longitudinal data using framework of multilevel models (e.g., general linear mixed models, hierarchical linear models); general linear models, repeated measures analysis of variance, alternative covariance structures, fixed and random effects of time within linear and nonlinear models of change, and time-invariant predictors; may include advanced topics (e.g., models for non-normal outcomes, time-varying predictors). Recommendations: PSQF:6243 and familiarity with general linear models for cross-sectional data (multiple linear regression, analysis of variance).
- PSQF:6272 Clustered Multilevel Models** 3 s.h.  
Applied treatment of analysis of clustered data using framework of multilevel models (e.g., generalized linear mixed models, hierarchical linear models); general linear models, fixed and random effects within linear and nonlinear models (for non-normal outcomes), and use of nested or crossed sources of sampling; may include advanced topics (e.g., three-level models). Recommendations: PSQF:6243 and familiarity with general linear models for cross-sectional data (multiple linear regression, analysis of variance).
- PSQF:6275 Constructivism and Design of Instruction** 3 s.h.  
Theoretical foundations of constructivism; application of constructivist principles to the design of instruction.
- PSQF:6281 Cognitive Theories of Learning** 3 s.h.  
Theories of cognition as they relate to learning, education, and changes in individual thinking, behavior, and identity; development of expertise; mental representations and psychological mechanisms; design of cognitive assessments and learning tasks; focus on learning in academic disciplines, clinical contexts, and game-based environments.
- PSQF:6292 Supervised Research in Educational Psychology** 1-3 s.h.  
Identification of research problems, development of research designs and materials, conducting of research studies; faculty-guided activity or seminars.
- PSQF:6293 Individual Instruction in Psychological and Quantitative Foundations** arr.  
arr.
- PSQF:6299 M.A. Project: Portfolio/Internship/Practicum** 1-3 s.h.  
Individual portfolio/internship/practicum project; reflection, revision, and presentation of educational psychology portfolio.
- PSQF:6312 Psychopathology Across the Lifespan** 3 s.h.  
DSM IV categories, related diagnostic issues.
- PSQF:6417 Introduction to Postsecondary STEM Teaching** 1,3 s.h.  
Introduction to teaching and learning theory and practice; readings and discussions facilitate research-based teaching practices in science, technology, engineering, and math (STEM) classrooms; connection of theories to principles of course and lesson design to support effective teacher practices and student learning; for students in STEM disciplines.
- PSQF:7201 Counseling Psychology Research Writing** 3 s.h.  
How to write scientifically in counseling psychology; qualitative and quantitative research writing, literature reviews, methodologies, discussions; APA style.
- PSQF:7225 Introduction to Health Service/School Psychology Practice** 1-3 s.h.  
Introduction to practice of health service/school psychology; framework for understanding role and function, legal and ethical boundaries, professional requirements; preparation for practicum.
- PSQF:7237 Beginning Practicum in School Psychological Service** arr.  
Supervised practicum in psychological and educational evaluation in school settings. Prerequisites: PSQF:6238.
- PSQF:7255 Autism Spectrum Disorders** 2 s.h.  
Overview of autism spectrum disorders (ASDs), including autistic disorder, Asperger's disorder, other pervasive developmental disorders; ASD diagnoses and their etiology; tools used in assessing individuals with ASDs; common interventions for ASDs; resources for work with individuals who have ASDs.
- PSQF:7270 Scholarly Integrity and Responsible Conduct of Educational Research and Evaluation** arr.  
Students are introduced to and deepen their knowledge and skill in applying principles for the responsible conduct of educational research and evaluation and related social sciences; two modules addressing core areas identified by federal policy as minimal requirements for knowledge and skill in practice of research with scholarly integrity; format is discovery and discussion—presentation of background information for each topic is followed by discussion of case studies and other examples relevant to each topic; for research assistants.
- PSQF:7305 Psychotherapy I: Dynamic and Phenomenological Approaches** 3 s.h.  
Major psychodynamic and existential-phenomenological theories of personality; emphasis on implications for psychotherapy.
- PSQF:7306 Psychotherapy III: Work Psychology and Career Interventions** 3 s.h.  
Foundations of career interventions; emphasis on major assessment instruments (vocational interests, values, abilities/skills, personality) and career counseling processes, skills, techniques.
- PSQF:7309 Personality Assessment** 3 s.h.  
Standardized and projective techniques for personality assessment; preparation for competent administration and interpretation of varied tests and measures.
- PSQF:7310 Intelligence Assessment** 3 s.h.  
Standardized intelligence testing; preparation to administer and interpret intelligence tests for children and adults.

- PSQF:7313 Psychopathology in Childhood** 3 s.h.  
Current theories regarding the development of psychopathology in children and adolescents; current approaches to treatment for disorders in children and adolescents.
- PSQF:7315 Social and Emotional Assessment of Children and Adolescents** 3 s.h.  
Link between personality theory, child and adolescent assessment; interpretation, integration of assessment information; record reviews, interviews, objective tests, projective techniques. Prerequisites: PSQF:6238.
- PSQF:7320 History and Systems of Psychology** 3 s.h.  
Philosophical underpinnings of psychology, early systems in psychology, developments in the 20th century.
- PSQF:7331 Qualitative Educational Research Methods** 3 s.h.  
Introduction to concepts, methods, and issues in qualitative research in educational settings; exploration of how qualitative methods can inform research in a field of interest and engage in collaboration and peer review.
- PSQF:7337 Advanced Practicum in School Psychology** arr.  
Supervised experience in psychological interventions, consultation, counseling in school and clinic settings. Prerequisites: PSQF:6238 and PSQF:7237.
- PSQF:7342 Research Project in School Psychology** arr.  
Experience in research facilities on campus; writing research questions, planning a research study, writing a research article.
- PSQF:7344 Academic Interventions** 3 s.h.  
Interventions used by school and support system personnel to address academic skill deficits among children and adolescents; instructional design and delivery problems associated with deficits.
- PSQF:7346 Behavioral Interventions** 3 s.h.  
Interventions used by school and support system personnel to address behavioral and social/emotional status of children, adolescents.
- PSQF:7347 Home/School/Community: System Interventions** 3 s.h.  
Interventions used by school and support system personnel; focus on work with parents, siblings. Same as CSED:7347.
- PSQF:7350 Seminar in Evaluation** 2-3 s.h.  
In-depth examination of selected topics. Prerequisites: PSQF:5165 or EPLS:5165 or PSQF:6265 or EPLS:6266. Requirements: two courses in program evaluation.
- PSQF:7352 Seminar: Behavioral Assessment and Evaluation** 3 s.h.  
Broadens skills of graduate students who engage in research with exceptional persons; research designs are usually taught in the Department of Psychological and Quantitative Foundations, but because of the nature of handicapping conditions and the low incidence of some handicaps, the single-subject design yields better research information. Same as EDTL:7952.
- PSQF:7354 Seminar: Experimental Approaches in Counseling Research** arr.  
Application of experimental methodology to study of counseling and vocational phenomena.
- PSQF:7355 Seminar: Educational Measurement and Evaluation** arr.  
Critical examination of current issues and problems of the professional worker in the field of educational measurement and evaluation as reflected in research literature, other professional communication media.
- PSQF:7356 Process and Outcomes in Counseling Psychotherapy** 3 s.h.  
Advanced knowledge of the state of process and outcome research on psychotherapeutic procedures. Requirements: Ph.D. candidacy in appropriate field.
- PSQF:7358 Equating and Scaling of Educational Tests** 3 s.h.  
Designs and methods, including linear, equipercentile, and item response theory methods; emphasis on concepts, applications to testing programs, research. Prerequisites: PSQF:6243 and PSQF:6257.
- PSQF:7361 Advanced Practicum in Couple and Family Therapy** 1-3 s.h.  
Opportunity to accumulate client contact and supervision hours towards graduation and licensure; conceptual and executive skills, observational skills and abilities to work as a member of a therapeutic team, awareness of how personal growth and development as a therapist impacts work with clients, comfort and motivation to learn multiple training levels provided, creation of collaborative and supportive atmosphere on all practicum levels. Requirements: enrollment in couple and family therapy program.
- PSQF:7365 Theories of Psychotherapy** 3 s.h.  
Major psychotherapy theories with emphasis on empirically validated theories used in clinical practice.
- PSQF:7367 Social Psychology and Social Systems** 3 s.h.  
Social aspects of behavior in organizations; behavioral science theory and research on organizations, system change, transformation, leadership.
- PSQF:7371 Seminar in Learning Sciences and Educational Psychology** arr.  
Intensive investigation of a specific research topic.
- PSQF:7375 Topics in Educational Measurement and Statistics** 1-3 s.h.
- PSQF:7380 Practicum in College Teaching** arr.  
Supervised college teaching experience in courses related to major academic areas, in collaboration with faculty course instructors.
- PSQF:7385 Teaching and Learning in Higher Education** 3 s.h.  
Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as CSED:7385, EDTL:7385, EPLS:7385, GRAD:7385.
- PSQF:7388 Family Development** 3 s.h.  
Overview of research relating to family development, family structure, and cultural/ethnic diversity; how research can be applied to clinical practice; focus on strengths and challenges of families with varying structures, cultural dimensions in family functioning, developmental perspectives on family functioning, and how these factors can advance family systems based on research and practice.

- PSQF:7389 Seminar in Couple Intervention Research** 3 s.h.  
Overview of couple intervention and outcome research; focus on evidence-based couple therapies (i.e., Emotionally Focused Couple Therapy, Behavioral Couple Therapy, work of John Gottman); research addressing effectiveness and efficiency of couple interventions in treatment of couple distress issues highly comorbid with distress, including review of mental and physical health problems; research addressing factors associated with treatment outcomes.
- PSQF:7390 Supervision of School Psychology Practicum/Internship** arr.  
Experience supervising school psychology practicum or internship students. Requirements: Ph.D. standing.
- PSQF:7393 M.A. Thesis in Psychological and Quantitative Foundations** arr.
- PSQF:7394 Supervised Research in Counseling Psychology** 1-3 s.h.
- PSQF:7395 Social Context and Family Research** 3 s.h.  
Review and analysis of pertinent research surrounding social contexts in which families live; specific focus on reviewing and critically analyzing decade reviews and current advancements in family research; students evaluate how research surrounding social context and family research is relevant to the practice of couple and family therapy.
- PSQF:7399 Supervision in Couple and Family Therapy** 3 s.h.  
Supervision of Master's-level couple and family therapy students; mentoring supervision received from supervision instructor; assignments reflect requirements for AAMFT Approved Supervisor designation; fulfills didactic requirement for AAMFT Approved Supervisor status. Requirements: enrollment in couple and family therapy program.
- PSQF:7404 Seminar in Child and Adolescent Intervention Research** 3 s.h.  
Review and analysis of pertinent literature and evidenced-based interventions for children and adolescents; focus on review and critical analysis of published outcome studies in areas of childhood and adolescent disorders; examination and critique of effective interventions that have undergone stages 1-3 clinical trials; active discussions of research findings for clinical implications. Prerequisites: PSQF:5262.
- PSQF:7434 Practicum in Counseling Psychology** 3 s.h.  
Supervised practice in counseling services. Prerequisites: PSQF:6223 and PSQF:6225.
- PSQF:7437 Internship in School Psychology** arr.  
Supervised internship for Ph.D. students in school psychology. Requirements: completion of required courses.
- PSQF:7450 Practicum in Program Evaluation** arr.  
Supervised experience in designing and implementing components of program evaluations. Prerequisites: PSQF:5165 or EPLS:5165 or PSQF:6265 or EPLS:6266. Requirements: two courses in program evaluation.
- PSQF:7452 Leadership, Consultation, and Supervision** 3 s.h.  
Overview of intervention modalities other than individual and group therapy, especially those that pertain to leadership within organizations, consultation with organizations and communities, and supervision of the work of others; capstone course in counseling psychology sequence. Prerequisites: PSQF:6223 and PSQF:6225.
- PSQF:7453 Advanced Practicum in Counseling Psychology** 1-3 s.h.  
Supervised work in counseling services. Prerequisites: PSQF:7434.
- PSQF:7455 Generalizability Theory** 3 s.h.  
Analysis of variance methods applied to estimation of components of various types of measurement error variance; basic concepts, mathematical foundations, models, assumptions, designs, applications; relationships with other measurement theories. Prerequisites: PSQF:6246 and PSQF:6258.
- PSQF:7457 Advanced Group Leadership Experience** 3 s.h.  
Practice working in a psychotherapy group; review major theories on group psychotherapy processes, integrate empirical research on effectiveness of group work; multicultural considerations in group psychotherapy; didactic and experiential format. Prerequisites: RCE:7357.
- PSQF:7458 Internship in Counseling Psychology** arr.  
Supervised work in internship setting. Prerequisites: PSQF:7434 and PSQF:7453. Requirements: Ph.D. standing in counseling psychology and completion of all requirements except dissertation.
- PSQF:7459 Seminar: Issues and Trends in Counseling Research** 4 s.h.  
Recent trends, including debates and findings in literature related to best practices for the profession. Same as CSED:7458.
- PSQF:7460 Seminar: Research in Counseling** 3 s.h.  
Methods, examples, ethics, multicultural issues, problems of counseling research. Requirements: Ph.D. enrollment. Same as CSED:7460.
- PSQF:7465 Issues and Ethics in Professional Psychology** 3 s.h.  
Professional ethics; issues in professional practice of psychology.
- PSQF:7470 Internship and Professional Issues** 3 s.h.  
Professional growth as clinician, internship application and interview processes, next steps in professional career, professional issues, interpersonal and counseling/professional competence, and goals for internship.
- PSQF:7476 Research in Educational Measurement and Statistics** 3 s.h.  
Opportunity to learn and discuss psychometric and statistical theories and methodologies not covered in regular courses; critical concepts and skills necessary to conduct psychometric and statistical research; for motivated students interested in conducting their own research in educational measurement and statistics. Prerequisites: PSQF:6243 and (PSQF:6258 or PSQF:6262).
- PSQF:7493 Ph.D. Thesis in Psychological and Quantitative Foundations** arr.
- PSQF:7500 Advanced Practical Experience in Couple and Family Therapy** 1-3 s.h.  
Supervised experience in professional couple and family therapy; clinical or academic field placement and seminar; required for couple and family therapy students. Requirements: successful completion of couple and family therapy program comprehensive examination.

**PSQF:7604 Scholarly Integrity and Responsible  
Conduct of Educational Research and Evaluation for  
Postdocs 0 s.h.**

Students are introduced to and deepen their knowledge and skills in applying principles for the responsible conduct of educational research and evaluation and related social sciences; two modules addressing core areas identified by federal policy as minimal requirements for knowledge and skill in practice of research with scholarly integrity; format is discovery and discussion—presentation of background information for each topic is followed by discussion of case studies and other examples relevant to each topic; for postdoc associates.

# Educational Psychology, Minor

## Requirements

The undergraduate minor in educational psychology requires 15 s.h., including at least 12 s.h. earned at the University of Iowa and 12 s.h. earned in courses numbered 3000 or above. Students must maintain a g.p.a. of at least 2.50 in all courses for the minor. Coursework in the minor may not be taken pass/nonpass. Transfer credit must be approved in order for it to count toward the minor. The minor is open to all students enrolled in an undergraduate degree program.

The minor provides an enriched background in educational psychology, educational testing, and research methods in education. Students earning the minor select a department advisor, who helps them choose appropriate coursework. It does not lead to certification for public school teaching.

Coursework for the minor in educational psychology must include 15 s.h. selected from the following list.

Code	Title	Hours
PSQF:1075	Educational Psychology and Measurement	3
PSQF:4106	Child Development	3
PSQF:4111	Human Motivation	3
PSQF:4120	Psychology of Giftedness	3
PSQF:4133	The Adolescent and Young Adult	3
PSQF:4134	Parent-Teacher Communication	1-3
PSQF:4143	Introduction to Statistical Methods	3
PSQF:4150	Introduction to Educational Measurement	3-4
PSQF:4750	Learning Environments: Design, Context, and Activity	3
PSQF:4760	Participatory Learning and Media: Creating, Remixing, Making, and Education	3
PSQF:5165	Introduction to Program and Project Evaluation	3

Contact the Office of Student Services for more information about the minor.

# Psychological and Quantitative Foundations, M.A.

## Learning Outcomes

Graduate students will:

- gain course specific knowledge and skills as required to perform well in their specialties (as demonstrated by completing their required courses in their specialty/major area with a g.p.a. of 3.00 or higher);
- demonstrate integrated substantive knowledge and skills that can be applied to solve novel professional-level problems (as demonstrated by completing their comprehensive examinations satisfactorily and by completing their thesis proposals with committee approval);
- demonstrate required clinical practice skills and researcher autonomy (as demonstrated by satisfactory completion of all required practicums and/or internships, and required thesis defenses/article submissions as appropriate for their degrees);
- demonstrate initial engagement with, and commitment to, professional ethics, professional development, lifelong learning, and service to the profession (as demonstrated by participation and engagement in the appropriate state, regional, and national organizations as appropriate for their degrees);
- demonstrate entry-level professional qualifications (as demonstrated by being qualified to take any licensing exams that are required for practice and/or employment); and
- be qualified for suitable employment or postdoctoral appointments upon graduation (as reported on annual Qualtrics surveys).

## Educational Measurement and Statistics

The Master of Arts program in psychological and quantitative foundations with an educational measurement and statistics subprogram requires a minimum of 30 s.h. of graduate credit with thesis and 32 s.h. of graduate credit without thesis. Students are expected to maintain a cumulative g.p.a. of at least 2.75.

The program provides students with basic knowledge of educational measurement and research methodology. Graduates find employment in large school systems, state departments of education, test publishing organizations, and research centers. The program also is appropriate for students who wish to broaden their knowledge of measurement and research methodology for personal development or professional improvement.

Students must complete a core of courses (approximately 26 s.h.) that includes a graduate-level survey course in educational psychology, elementary and intermediate courses in statistical methods, a course in quantitative educational research methodology, and courses in the development and use of evaluation instruments. Students who already have completed equivalent courses at another institution may add more advanced courses to the core.

Thesis students complete 4 s.h. of additional coursework beyond the core and 2 s.h. of thesis credit. Nonthesis students complete 6 s.h. of additional coursework beyond the core.

The six-hour comprehensive examination typically includes three-hour examinations in educational measurement and in applied statistics. With the approval of the M.A. committee, a student may take two-hour examinations in these fields plus a two-hour examination in educational psychology or a substitute area. Three-hour examinations assume a minimum of three courses in the area; two-hour examinations assume a minimum of two courses in the area.

## Admission

Applicants must meet the admission requirements of the Graduate College. They should have a combined verbal and quantitative score of at least 300 on the Graduate Record Examination (GRE) General Test. Completion of at least one college mathematics course and experience as a teacher or researcher are desirable. Applicants who do not meet these requirements but who show offsetting evidence of superior ability may be granted conditional admission.

Applicants must submit a statement of purpose that explains how the educational measurement and statistics subprogram will help them accomplish their educational and vocational goals.

For information about admission dates, contact the educational measurement and statistics program coordinator.

## Learning Sciences

The Master of Arts program in psychological and quantitative foundations with a learning sciences subprogram has a strong emphasis on how theory and research inform the understanding of learners, learning, instruction, and the technology and environments in which learning and instruction occur. The program requires a minimum of 30 s.h. of graduate credit. Students are expected to maintain a cumulative g.p.a. of at least 2.75. A thesis is not required.

The curriculum includes courses in the theories of the learning sciences, design of effective learning environments and technologies, and implementation of instructional design. Elective opportunities allow students to choose an interest area to develop a multidisciplinary specialization. Current areas include technology and media, learning in the disciplines, human development and motivation, and measurement and evaluation. The capstone experience of the program is an internship/practicum/portfolio that allows students to apply knowledge of the learning sciences in a context of interest. Students develop a program of study in consultation with their advisor.

Full-time students typically take at least 9 s.h. each semester, with the option of additional summer session work; they usually complete the program in four semesters. Part-time students take 3 to 6 s.h. each semester; they usually complete the degree in two or three years.

Students may apply substitute equivalent coursework from another institution or department for required or recommended courses.

The M.A. in psychological and quantitative foundations with a learning sciences subprogram requires the following coursework.

## Required Courses

Code	Title	Hours
All of these:		
PSQF:6200	Educational Psychology	3
PSQF:6203	Tools and External Representations in Individual and Social Learning	3
PSQF:6204	Foundations of the Learning Sciences	3
PSQF:6205	Design of Instruction	3
PSQF:6214	Design of Learning Environments: Theory, Practice, and Method	3
PSQF:6281	Cognitive Theories of Learning	3
PSQF:6299	M.A. Project: Portfolio/ Internship/Practicum	3
One of these:		
PSQF:6208	Digital Media and Learning	3
PSQF:6215	Online Instruction: Design and Facilitation	3

## Electives

Elective opportunities allow a student to choose an area of interest to develop a multidisciplinary specialization.

Students choose 6 s.h. from one of the following focus areas.

## Technology and Media

Code	Title	Hours
PSQF:4760	Participatory Learning and Media: Creating, Remixing, Making, and Education	3
PSQF:6211	Universal Design and Accessibility for Online Instruction	3
PSQF:6216	Tools and Utilities for Online Teaching	3
One of these, if not taken as a required course above:		
PSQF:6208	Digital Media and Learning	3
PSQF:6215	Online Instruction: Design and Facilitation	3

## Learning in the Disciplines

Code	Title	Hours
EDTL:4630	Psychology of Music	3
EDTL:5610	Foundations of Music Education Curricula	3
EDTL:6267	Seminar: Current Issues in Art Education	3
EDTL:6315	M.A. Seminar: English Education	3
EDTL:6483	Multilingual Education and Applied Linguistics	3
EDTL:6570	Foundation of School Mathematics Curriculum	3
EDTL:6757	Learning in the Science Classroom	3

EDTL:6758	Writing in the Science Classroom	3
EDTL:6833	History and Foundations of Social Studies Education	3

## Human Development and Motivation

Code	Title	Hours
PSQF:4106	Child Development	3
PSQF:4111	Human Motivation	3
PSQF:4133	The Adolescent and Young Adult	3
PSQF:6206	Advanced Child Development	3
PSQF:6213	Advanced Lifespan Development	3

## Measurement and Evaluation

Code	Title	Hours
PSQF:4143	Introduction to Statistical Methods	3
PSQF:4740	Issues in K-12 Assessment	3
PSQF:5165	Introduction to Program and Project Evaluation	3
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6257	Educational Measurement and Evaluation	3
PSQF:6265	Program Evaluation	3

## Admission

Applicants must meet the admission requirements of the Graduate College, including the minimum grade-point average. Viable applicants should have a verbal score of at least 146 and a quantitative score of at least 149 on the Graduate Record Examination (GRE) General Test (however, the GRE requirement has been suspended for the 2022-23 admissions cycle); successful applicants generally score higher.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Admission decisions are announced approximately six weeks after the application deadline. Applicants who accept admission or financial aid and do not relinquish either one on or before April 15 should consider themselves committed and should not solicit or accept another offer. Offers made by the program after April 15 include the provision that the offer is void if the applicant has accepted and continues to hold a previous offer from another program listed in the American Psychological Association publication, *Graduate Study in Psychology and Associated Fields*. This policy is consistent with standards set by the association's Board of Educational Affairs.

Application deadline for fall entry is January 15 with review beginning soon after. Application deadline for the spring entry is October 1. Applications after the deadline may not be considered for funding.



## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Psychological and Quantitative Foundations, M.A.

- Educational Measurement and Statistics Subprogram [p. 1449]
- Learning Sciences Subprogram [p. 1449]

#### Educational Measurement and Statistics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
32 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSQF:4143	Introduction to Statistical Methods <sup>b</sup>	3
PSQF:6200	Educational Psychology <sup>b</sup>	3
PSQF:6257	Educational Measurement and Evaluation	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
PSQF:6220	Quantitative Educational Research Methodologies <sup>b</sup>	3
PSQF:6243	Intermediate Statistical Methods <sup>b</sup>	3
PSQF:6255	Construction and Use of Evaluation Instruments <sup>b</sup>	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
PSQF:6244 or PSQF:6246	Correlation and Regression or Design of Experiments	3 - 4
PSQF:6250	Computer Packages for Statistical Analysis <sup>b</sup>	3
Elective course <sup>c</sup>		2
<b>Hours</b>		<b>8-9</b>
<b>Spring</b>		
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Final Exam <sup>d</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>32-33</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b May substitute an equivalent course with advisor approval.

c Work with faculty advisor to determine appropriate graduate level coursework and sequence.

d Completion of MA Comprehensive Exam.

#### Learning Sciences Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSQF:6200	Educational Psychology	3
PSQF:6205	Design of Instruction	3
Focus Area elective <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
PSQF:6215 or PSQF:6208	Online Instruction: Design and Facilitation or Digital Media and Learning	3
PSQF:6281	Cognitive Theories of Learning	3
Focus Area elective <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
PSQF:6204	Foundations of the Learning Sciences	3
PSQF:6214	Design of Learning Environments: Theory, Practice, and Method	3
PSQF:6299	M.A. Project: Portfolio/Internship/Practicum	2
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
PSQF:6203	Tools and External Representations in Individual and Social Learning	3
PSQF:6299	M.A. Project: Portfolio/Internship/Practicum	1
Final Exam <sup>c</sup>		
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>30</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Choose two courses from one of the following focus areas: Technology and Media, Learning in the Disciplines, Human Development and Motivation, Measurement and Evaluation; see the General Catalog for lists of approved courses.

c Completion of all degree requirements and MA project.

# Psychological and Quantitative Foundations, Ed.S.

## Learning Outcomes

Graduate students will:

- gain course specific knowledge and skills as required to perform well in their specialties (as demonstrated by completing their required courses in their specialty/major area with a g.p.a. of 3.00 or higher);
- demonstrate integrated substantive knowledge and skills that can be applied to solve novel professional-level problems (as demonstrated by completing their comprehensive examinations satisfactorily and by completing their thesis proposals with committee approval);
- demonstrate required clinical practice skills and researcher autonomy (as demonstrated by satisfactory completion of all required practicums and/or internships, and required thesis defenses/article submissions as appropriate for their degrees);
- demonstrate initial engagement with, and commitment to, professional ethics, professional development, lifelong learning, and service to the profession (as demonstrated by participation and engagement in the appropriate state, regional, and national organizations as appropriate for their degrees);
- demonstrate entry-level professional qualifications (as demonstrated by being qualified to take any licensing exams that are required for practice and/or employment); and
- be qualified for suitable employment or postdoctoral appointments upon graduation (as reported on annual Qualtrics surveys).

## Requirements

The educational specialist (Ed.S.) program in psychological and quantitative foundations with a school psychology subprogram requires a minimum of 62 s.h. of graduate credit. Students are expected to maintain a cumulative g.p.a. of at least 3.00.

There is no direct admission to the Ed.S. program. Students who are interested in school psychology are considered for Ph.D. admission. The Ed.S. degree is an option for current students in the Ph.D. program in psychological and quantitative foundations with a school psychology subprogram.

The program provides coursework and supervised field experience in education and psychology. The curriculum includes courses in psychological foundations, psychoeducational foundations, school psychology, and research methods. Other requirements include practicum experiences, a written and oral portfolio, and a full-time yearlong Ed.S.-level internship.

The Ed.S. in psychological and quantitative foundations includes the following coursework.

Code	Title	Hours
All of these (or equivalents):		
PSQF:5219	Foundations of Health Service/School Psychology	3
PSQF:6213	Advanced Lifespan Development	3
PSQF:6235	Multicultural Counseling	3
PSQF:6238	Assessment of Learning Differences	3
PSQF:6242	Selected Applications of Statistics	3
or PSQF:6243	Intermediate Statistical Methods	
PSQF:6263	Consultation Theory and Practice	3
PSQF:7237	Beginning Practicum in School Psychological Service	3
PSQF:7310	Intelligence Assessment	3
PSQF:7313	Psychopathology in Childhood	3
PSQF:7315	Social and Emotional Assessment of Children and Adolescents	3
PSQF:7337	Advanced Practicum in School Psychology	6
PSQF:7342	Research Project in School Psychology (Ed.S. project)	3
PSQF:7344	Academic Interventions	3
PSQF:7347	Home/School/Community: System Interventions	3
PSQF:7437	Internship in School Psychology (Ed.S. field experience)	2
PSQF:7465	Issues and Ethics in Professional Psychology	3
CSED:5202	Introduction to Group Counseling	3
or CSED:5222	Counseling Children and Adolescents in Schools	
EDTL:4900	Foundations of Special Education	3
EDTL:4950	Behavioral and Social Interventions	3
EPLS:4180	Human Relations for the Classroom Teacher	3

# Psychological and Quantitative Foundations, Ph.D.

## Learning Outcomes

Graduate students will:

- gain course specific knowledge and skills as required to perform well in their specialties (as demonstrated by completing their required courses in their specialty/major area with a g.p.a. of 3.00 or higher);
- demonstrate integrated substantive knowledge and skills that can be applied to solve novel professional-level problems (as demonstrated by completing their comprehensive examinations satisfactorily and by completing their thesis proposals with committee approval);
- demonstrate required clinical practice skills and researcher autonomy (as demonstrated by satisfactory completion of all required practicums and/or internships, and required thesis defenses/article submissions as appropriate for their degrees);
- demonstrate initial engagement with, and commitment to, professional ethics, professional development, lifelong learning, and service to the profession (as demonstrated by participation and engagement in the appropriate state, regional, and national organizations as appropriate for their degrees);
- demonstrate entry-level professional qualifications (as demonstrated by being qualified to take any licensing exams that are required for practice and/or employment); and
- be qualified for suitable employment or postdoctoral appointments upon graduation (as reported on annual Qualtrics surveys).

## Counseling Psychology

The Doctor of Philosophy program in psychological and quantitative foundations with a counseling psychology subprogram requires a minimum of 100 s.h. of graduate credit. The program requires full-time study. Students are expected to maintain a cumulative g.p.a. of at least 3.00.

The goal of the program is to prepare counseling psychologists who will promote psychology as a science and contribute to the advancement of the profession. The faculty endorses a scientist/practitioner model of training and expects students to become competent researchers and proficient practitioners. Graduates find positions in a variety of settings, including higher education, counseling centers, clinics, private practice settings, and hospitals.

The program is fully accredited by the American Psychological Association. Students must show appropriate levels of emotional balance and interpersonal skills and act within the American Psychological Association's *Ethical Principles of Psychologists*. For more information, contact the program director.

The Ph.D. in psychological and quantitative foundations with a counseling psychology subprogram requires the following work.

## Research Requirements

Four research courses are required; students must take at least two quantitative courses, one qualitative course, and six semesters of the supervised research course as follows.

Code	Title	Hours
These courses:		
PSQF:6243	Intermediate Statistical Methods (required if will take PSQF:6244 or PSQF:6246 below)	3
PSQF:7331	Qualitative Educational Research Methods	3
or EPLS:7373	Qualitative Research Design and Methods	
PSQF:7394	Supervised Research in Counseling Psychology (taken six semesters for 1 s.h. each)	6
One of these:		
PSQF:6244	Correlation and Regression (must take PSQF:6243 before this course)	4
PSQF:6246	Design of Experiments (must take PSQF:6243 before this course)	3
PSQF:7201	Counseling Psychology Research Writing	3

Qualitative and quantitative methodology is discussed in PSQF:7394 Supervised Research in Counseling Psychology, which is directed each semester by faculty advisors. Research from each student is discussed and evaluated, critiqued, and supported.

## Basic Psychology

All students are required to have a thorough grounding in the basic discipline of psychology. This may be achieved through a minimum of 3 s.h. of credit in each of the following four areas: biological bases of behavior, cognitive-affective bases of behavior, social bases of behavior, and history and systems. Students complete an additional 6 s.h. in the area of individual differences.

## Counseling Psychology Core

Code	Title	Hours
PSQF:6225	Introduction to Counseling Psychology Practice/ Research II	3
PSQF:6235	Multicultural Counseling	3
PSQF:6312	Psychopathology Across the Lifespan	3
PSQF:7306	Psychotherapy III: Work Psychology and Career Interventions	3
PSQF:7309	Personality Assessment	3
PSQF:7310	Intelligence Assessment	3
PSQF:7356	Process and Outcomes in Counseling Psychotherapy	3
PSQF:7365	Theories of Psychotherapy	3
PSQF:7434	Practicum in Counseling Psychology	3

PSQF:7452	Leadership, Consultation, and Supervision	3
PSQF:7453	Advanced Practicum in Counseling Psychology (repeatable)	1-3
PSQF:7457	Advanced Group Leadership Experience	3
PSQF:7465	Issues and Ethics in Professional Psychology	3
PSQF:7470	Internship and Professional Issues	3

Students must enroll in practicums to reach a specified level of client contact, supervision, and additional experience hours. The first practicum site is typically University Counseling Service. Subsequent placements at other sites must have prior approval of the counseling psychology faculty. Students must successfully complete one semester of PSQF:7434 Practicum in Counseling Psychology before enrolling in PSQF:7453 Advanced Practicum in Counseling Psychology.

## Electives

Elective courses are determined in collaboration with the major advisor.

## Internship

Students spend a calendar year in an internship setting approved by the counseling psychology faculty. The faculty determines student readiness to apply for the internship based on completion of all required coursework, successful defense of comprehensive exams, and successful completion of practicum requirements. Internships usually require geographic relocation.

## Comprehensive Exam and Dissertation

The comprehensive examination consists of an oral and a written component. The exam includes research and practice elements. For more information, contact the program coordinator.

The dissertation research study is planned in collaboration with the student's major advisor. Dissertation credit ranges from 12 to 15 s.h.

## Admission

Applicants must meet the admission requirements of the Graduate College. Preference is given to applicants who have an undergraduate g.p.a. above 3.00 and a graduate g.p.a. above 3.50; an undergraduate major, minor, or substantial coursework in psychology; a Graduate Record Examination (GRE) General Test verbal score of 152 or higher, quantitative score of 151 or higher, and analytical writing score of 3.5 or higher (however, the GRE requirement has been suspended for the 2022-23 admissions cycle); and previous research and counseling experience.

Students should submit a Graduate College application form, official transcripts of all previous college work, an official report of GRE General Test scores (the GRE advanced test in psychology is recommended but not required; however, the GRE requirement has been suspended for this academic year), a personal statement outlining career goals and reasons for seeking advanced training in counseling psychology, and three letters of recommendation from individuals qualified to

assess the applicant's potential for completing the doctoral program. The faculty encourages applicants from a wide range of backgrounds and identities. Applicants with a B.A. or a more advanced degree are eligible to apply. The program typically accepts between seven and 10 students each year.

Students begin the program in the fall. Application deadline is December 1. Applicants are invited for interviews in February, and admission decisions are usually made by March 1.

## Couple and Family Therapy

The Doctor of Philosophy program in psychological and quantitative foundations with a couple and family therapy (CFT) subprogram requires a minimum of 73 s.h. of graduate credit. Students are expected to maintain a cumulative g.p.a. of at least 3.00.

The program aims to prepare couple and family therapists for roles in academic and research settings. Using a social justice and a relational/systemic perspective, the program prepares CFT students to become ethically and multiculturally responsive scholars, clinicians, supervisors, and educators. The program has five goals: to equip students to generate and disseminate social justice and relational/systemic informed research using innovative research methods; to prepare effective CFT educators; to equip students with advanced couple and family therapy theoretical training for use in clinical and supervisory settings; to promote ethical practices of students in their scholarship, clinical, and educational endeavors; and to engender multicultural responsiveness of students in their scholarship, clinical, and educational endeavors.

Graduates are expected to have sufficient knowledge and skill to teach and conduct research at colleges and universities; supervise other professionals; and provide clinical services to individuals, couples, and families. Graduates also should have competencies to engage in and evaluate theory-based qualitative and/or quantitative research.

Requirements for the degree include coursework, a systematic review, a theory of change paper, an ethics autobiography paper, a comprehensive exam portfolio, an advanced practical experience, and a dissertation. Most students complete the program's required coursework in two or three years and take one or two years to complete the advanced practical experience and dissertation. The CFT faculty reviews each student annually; students must fulfill program requirements in order to continue in the program.

The Ph.D. in psychological and quantitative foundations with a couple and family therapy subprogram requires the following.

## Research Requirement

Code	Title	Hours
All of these:		
PSQF:5265	Research Methods in Couple and Family Therapy	3
PSQF:6243	Intermediate Statistical Methods	3
PSQF:7331	Qualitative Educational Research Methods	3
PSQF:7459	Seminar: Issues and Trends in Counseling Research	4
PSQF:7460	Seminar: Research in Counseling	3

## Advanced Research Course

Code	Title	Hours
One of these:		
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	3
An advanced qualitative course		3

## Theoretical and Clinical Core

Code	Title	Hours
All of these:		
PSQF:5262	Advanced Couple and Family Therapy	3
PSQF:7356	Process and Outcomes in Counseling Psychotherapy	3
PSQF:7361	Advanced Practicum in Couple and Family Therapy (must be taken multiple times for total of 9 s.h.)	9
PSQF:7389	Seminar in Couple Intervention Research	3
PSQF:7395	Social Context and Family Research	3
PSQF:7399	Supervision in Couple and Family Therapy	3
PSQF:7404	Seminar in Child and Adolescent Intervention Research	3

## Teaching Requirement

Code	Title	Hours
All of these:		
PSQF:6216	Tools and Utilities for Online Teaching	3
PSQF:6217	Seminar in College Teaching	3
PSQF:7380	Practicum in College Teaching	3
EALL:7475	Ph.D. ePortfolio in College Teaching	3

## Ethics and Multicultural Course

Code	Title	Hours
This course:		
PSQF:6235	Multicultural Counseling	3

## Comprehensive Examination

The comprehensive examination consists of a portfolio that a student has compiled during the program and its oral defense once coursework has been completed.

## Advanced Practical Experience

Students must complete a clinical, research, academic, and/or administrative experience.

Code	Title	Hours
PSQF:7500	Advanced Practical Experience in Couple and Family Therapy (when topic is advanced practical experience)	2

## Dissertation

Work for the doctoral dissertation employs a student's independent skills in conducting original research. The dissertation process is supervised by a student's advisor. Depending on a student's research questions, the dissertation may require quantitative, qualitative, or mixed methods and may involve data collection or the secondary analysis of an existing data set. The thesis advisor and the examining committee approve the topic and procedures at a formal prospectus meeting. The final oral examination on the thesis is conducted by the examining committee.

Code	Title	Hours
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	10

## Admission

Applicants to the program must meet the department's general admission requirements and the admission requirements of the Graduate College. They also must hold a master's degree in couple and family therapy or marriage and family therapy from a program that is accredited by the Commission on Accreditation for Marriage and Family Therapy Education (COAMFTE) or its equivalent.

Students are admitted for fall entry. All application materials should be received on or before December 31, when the faculty begins evaluating applications. The program requires an interview with the faculty conducted in person or by telephone. Generally, the interview is scheduled once complete application materials have been received.

## Educational Measurement and Statistics

The Doctor of Philosophy program in psychological and quantitative foundations with an educational measurement and statistics subprogram requires a minimum of 90 s.h. of graduate credit. Students are expected to maintain a cumulative g.p.a. of at least 3.00.

The program prepares students for senior professional positions in educational measurement, evaluation, and statistical methods. Graduates find employment in colleges and universities, state and federal agencies, large public and private school systems, test publishing firms, and research centers.

During the first year of graduate study, a student and the advisor plan a program of study that is appropriate for the student's interests and vocational objectives. The typical program involves advanced work in educational measurement, data analysis methods, research methodology, and educational psychology. Work in other University of Iowa departments is encouraged.

Students who concentrate in statistics and intend to teach at the college level take courses in the mathematical theory of statistics. Those who concentrate in educational measurement and evaluation take appropriate courses in curriculum, counseling, or higher education. All students are required to develop familiarity with computer programming techniques and equipment.

Students who enter the program without completing an M.A. thesis must complete a substitute project before taking the Ph.D. comprehensive examinations.

After completing most of their coursework, students take the comprehensive examination, which typically consists of three 3-hour written examinations on educational measurement, applied statistics, and program evaluation or approved substitute areas, such as educational psychology or mathematical statistics, in which a student has completed at least 9 s.h. of coursework. In place of one written examination, the student's committee may assign a project involving analytical and evaluative skills, or research creativity. The written examinations are followed by an oral examination in which the committee seeks further evidence of the student's command of the three fields. A single decision is made on all aspects of the comprehensive examination.

Work for the Ph.D. concludes with the dissertation, which is included in the 90 s.h. required for the degree.

## Research Requirement

Code	Title	Hours
One of these:		
PSQF:6220	Quantitative Educational Research Methodologies	3
An equivalent course comparable in content and level of rigor, such as EALL:5150		

## Quantitative Requirements

Code	Title	Hours
This course:		
PSQF:6243	Intermediate Statistical Methods	3
Two of these:		
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	3
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3
EPLS:6206	Research Process and Design	3
EPLS:6209	Survey Research and Design	3
EPLS:6370	Quantitative Methods for Policy Analysis	3

## Qualitative Requirements

Code	Title	Hours
One of these (may be taken on a nongraded basis with approval of student's program and advisor):		
PSQF:7331	Qualitative Educational Research Methods	3
CSED:7338	Essentials of Qualitative Inquiry	3
EDTL:7070	Qualitative Research Methods in Teaching and Learning	3
EPLS:7373	Qualitative Research Design and Methods	3
An equivalent course comparable in content, level, or rigor (consult advisor)		
One of these:		

PSQF:5165	Introduction to Program and Project Evaluation	3
PSQF:6265	Program Evaluation	3
CNW:6654	Forms of the Essay (when topic is the ethnographic essay)	arr.
PSQF:7371	Seminar in Learning Sciences and Educational Psychology (when topic is conducting research online)	3
CSED:7438	Advanced Qualitative Research Seminar in Counselor Education	3
EDTL:6267	Seminar: Current Issues in Art Education (when topic is qualitative methods)	3-4
EDTL:7071	Critical Discourse Analysis in Educational Research	3
EDTL:7072	Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting	3
EDTL:7073	Ethnographic Methods, Theories, and Texts	3
EDTL:7410	Mixed Methods Research	3
EDTL:7751	Advanced Qualitative Data Analysis	3
EDTL:7774	Qualitative Research with Computer-Aided Qualitative Data Analysis Software	3
EDTL:7953	Seminar: Single Subject Design Research	3
EPLS:5240	Topics in Education (when topic is introduction to historical methodology)	arr.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have a combined verbal and quantitative score of at least 300 on the Graduate Record Examination (GRE) General Test and must hold an M.A. from an accredited institution. Applicants who do not hold an M.A. degree are automatically considered for admission to the M.A. program. At least one year of professional experience in teaching, research, or a related field is desirable. Applicants who expect to concentrate in statistics should have training in college mathematics through differential and integral calculus. Applicants who do not meet these requirements but who show offsetting evidence of superior ability may be granted conditional admission.

Applicants must submit a statement of purpose that explains how the educational measurement and statistics subprogram will help them accomplish their educational and vocational goals.

For information about admission dates, contact the educational measurement and statistics program coordinator.

## Educational Psychology

The Doctor of Philosophy program in psychological and quantitative foundations with an educational psychology subprogram requires a minimum of 72 s.h. of graduate credit.

Students are expected to maintain a cumulative g.p.a. of at least 3.00.

The subprogram synthesizes core content and methods of educational psychology with training in the learning sciences. Educational psychology is characterized by empirical research and theory typical of the social and behavioral sciences. The learning sciences reflects an outgrowth of cognitive science. The field offers a multidisciplinary approach to understanding when, how, and why people learn in social and material contexts that include but are not limited to classrooms. The learning sciences blends theories and methods from several disciplines, such as cognitive psychology, anthropology, instructional design, and more. Students will acquire the depth of knowledge and methodological sophistication necessary for original research that contributes to educational psychology and the learning sciences. They will develop and demonstrate their knowledge of learning theory and design principles in the context of research and design projects.

Students work closely with their advisor to develop a plan of study and define a program that matches their goals and interests. Those who begin the program after earning a master's degree or with coursework from another program may be able to waive some of the Ph.D. program requirements.

The program of study includes substantive areas within educational psychology and the learning sciences, including courses in cognition, development, learning theory, and the design of instruction, learning environments, and learning technologies. Other learning opportunities include a design project in the second year, a precandidacy independent research project in which students design and carry out original research, a slate of research courses that meet the College of Education's research requirements, a minor area of a student's choice, and a dissertation in the student's area of interest.

## Research Requirement

The heart of educational psychology as a field is the creation, dissemination, and use of rigorous research to better understand and address educational issues. While many of the required courses address various aspects of the guiding principles set out by the National Research Council, students engage in the following coursework and research-related activities.

Code	Title	Hours
All of these:		
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6243	Intermediate Statistical Methods	3
PSQF:7331	Qualitative Educational Research Methods	3
One of these:		
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	3
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3

## Research Project

Prior to candidacy and in consultation with a faculty member, students design, implement, and present an original research

project. This experience provides the opportunity to conduct a pilot study that will strengthen their thesis in terms of methods, instruments, theoretical grounding, or focus of research question. Student presentations of their research are open to the public. Students are encouraged to submit their study results for broader dissemination at a local, regional, or national conference.

For students who have received approval to omit this requirement because of an empirical thesis that is acceptable to the educational psychology faculty, an additional research course may be required.

Code	Title	Hours
PSQF:6230	Research in Educational Psychology	3

## Required Courses

Code	Title	Hours
All of these:		
PSQF:6200	Educational Psychology	3
PSQF:6203	Tools and External Representations in Individual and Social Learning	3
PSQF:6204	Foundations of the Learning Sciences	3
PSQF:6205	Design of Instruction	3
PSQF:6214	Design of Learning Environments: Theory, Practice, and Method	3
PSQF:6281	Cognitive Theories of Learning	3
PSQF:6299	M.A. Project: Portfolio/ Internship/Practicum	2
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations (minimum requirement)	10

## Core Courses

The selection of core courses depends on a student's area of specialization. Students choose at least 9 s.h.; they should contact their advisor for additional approved courses.

## Cognition, Learning, and Development

Code	Title	Hours
PSQF:6213	Advanced Lifespan Development	3
PSQF:6275	Constructivism and Design of Instruction	3
PSY:6440	Developmental Cognitive Neuroscience	3

## Learning in the Disciplines

Code	Title	Hours
EDTL:6267	Seminar: Current Issues in Art Education	3
EDTL:6315	M.A. Seminar: English Education	3
EDTL:6483	Multilingual Education and Applied Linguistics	3

EDTL:6570	Foundation of School Mathematics Curriculum	3
EDTL:6757	Learning in the Science Classroom	3
EDTL:6758	Writing in the Science Classroom	3
EDTL:6833	History and Foundations of Social Studies Education	3

## Technology and Media

Code	Title	Hours
PSQF:6208	Digital Media and Learning	3
PSQF:6211	Universal Design and Accessibility for Online Instruction	3
PSQF:6215	Online Instruction: Design and Facilitation	3
PSQF:6216	Tools and Utilities for Online Teaching	3

## Seminar

Code	Title	Hours
PSQF:7371	Seminar in Learning Sciences and Educational Psychology (topics vary; may be repeated if content is related to educational psychology)	3

## Electives

Students may take up to 6 s.h. of elective coursework. Students can take PSQF:6217 Seminar in College Teaching and/or additional research courses. Other courses may be included in consultation with their advisor.

## Minor Area

Students must complete a minimum of 12 s.h. that constitute a coherent program of coursework outside educational psychology and beyond the courses listed above. The minor area may be from a foundation discipline such as mathematics education, educational philosophy, or program evaluation. Courses must be numbered 5000 or above, can span across departments and colleges, and must be consistent with a plan approved by a student's advisor.

## Comprehensive Examination

The Ph.D. comprehensive examination emphasizes competence and depth in one or more narrowly defined areas of research and theory. Students choose from three options in consultation with their advisor and with the approval of their examining committee that is composed of five faculty members. It does not necessarily include the same faculty members as the dissertation committee.

The options are a traditional comprehensive examination that includes foundational content in educational psychology and learning sciences, the student's minor area, and a specialty area of the student's choice; a review article; or an extended research activity. For details of each option's requirements, contact the Department of Psychological and Quantitative Foundations.

## Admission

Applicants must meet the admission requirements of the Graduate College, including the minimum grade-point average. They must have a verbal score of at least 150 and a quantitative score of at least 152 on the Graduate Record Examination (GRE) General Test; successful applicants usually score higher (however, the GRE requirement has been suspended for the 2022-23 admissions cycle).

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Applicants who do not meet all admission requirements may be granted conditional admission on the basis of other evidence, such as high grade-point average, strong academic preparation, and highly supportive recommendations. Conditional admission is rare.

Admission is for fall entry. Application deadline is January 15; late applications might not be considered for funding. Review of applications begins soon after, when applicants who wish to be considered for fellowships and other awards are screened. Admission decisions are announced approximately six weeks after the application deadline.

Applicants who accept admission or financial aid and do not relinquish either one on or before April 15 may not solicit or accept another offer. Offers made by the program after April 15 include the provision that the offer is void if the applicant has accepted and continues to hold a previous offer from another program listed in the American Psychological Association publication *Graduate Study in Psychology and Associated Fields*. This policy is consistent with standards set by the association's Board of Educational Affairs.

## School Psychology

The Doctor of Philosophy program in psychological and quantitative foundations with a school psychology subprogram requires a minimum of 108 s.h. of graduate credit. Students are expected to maintain a cumulative g.p.a. of at least 3.00.

The primary mission of the school psychology program is to train health service psychologists to be outstanding ethical and multiculturally competent scientist practitioners who promote psychology as a profession and science for the betterment of the human condition. As such, the program places high emphasis on instilling attitudes and skills that are necessary for becoming critical consumers of research, active disseminators of research, and valuable contributors to the scientific foundations of the field. Students must show appropriate levels of emotional balance and interpersonal skills, and act within the American Psychological Association's Ethical Principles of Psychologists and Code of Conduct.

Graduates from the school psychology program obtain positions as school service providers, private practitioners, faculty members, and psychologists in community mental health agencies, residential settings, and pediatric and psychiatric settings.

The current University of Iowa doctoral program in school psychology is not American Psychological Association (APA) accredited or National Association of School Psychologists (NASP) approved. Program faculty are actively pursuing both APA accreditation and NASP approval for the school



psychology program. More information regarding these processes can be found on the APA and NASP websites and by contacting the program director of training/program coordinator.

Students develop a plan of study in consultation with their academic advisors.

The Ph.D. in psychological and quantitative foundations with a school psychology subprogram requires the following.

## Research Requirement

To receive credit for additional courses, students must obtain prior approval from their advisor and the school psychology program.

Code	Title	Hours
All of these:		
PSQF:5199	Topical Workshop in Psychological and Quantitative Foundations (when topic is introduction to school psychology research writing)	1
PSQF:5900	Psychometrics	1
PSQF:7331	Qualitative Educational Research Methods	3
PSQF:7342	Research Project in School Psychology	2-4
EDTL:7953	Seminar: Single Subject Design Research	3
One of these (or equivalent):		
PSQF:6242	Selected Applications of Statistics	3
PSQF:6243	Intermediate Statistical Methods (required if will take PSQF:6244 or PSQF:6246 below)	3
One of these (or equivalent):		
PSQF:6244	Correlation and Regression (must take PSQF:6243 before this course)	4
PSQF:6246	Design of Experiments (must take PSQF:6243 before this course)	3

## Basic Psychology

Students are required to have a thorough grounding in the basic discipline of psychology, which may be achieved through earning a minimum of 3 s.h. in each of the following six areas: history and systems; and affective, biological, cognitive, developmental, and social bases of behavior. Students complete additional courses in individual differences and other course areas consistent with accreditation.

## Core Courses

Code	Title	Hours
All of these (or equivalents):		
PSQF:5219	Foundations of Health Service/School Psychology	3
PSQF:6213	Advanced Lifespan Development	3
PSQF:6235	Multicultural Counseling	3

PSQF:6238	Assessment of Learning Differences	3
PSQF:6263	Consultation Theory and Practice	3
PSQF:6281	Cognitive Theories of Learning	3
PSQF:6312	Psychopathology Across the Lifespan	3
PSQF:7320	History and Systems of Psychology	3
PSQF:7237	Beginning Practicum in School Psychological Service (minimum of 150 hours required)	3
PSQF:7310	Intelligence Assessment	3
PSQF:7315	Social and Emotional Assessment of Children and Adolescents	3
PSQF:7337	Advanced Practicum in School Psychology (minimum of 750 hours required)	15
PSQF:7344	Academic Interventions	3
PSQF:7367	Social Psychology and Social Systems	3
PSQF:7390	Supervision of School Psychology Practicum/ Internship	3
PSQF:7465	Issues and Ethics in Professional Psychology	3
or EDTL:5963	Ethics and Professional Conduct for Behavior Analysts and Psychologists	
CSED:5202	Introduction to Group Counseling	3
or CSED:5222	Counseling Children and Adolescents in Schools	
EDTL:4900	Foundations of Special Education	3
EDTL:4950	Behavioral and Social Interventions	3
EDTL:5961	Foundation of Applied Behavior Analysis	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSY:5203	Fundamental Neurobiology I	3
or PSY:6370	Principles of Neuropsychology	

Students must enroll in practicums to reach a specified level of client contact, supervision, and additional experience hours. Placements must have prior approval of the school psychology faculty. Students must successfully complete one semester of PSQF:7237 Beginning Practicum in School Psychological Service before enrolling in PSQF:7337 Advanced Practicum in School Psychology. Students must adhere to the most recent ethical principles and standards of the American Psychological Association.

## Elective Courses

Students earn a minimum of 6 s.h. in elective courses. These courses are determined in collaboration with the major advisor and could include the following courses.

Code	Title	Hours
EDTL:4975	Explicit Instruction	3
EDTL:5966	Advanced Topics in Applied Behavior Analysis	3
PEDS:7264	Clinical Applications of Applied Behavior Analysis	3

## Yearly and Comprehensive Portfolios

Students are required to complete yearly portfolio reviews, which include oral examinations. The comprehensive portfolio consists of an oral and a written component that includes research and practice elements. For more information, contact the program director or training/program coordinator.

## Internship

Students spend a calendar year in an internship setting approved by the school psychology faculty. The faculty determines student readiness to apply for the internship based on completion of all required coursework, successful defense of comprehensive portfolio, and successful completion of practicum requirements. Internships may require geographic relocation.

Code	Title	Hours
This course:		
PSQF:7437	Internship in School Psychology	2

## Dissertation

Students complete a doctoral dissertation. The program has adopted a two article format. The dissertation research study is planned in collaboration with a student's major research advisor. Once students complete all coursework on their plan of study and successfully defend their comprehensive portfolio, they register for a total of 6 s.h. of dissertation credit. Students may register for additional dissertation credit until completion.

Code	Title	Hours
This course:		
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	6

## Admission

Applicants must meet the admission requirements of the Graduate College. Preference is given to applicants with an undergraduate major in psychology, education, or a related field; have an undergraduate g.p.a. of 3.00 or higher; a graduate g.p.a. of 3.00 or higher; related research experience; and an interest and experience working with children and adolescents in K-12 settings. The school psychology program does not have an official cutoff score on the Graduate Record Examination (GRE), and applicants are reviewed holistically. (The GRE requirement has been suspended for the 2022-23 admissions cycle.)

Applicants should submit a Graduate College application form, official transcripts for all previous college work, an official report of GRE General Test scores (the GRE requirement has been suspended for this academic year), a personal statement outlining career goals and reasons for seeking training in school psychology at the University of Iowa, three letters of recommendation from individuals who are qualified to

assess the applicant's potential for completing the doctoral program, and an updated curriculum vitae (CV) or résumé. The faculty encourages applicants from minoritized and other underrepresented groups to include persons from a wide range of backgrounds and academic preparation.

Students begin the program in the fall. The application deadline is December 1; admission decisions usually are made by March 1. Applicants are invited to campus for interviews before final selection. The program admits up to 10 students each year.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Psychological and Quantitative Foundations, Ph.D.

- Counseling Psychology Subprogram [p. 1458]
- Couple and Family Therapy Subprogram [p. 1460]
- Educational Measurement and Statistics Subprogram [p. 1460]
- Educational Psychology Subprogram [p. 1461]
- School Psychology Subprogram [p. 1462]

### Counseling Psychology Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

100 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>

<b>Hours</b>	<b>0</b>
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### First Year

<b>Fall</b>		
PSQF:6312 or PSY:5410	Psychopathology Across the Lifespan <sup>c</sup> or Proseminar in Developmental Science	3
PSQF:6225	Introduction to Counseling Psychology Practice/Research II	3
PSQF:6242 or PSQF:6243	Selected Applications of Statistics <sup>d</sup> or Intermediate Statistical Methods	3
PSQF:7394	Supervised Research in Counseling Psychology	1
PSQF:7457	Advanced Group Leadership Experience	3
<b>Hours</b>		<b>13</b>

<b>Spring</b>		
PSQF:7201 or PSQF:6246 or PSQF:6244	Counseling Psychology Research Writing <sup>e</sup> or Design of Experiments or Correlation and Regression	3 - 4
PSQF:7310	Intelligence Assessment	3
PSQF:7365	Theories of Psychotherapy	3

SOC:6210 or PSQF:7367	Contemporary Approaches to Social Psychology <sup>c</sup> or Social Psychology and Social Systems	3
PSQF:7394	Supervised Research in Counseling Psychology	1
<b>Hours</b>		<b>13-14</b>
<b>Summer</b>		
PSQF:5900	Psychometrics <sup>f</sup>	1
<b>Hours</b>		<b>1</b>
<b>Second Year</b>		
<b>Fall</b>		
PSQF:7306	Psychotherapy III: Work Psychology and Career Interventions	3
PSQF:7394	Supervised Research in Counseling Psychology	1
PSQF:7434	Practicum in Counseling Psychology	3
PSQF:7465	Issues and Ethics in Professional Psychology	3
PSY:6440 or PSY:6370	Developmental Cognitive Neuroscience <sup>c</sup> or Principles of Neuropsychology	3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
PSQF:6235	Multicultural Counseling	3
EPLS:7373 or PSQF:7331	Qualitative Research Design and Methods or Qualitative Educational Research Methods	3
PSQF:7356	Process and Outcomes in Counseling Psychotherapy	3
PSQF:7394	Supervised Research in Counseling Psychology	1
PSQF:7453	Advanced Practicum in Counseling Psychology	3
<b>Hours</b>		<b>13</b>
<b>Third Year</b>		
<b>Fall</b>		
PSQF:7320	History and Systems of Psychology <sup>c</sup>	3
PSQF:7394	Supervised Research in Counseling Psychology	1
PSQF:7453	Advanced Practicum in Counseling Psychology	3
PSY:6230 or PSQF:6200 or PSY:5610	Foundations of Learning, Memory, and Cognition <sup>c</sup> or Educational Psychology or Proseminar in Cognition and Perception	3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
Comprehensive Exam <sup>h</sup>		
PSQF:7309	Personality Assessment	3
PSQF:7394	Supervised Research in Counseling Psychology	1
PSQF:7452	Leadership, Consultation, and Supervision	3

PSQF:7453	Advanced Practicum in Counseling Psychology	3
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>13</b>
<b>Fourth Year</b>		
<b>Fall</b>		
Apply for Internship		
PSQF:7453	Advanced Practicum in Counseling Psychology	3
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	6
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
PSQF:7453	Advanced Practicum in Counseling Psychology	3
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	6
Final Exam <sup>i</sup>		
<b>Hours</b>		<b>9</b>
<b>Fifth Year</b>		
<b>Any Semester</b>		
Internship Year <sup>j, k</sup>		
PSQF:7470	Internship and Professional Issues	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>100-101</b>

- a Students entering with a bachelor's degree must work with their faculty advisor to complete 30 s.h. of appropriate graduate coursework to fulfill the MA requirements. Students entering with a master's degree from Iowa or an accredited institution with fewer than 30 s.h. of coursework must work with their faculty advisor to complete the needed appropriate graduate coursework to fulfill the MA requirements.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Satisfies a Discipline Specific Knowledge area requirement. Must be completed before taking the Comprehensive Exam.
- d Take PSQF:6242 if planning to complete PSQF:7201; take PSQF:6243 if planning to complete either PSQF:6244 or PSQF:6246. Work with faculty advisor to determine appropriate research coursework and sequence.
- e PSQF:6244 is typically offered in spring semesters; PSQF:6246 and PSQF:7201 are typically offered in fall semesters. Work with faculty advisor to determine appropriate research coursework and sequence.
- f Course may be taken during any summer session.
- g Work with faculty advisor for approval of selected elective coursework.
- h Consists of oral and written components; includes research and practice elements. For more information contact the program coordinator.
- i Dissertation defense.
- j For students who have already successfully defended their dissertation.
- k Students spend a calendar year in an internship setting approved by the counseling psychology faculty. The faculty determines student readiness to apply for the internship based on completion of all required coursework, successful defense of comprehensive exams, and successful

completion of practicum requirements. Internships usually require geographic relocation.

## Couple and Family Therapy Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
73 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSQF:5262	Advanced Couple and Family Therapy	3
PSQF:5265	Research Methods in Couple and Family Therapy	3
PSQF:6216	Tools and Utilities for Online Teaching	3
PSQF:6243	Intermediate Statistical Methods	3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
PSQF:6246 or PSQF:6244	Design of Experiments <sup>c</sup> or Correlation and Regression	3 - 4
PSQF:7331	Qualitative Educational Research Methods	3
PSQF:7356	Process and Outcomes in Counseling Psychotherapy	3
<b>Hours</b>		<b>9-10</b>
<b>Second Year</b>		
<b>Fall</b>		
PSQF:7361	Advanced Practicum in Couple and Family Therapy <sup>d</sup>	3
PSQF:7389	Seminar in Couple Intervention Research	3
PSQF:7459	Seminar: Issues and Trends in Counseling Research	4
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
PSQF:6217	Seminar in College Teaching	3
PSQF:7361	Advanced Practicum in Couple and Family Therapy <sup>d</sup>	3
PSQF:7460	Seminar: Research in Counseling	3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>e</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
PSQF:7361	Advanced Practicum in Couple and Family Therapy <sup>d</sup>	3
PSQF:7380	Practicum in College Teaching	3
PSQF:7395	Social Context and Family Research	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
EALL:7475	Ph.D. ePortfolio in College Teaching	3

PSQF:7399	Supervision in Couple and Family Therapy	3
PSQF:7404	Seminar in Child and Adolescent Intervention Research	3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
PSQF:6235	Multicultural Counseling	3
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	4
PSQF:7500	Advanced Practical Experience in Couple and Family Therapy	2
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	6
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>73-74</b>

a The College Teaching certificate may also be earned by completing an additional practicum experience (PSQF:7380). Contact the Office of Graduate Teaching Excellence for details.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c An alternative advanced qualitative research course may be taken upon approval.

d Take multiple times for a minimum total of 9 s.h.

e Consists of a portfolio compiled during the program and its oral defense once coursework has been completed.

f Dissertation defense.

## Educational Measurement and Statistics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
90 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6243	Intermediate Statistical Methods	3
Qualitative Research course <sup>b</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
Qualitative Research course <sup>d</sup>		3
Quantitative Research course <sup>d</sup>		3 - 4
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>12-13</b>

**Second Year****Fall**

Quantitative Research course <sup>d</sup>	3 - 4
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3

<b>Hours</b>	<b>12-13</b>
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**Spring**

Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3

<b>Hours</b>	<b>12</b>
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**Third Year****Any Semester**

Comprehensive Exam <sup>e</sup>	
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<b>Hours</b>	<b>0</b>
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**Fall**

Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3

<b>Hours</b>	<b>12</b>
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**Spring**

Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3
Elective course <sup>c</sup>	3

<b>Hours</b>	<b>12</b>
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**Fourth Year****Fall**

PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	6
Elective course <sup>c</sup>		3

<b>Hours</b>	<b>9</b>
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**Spring**

PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	6
Elective course <sup>c</sup>		3
Final Exam <sup>f</sup>		

<b>Hours</b>	<b>9</b>
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<b>Total Hours</b>	<b>90-92</b>
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a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Choose from PSQF:7331, CSED:7338, EDTL:7070, EPLS:7373; an equivalent course comparable in content, level, or rigor may also be taken with advisor approval.

c Work with faculty advisor to determine appropriate graduate level coursework and sequence.

d See the General Catalog for list of approved courses.

e Consists of three 3-hour written examinations on educational measurement, applied statistics, and program evaluation or approved substitute areas, such as educational psychology or mathematical statistics, in which a student has completed at least 9 s.h. of coursework. In place of one written examination, the student's committee

may assign a project involving analytical and evaluative skills, or research creativity. The written examinations are followed by an oral examination.

f Dissertation defense.

**Educational Psychology Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSQF:6200	Educational Psychology	3
PSQF:6205	Design of Instruction	3
PSQF:6243	Intermediate Statistical Methods	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
PSQF:6281	Cognitive Theories of Learning	3
PSQF:7331	Qualitative Educational Research Methods	3
Specialization course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
PSQF:6204	Foundations of the Learning Sciences	3
PSQF:6299	M.A. Project: Portfolio/Internship/Practicum	1
Research course <sup>c</sup>		3
Specialization course <sup>b</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
PSQF:6203	Tools and External Representations in Individual and Social Learning	3
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6299	M.A. Project: Portfolio/Internship/Practicum	1
Specialization course <sup>b</sup>		3
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Fall</b>		
PSQF:6214	Design of Learning Environments: Theory, Practice, and Method	3
PSQF:6230	Research in Educational Psychology	2
Minor Area course <sup>d</sup>		3
Minor Area course <sup>d</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
Comprehensive Exam <sup>e</sup>		
PSQF:6230	Research in Educational Psychology	1
Minor Area course <sup>b</sup>		3

Minor Area course <sup>d</sup>		3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>10</b>
<b>Fourth Year</b>		
<b>Fall</b>		
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	5
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	5
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>5</b>
<b>Total Hours</b>		<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with faculty advisor to determine appropriate graduate level coursework and sequence.

c Choose from PSQF:6244, PSQF:6246, PSQF:6247, PSQF:6252.

d Students must complete a minimum of 12 s.h. that constitute a coherent program of coursework outside educational psychology. The minor area courses may be from a foundation discipline such as mathematics education, educational philosophy, or program evaluation. Courses must be numbered 5000 or above, can span across departments and colleges, and must be consistent with a plan approved by a student's advisor.

e Students choose from three options in consultation with their advisor and with the approval of their examining committee. The options are a traditional comprehensive examination, a review article, or an extended research activity. See the General Catalog and the department website for specifics.

f Dissertation defense.

## School Psychology Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
108 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Graduate College program GPA of at least 3.00 is required. <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PSQF:5219	Foundations of Health Service/School Psychology	3
PSQF:6238	Assessment of Learning Differences	3
PSQF:7310	Intelligence Assessment	3

PSQF:7315	Social and Emotional Assessment of Children and Adolescents	3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
EDTL:4950	Behavioral and Social Interventions	3
PSQF:5199	Topical Workshop in Psychological and Quantitative Foundations	1
PSQF:6213	Advanced Lifespan Development	3
PSQF:7237	Beginning Practicum in School Psychological Service	3
PSQF:7344	Academic Interventions	3
<b>Hours</b>		<b>13</b>
<b>Summer</b>		
EDTL:4900	Foundations of Special Education <sup>c</sup>	3
PSQF:5900	Psychometrics	1
<b>Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
EDTL:5963 or PSQF:7465	Ethics and Professional Conduct for Behavior Analysts and Psychologists <sup>d</sup> or Issues and Ethics in Professional Psychology	3
EDTL:7953	Seminar: Single Subject Design Research	3
PSQF:6312	Psychopathology Across the Lifespan	3
PSQF:7337	Advanced Practicum in School Psychology	3
PSQF:7342	Research Project in School Psychology	1
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
PSQF:6235	Multicultural Counseling	3
PSQF:6263	Consultation Theory and Practice	3
PSQF:6281	Cognitive Theories of Learning	3
PSQF:7337	Advanced Practicum in School Psychology	3
PSQF:7342	Research Project in School Psychology	1
<b>Hours</b>		<b>13</b>
<b>Summer</b>		
EPLS:4180	Human Relations for the Classroom Teacher <sup>c</sup>	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
EDTL:5961	Foundation of Applied Behavior Analysis <sup>e</sup>	3
PSQF:6242 or PSQF:6243	Selected Applications of Statistics <sup>f</sup> or Intermediate Statistical Methods	3
PSQF:7320	History and Systems of Psychology	3
PSQF:7337	Advanced Practicum in School Psychology	3
<b>Hours</b>		<b>12</b>

**Spring**

CSED:5202 or CSED:5222	Introduction to Group Counseling or Counseling Children and Adolescents in Schools	3
PSQF:6244 or PSQF:6246	Correlation and Regression or Design of Experiments	3 - 4
PSQF:7337	Advanced Practicum in School Psychology	3
PSQF:7367	Social Psychology and Social Systems	3
<b>Hours</b>		<b>12-13</b>

**Summer**

PRAXIS Exam		
<b>Hours</b>		<b>0</b>

**Fourth Year****Any Semester**

Comprehensive Exam <sup>g</sup>		
<b>Hours</b>		<b>0</b>

**Fall**

PSQF:7331	Qualitative Educational Research Methods	3
PSQF:7337	Advanced Practicum in School Psychology	3
PSY:5203 or PSY:6370	Fundamental Neurobiology I or Principles of Neuropsychology	3
<b>Hours</b>		<b>9</b>

**Spring**

PSQF:7390	Supervision of School Psychology Practicum/Internship	3
Elective course <sup>h</sup>		3
Elective course <sup>h</sup>		3
<b>Hours</b>		<b>9</b>

**Fifth Year****Fall**

PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	3
<b>Hours</b>		<b>3</b>

**Spring**

PSQF:7493	Ph.D. Thesis in Psychological and Quantitative Foundations	3
<b>Hours</b>		<b>3</b>

**Sixth Year****Fall**

PSQF:7437	Internship in School Psychology	1
<b>Hours</b>		<b>1</b>

**Spring**

PSQF:7437	Internship in School Psychology	1
Final Exam <sup>i</sup>		
<b>Hours</b>		<b>1</b>

**Total Hours** **108-109**

count toward the degree, those courses will be included in the Graduate College program GPA.

c Required for Social Psychology Certification in Iowa.  
d Students completing the BCBA Certificate must take EDTL:5963 to meet APA and BCBA ethics requirements.

e Also meets requirements for BCBA Certificate.  
f Must complete PSQF:6243 if planning to take either PSQF:6244 or PSQF:6246.

g Typically completed by the end of the fourth year; see the College of Education website for specifics.

h Work with faculty advisor to select appropriate elective coursework.

i Dissertation defense.

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to

# Talent Development

## Chair, Department of Teaching and Learning

- Lia M. Plakans

## Coordinator, Talent Development

- Randolph W. Lange

**Graduate certificate:** talent development

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/areas-study/continuing-education/certificates-and-endorsements/certificate-talent-development>

The purpose of the graduate Certificate in Talent Development is to increase understanding of talented individuals, the process of talent development and the creative process, and prepare advocates for talented individuals.

The Certificate in Talent Development is administered by the Department of Teaching and Learning [p. 1466] and is granted by the Graduate College.

## Programs

## Graduate Program of Study Certificate

- Certificate in Talent Development [p. 1465]



# Talent Development, Graduate Certificate

## Requirements

The graduate Certificate in Talent Development requires 14 s.h. of credit and is offered fully online, or with hybrid and conventional courses. Students must maintain a g.p.a. of at least 3.00 in work for the certificate. Required and elective courses must be taken on a graded basis. The capstone exploration is graded as satisfactory/unsatisfactory.

The certificate program is open to students enrolled in University of Iowa graduate degree programs and to individuals who are enrolled in the Graduate College as nondegree students.

Inquiries regarding approval for transfer credit of previously taken University of Iowa courses should be directed to the certificate supervisors at the Belin-Blank Center.

The Certificate in Talent Development requires the following coursework.

Code	Title	Hours
	Required Coursework	6
	Elective Coursework	6
	Capstone Exploration	2
<b>Total Hours</b>		<b>14</b>

## Required Coursework

Code	Title	Hours
Both of these:		
EDTL:4067	Conceptions of Talent Development (online)	3
PSQF:4120	Psychology of Giftedness (online)	3

## Elective Coursework

Code	Title	Hours
Two of these:		
CW:3870	Advanced Fiction Writing (online)	3
CW:3875	Advanced Poetry Writing (online)	3
EDTL:4066	Curriculum Concepts in Gifted Education (online)	3
EDTL:6167	Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms (online)	3
ENTR:9650	STEM Innovator V: STEM Innovator Tools to Create an Innovation Model for the Classroom (online)	3
ENTR:9660	STEM Innovator VI: Creating a STEM Innovation Pathway Across K-14 Learning Experiences (online)	3
EPLS:6217	Theory and Practice of Leadership (online)	3

INTD:3005	Professional and Creative Business Communication (online)	3
LS:3012	Leadership Theory to Practice (online)	3
MGMT:3300	Strategic Human Resource Management (online)	3
MUS:4630	Psychology of Music (online)	3
PSQF:4121	Identification of Students for Gifted Programs (online)	3
PSQF:4123	Academic Acceleration: Providing Excellence and Equity in Education for High Ability Students (online)	3
PSQF:6281	Cognitive Theories of Learning	3

Students may take other 3000-level courses that focus on talent development concepts, in consultation with their advisor

## Capstone Exploration

The Certificate in Talent Development culminates with the opportunity for students to develop and complete a capstone exploration project relevant to a school or other context that focuses on an important topic or issue in talent development. Students must have a grade of B or higher in the required and elective courses to enroll in the capstone exploration.

The capstone exploration entails critical readings and a guided research project and presentation related to the concept of talent development. Projects require approval (and are supervised) by a Belin-Blank Center professional development team member. Readings will be discussed and determined in collaboration with the mentor. The capstone exploration project is shared in a public presentation immediately following completion of the research/independent study related to the capstone exploration. Students present their capstone exploration to a public forum (e.g., staff meeting, school board meeting, special evening event, public library); if the presentation cannot be at a public forum, an alternate forum will be agreed upon between the student and the Belin-Blank Center mentor. Students submit the final written report (with references and appendices) no later than 20 days after the public presentation.

For more information, visit Certificate in Talent Development on the College of Education website.

# Teaching and Learning

## Chair

- Lia M. Plakans

**Undergraduate majors:** art education (B.A.); elementary education (B.A.); English education (B.A.); mathematics education (B.A.); music education (B.A.); science education (B.A.); social studies education (B.A.); world language education (B.A.); science studies (B.S., granted by the College of Liberal Arts and Sciences)

**Graduate degrees:** M.A. in teaching and learning; M.A.T. in teaching and learning; M.S. in teaching and learning; Ph.D. in teaching and learning

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/about/administration/department-teaching-and-learning>

Department of Teaching and Learning programs prepare graduates for positions in public schools, local and state education agencies, clinical settings, and institutions of higher education. All licensure programs are approved by the Iowa Department of Education.

Undergraduate students pursuing a B.A. with a major in art education, elementary education, English education, mathematics education, music education, science education, social studies education, or world language education, must satisfy the GE CLAS Core [p. 20] requirements.

Undergraduate students pursuing a B.S. with a major in science studies must meet the College of Liberal Arts and Sciences requirements for the Bachelor of Science degree, including the GE CLAS Core; see the College of Liberal Arts and Sciences Academic Policies Handbook.

The Department of Teaching and Learning offers, or jointly administers with departments in the College of Liberal Arts and Sciences, advanced degree programs in the following fields of professional interest: art education; developmental reading; English education; world/foreign language, multilingual, and English as a Second Language education; literacy, culture, and language education; mathematics education; music education; science education; social studies education; special education; STEM education; and teaching, leadership, and cultural competency.

## Graduate Degree Programs

The department offers graduate degree programs in three major areas: elementary education, secondary education, and special education.

### Elementary Education Programs

- art education (offered in the M.A. and M.A.T. in teaching and learning);
- developmental reading (offered in the M.A. in teaching and learning); and
- teaching, leadership, and cultural competency (offered in the M.A. in teaching and learning).

### Secondary Education Programs

- art education (offered in the M.A. and M.A.T. in teaching and learning);
- developmental reading (offered in the M.A. in teaching and learning);
- English education (offered in the M.A. and M.A.T. in teaching and learning);

- world language and English as a Second Language (ESL) education (offered in the M.A. and M.A.T. in teaching and learning);
- literacy, culture, and language education (offered in the Ph.D. in teaching and learning);
- mathematics education (offered in the M.A., M.A.T., and Ph.D. in teaching and learning);
- science education (offered in the M.S., M.A.T., and Ph.D. in teaching and learning);
- social studies education (offered in the M.A. and M.A.T. in teaching and learning);
- special education (offered in the M.A. and Ph.D. in teaching and learning);
- STEM education (offered in the M.S. in teaching and learning); and
- teaching, leadership, and cultural competency (offered in the M.A. in teaching and learning).

The secondary education area also collaborates with the College of Liberal Arts and Sciences to offer an education option for graduate students earning an M.S. in mathematics; an M.A. and Ph.D. in music with a concentration in music education; and a combined B.A./M.A.T. in teaching and learning with a science education subprogram for undergraduates majoring in biology, chemistry, environmental sciences, or physics. In addition, the area offers an ESL endorsement for individuals who are enrolled in a Department of Teaching and Learning graduate degree program or who are licensed in-service teachers.

In addition, the M.A. in music [p. 901] is administered by the School of Music (College of Liberal Arts and Sciences) in cooperation with the College of Education. The concentration in music education provides students with deeper insights into music, the theory and practice of music education, and the role of music in the school curriculum.

The Ph.D. in music [p. 903] with concentration in music education prepares students for teaching, research, and administrative posts. Graduates find employment as college teachers of music education classes and activities; as band, chorus, and orchestra directors; and as administrators of music departments and schools of music. Some apply their skills in public schools as music supervisors, research and curriculum consultants, and directors of city or district school music programs. Doctor of Philosophy students whose concentration is music therapy enroll in the Ph.D. program with concentration in music education. Modifications in the curricular requirements are made to reflect the professional knowledge and skills required for positions such as college teaching or advanced clinical or research positions in music therapy. Both programs are administered by the School of Music [p. 858] (College of Liberal Arts and Sciences) in cooperation with the College of Education.

### Special Education Program

- special education (offered in the M.A. and Ph.D. in teaching and learning).

Applicants for admission to University of Iowa graduate degree programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Graduate Certificates

The graduate Certificate in Applied Behavior Analysis is offered by the Department of Teaching and Learning. To

learn more, see the Certificate in Applied Behavior Analysis [p. 1386] in the Catalog.

The graduate Certificate in Talent Development is offered by the Department of Teaching and Learning. To learn more, see the Certificate in Talent Development [p. 1464] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Art Education (Bachelor of Arts) [p. 1482]
- Major in Elementary Education (Bachelor of Arts) [p. 1484]
- Major in English Education (Bachelor of Arts) [p. 1490]
- Major in Mathematics Education (Bachelor of Arts) [p. 1493]
- Major in Music Education (Bachelor of Arts) [p. 1496]
- Major in Science Education (Bachelor of Arts) [p. 1500]
- Major in Social Studies Education (Bachelor of Arts) [p. 1503]
- Major in World Language Education (Bachelor of Arts) [p. 1506]
- Major in Science Studies (Bachelor of Science) [p. 1509]

### Graduate Programs of Study

#### Majors

- Master of Arts in Teaching and Learning [p. 1518]
- Master of Arts in Teaching in Teaching and Learning [p. 1522]
- Master of Science in Teaching and Learning [p. 1528]
- Doctor of Philosophy in Teaching and Learning [p. 1530]

## Financial Support

A limited number of teaching assistantships are available for graduate students. Assignments vary. Some involve supervising undergraduate majors enrolled in practicums; some involve teaching sections of undergraduate methods courses and supervising student teachers; others consist primarily of research activities. Graduate assistants may register for a maximum of 12 s.h. of credit per semester, but they must register for at least 6 s.h. per semester.

All assistantships are awarded on a competitive basis. Applicants must have been admitted to regular status in the Graduate College and to an advanced program in the College of Education. For information about assistantships, consult the College of Education advisor in the appropriate field.

## Courses

- Teaching and Learning Courses [p. 1467]
- Science Education Courses [p. 1481]

## Teaching and Learning Courses

**EDTL:1050 Opportunities in Education** **2 s.h.**  
Introduction for underrepresented students to the teaching profession and its widely varied opportunities; faculty, students, recipients of awards in education; tours of Iowa City schools; reflection on and personal integration of class learning experiences, consideration of future plans.

**EDTL:1129 First-Year Seminar** **1 s.h.**  
Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

**EDTL:2000 Big Ideas: Creativity for a Lifetime** **3 s.h.**  
Exploration of what senior artists can teach about creativity and aging; interdisciplinary project-based collaborative learning opportunities that consider role of arts and creativity across a lifespan; essential skills necessary to be professionals in numerous careers including health, social work, education, humanities, and the arts; identification of ways for students to be more creative in their own lives and work. GE: Values and Culture. Same as ARTS:2000, ASP:2000, RHET:2000.

**EDTL:2015 Teaching as a Human Endeavor** **3 s.h.**  
Introduction to teaching with focus on role as a human endeavor including purposes, goals, and values; special attention to contemporary issues in teaching and learning with an overview of planning processes, role of settings, contexts, and differentiation; exploration of appropriate ways to study teaching across disciplines and under various professional standards.

**EDTL:2073 Finding Your Comfort Zone: Secrets to Success** **1,3 s.h.**  
Understanding the strengths and challenges of people with special needs; insights into unwritten "rules" of college life; optional practicum involves working hands-on with people who have multiple learning and cognitive disabilities; students with disabilities or those interested in learning more about disabilities are encouraged to enroll.

**EDTL:2111 Teaching Elementary Learners I: Pursuits and Reflection** **2 s.h.**  
Foundational support for future elementary teachers; development of an understanding of teaching with a humanizing orientation; use of inquiry, reflection, and collaboration to introduce UI teacher education core pursuits that center equity; focus on elementary education and learners through valuing identities and multiple perspectives, developing skills and supporting intellect, and critically reflecting on social and political implications of a teacher's role in education.

**EDTL:2112 Teaching Elementary Learners II: Communities and Classrooms** **2 s.h.**  
Foundational support for future elementary teachers; development of an understanding of teaching with a humanizing orientation; use of inquiry, reflection, and collaboration to delve into UI teacher education core principles through integration across disciplines; engagement in elevating and advocating for future elementary students' communities through respect and care; incorporates Teacher Education Program pre-admission requirements and individual interviews with elementary education faculty.

**EDTL:2122 Creativity, Imagination, Play, and Human Development through the Arts 3 s.h.**

Theories related to human development and visual arts; use of visual arts to make meaning from experience; ways to integrate visual arts into everyday life; cognitive and physical processes involved in making, understanding, and looking at visual art through studio experiences; theories of cognitive development; role of visual art in education; introduction to art production, history, criticism, and aesthetics. GE: Literary, Visual, and Performing Arts.

**EDTL:2210 Full STEAM Ahead: The Role of Art in Science, Technology, Engineering, and Math 3 s.h.**

Examination of artists' contributions to STEM and how innovations in STEM have shaped art; readings from art history, historical texts, technological advances, and scientific, engineering, and mathematics journals; how a discovery in one area can have a ripple effect across fields, and how to make diverse connections to content areas in teaching and research.

**EDTL:2630 Introduction to the Psychology of Music 3 s.h.**

Processes by which people perceive, respond to, create, and use music in their daily lives; basic physics of musical stimuli, psychoacoustics of musical perception, principles of musical cognition, neurological and physiological responses to music, theories of musical learning and development, and social psychology of musical activity; previous musical performing experience helpful but not required. Same as MUS:2630.

**EDTL:2670 Peacebuilding, Singing, and Writing in a Prison Choir 3 s.h.**

Students sing with the Oakdale Community Choir inside the Iowa Medical and Classification Center as a service-learning component; students explore meanings of peacebuilding for themselves and community, and use their imaginations to consider new directions of peacebuilding through reading, reflecting, writing, inner peacebuilding, and communal peacebuilding projects; use of choral singing inside prisons to build peace, create positive social connections, transform attitudes toward healing approaches to justice, and inspire a sense of deep care within oneself and among others. GE: Diversity and Inclusion.

**EDTL:2821 Oral Interpretation 3 s.h.**

Weekly performances to develop and define communication skills for professional careers in teaching and business; poetry, prose, monologue, storytelling, duo interpretation, reader's theatre, and demonstration speeches. Same as COMM:2821.

**EDTL:2963 Monsters, Victims, and Villains: Changing Perceptions 3 s.h.**

Introduction to implementation of performance opportunities for special populations (defined as those with cognitive or physical disability) and underrepresented populations; students gain skills necessary to create radical opportunities for and implementation of performances including individuals with disabilities in theatre, dance, and music; students from different backgrounds experience collaborative artistic excellence while redefining audience expectations; historic background for perceptions of disability. GE: Diversity and Inclusion. Same as THTR:2605.

**EDTL:3001 Introduction to Museum Studies 3 s.h.**

Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Stanley Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as ANTH:3001, MUSM:3001, SIED:3001.

**EDTL:3002 Teaching and Learning Technologies 2-3 s.h.****EDTL:3059 Introduction to Education and the Regents Alternative Pathway to Iowa Licensure Program 4 s.h.**

Foundational knowledge and understanding of educational practices for teacher intern candidates in the Regents Alternative Pathway to Iowa Licensure (RAPIL) program; topics include students as learners, the instructional process, and assessment. Requirements: admission to the RAPIL program.

**EDTL:3060 Learning and Instruction for Today's Classrooms 3 s.h.**

First course in the Regents Alternative Pathway to Iowa Licensure program. Requirements: admission to the RAPIL program.

**EDTL:3061 Assessment for Learning 3 s.h.**

Fourth course in the Regents Alternative Pathway to Iowa Licensure program. Requirements: admission to the RAPIL program.

**EDTL:3062 Learning Communities 3 s.h.**

Fifth course in the Regents Alternative Pathway to Iowa Licensure program. Requirements: admission to the RAPIL program.

**EDTL:3063 Creating Classrooms Conducive to Teaching and Learning 3 s.h.**

Third course in the Regents Alternative Pathway to Iowa Licensure program. Requirements: admission to the RAPIL program.

**EDTL:3064 Intern Seminar on Critical Issues in Education 3 s.h.**

Sixth course in the Regents Alternative Pathway to Iowa Licensure program. Requirements: admission to the RAPIL program.

**EDTL:3065 Methods in Teaching in the Secondary Classroom 3 s.h.**

Learn, identify, and implement effective content-specific secondary teaching methods with focus on active student engagement; students develop and enhance instructional planning/pedagogy with special emphasis on content-specific secondary teaching methods, including reading in content area; describe and implement process of pre-, formative, and summative assessment strategies, appropriately aligning them in the instructional design of secondary content lessons; taking specific steps toward improving professional dispositions.

**EDTL:3067 Regents Alternative Pathway to Iowa Licensure Clinical Field Experience I 2 s.h.**

Students co-teach under guidance of a cooperating teacher in a secondary classroom; active engagement in the classroom through whole and small group interactions; planning and teaching a series of lessons; reflection with a Regents Alternative Pathway to Iowa Licensure (RAPIL) evaluator. Corequisites: EDTL:3060.

**EDTL:3068 Regents Alternative Pathway to Iowa Licensure Clinical Field Experience II** 2 s.h.

Students co-teach under guidance of a cooperating teacher in a secondary classroom; active engagement in the classroom through whole and small group interactions; planning and teaching a series of lessons; reflection with a Regents Alternative Pathway to Iowa Licensure (RAPIL) evaluator. Corequisites: EDTL:3061.

**EDTL:3070 Regents Alternative Pathway to Iowa Licensure Elementary Practicum** 2 s.h.

Students co-teach under guidance of a cooperating teacher in an elementary classroom; active engagement in classroom through whole and small group interactions with students; planning and teaching at least two lessons; reflection with Regents Alternative Pathway to Iowa Licensure (RAPIL) evaluator; for RAPIL program candidates to complete a 40-hour practicum to add K-8 licensure in art, physical education, music, or health to an already completed 5-12 endorsement in same content area.

**EDTL:3091 Secondary Education Program Orientation and Classroom Management** 1,3 s.h.

Overview including opportunities, policies and procedures, requirements and expectations, and services associated with the Teacher Education Program; characteristics of the classroom environment and their implications for organization and management; concepts and principles teachers can use when thinking about managerial tasks in the classroom; for prospective middle and secondary school teachers.

**EDTL:3095 Teaching Reading in Secondary Content Areas** 1,3 s.h.

Integration of reading strategies into secondary content areas for teacher candidates in secondary education.

**EDTL:3103 Assessment for Instructional Planning and Practice** 3 s.h.

Fundamentals of using assessment data to make instructional planning decisions that preservice educators need in their advanced coursework and classrooms; practical application with curriculum-based procedures; emphasis on classroom-based procedures used to make educational decisions to plan instruction for students, particularly those who are experiencing academic difficulty. Requirements: admission to TEP.

**EDTL:3114 Parent-Child Relationships** 3 s.h.

Roles and relationships within and between families, culture, society; identify (family) resources and concerns based on children's development, abilities.

**EDTL:3115 Museum Education and Interpretation** 3 s.h.

Examination of the educational role of museums; educational theory, audience development, teaching strategies, accessibility, and evaluation within museum context; community-engaged project and collaboration with museum to develop curriculum and educational resources. Same as MUSM:3115.

**EDTL:3120 Methods and Materials: Music for the Classroom Teacher** 2 s.h.

Development of music skills, techniques, knowledge of methods and materials for teaching music to young children; for elementary education majors. Requirements: admission to TEP.

**EDTL:3123 Reading and Responding to Children's Literature** 3 s.h.

Reading and teaching of children's literature; becoming more knowledgeable readers of children's literature; using children's literature in elementary classroom for aesthetic, personal, social, and critical purposes; wide range of literary texts in different genres and multiple ways readers might experience these texts given particular teaching approaches; ways in which readers interact with texts and with each other to make meaning as they read and discuss literature. Requirements: admission to elementary TEP.

**EDTL:3127 Methods and Materials: Physical Education, Health, and Wellness** 2-3 s.h.

Methods, curriculum. Requirements: admission to TEP.

**EDTL:3128 Practicum in Physical Education** 1 s.h.

Observation of elementary physical education teachers and classes; discussions and papers concerning these experiences; for students pursuing the K-8 Physical Education endorsement. Corequisites: EDTL:3127.

**EDTL:3130 Adaptive Physical Education for the Elementary Classroom Teacher** 2 s.h.

Create and deliver quality, inclusive physical education for students with mental, physical, or emotional disabilities; identify and evaluate the needs of disabled students, plan units and lessons with appropriate modifications for all learners, write an IEP, comply with IDEA in a physical education setting. Prerequisites: EDTL:3127.

**EDTL:3131 Movement Education** 2 s.h.

Movement education as a basis for psychomotor and cognitive development in children; summary of basic growth and motor development; in-depth instruction on theory and application of movement education curriculum, and practice on design and execution of movement education lessons.

**EDTL:3139 American Government and Civics for the Elementary Classroom Teacher** 3 s.h.

Foundations and processes of American government as related to development of civic literacy in elementary students and their teachers; founding documents, legal precedents, social and economic changes throughout American history; research-based teaching and learning processes from social studies education. Requirements: admission to TEP.

**EDTL:3141 Elementary School Mathematics: Number and Operations** 3 s.h.

Problem-solving approach to current trends in math education and process of teaching math; current math content knowledge assessed at start and end of course; opportunities to strengthen number and operations content knowledge; how children in grades K-5 think about and learn math; core ideas of learning, teaching, planning, and assessing number and operations concepts and skills; research-based pedagogical strategies that help children develop math concepts and procedures. Requirements: admission to TEP.

**EDTL:3142 Elementary School Mathematics: Geometry and Measurement** 3 s.h.

Problem-solving approach to current trends in math education; current math content knowledge assessed at start and end of course; opportunities to strengthen geometry and measurement content knowledge; how children in grades K-5 think about and learn math; core ideas of learning, teaching, planning, and assessing geometry and measurement concepts and skills; research-based pedagogical strategies that help children in elementary school develop math concepts and procedures. Requirements: admission to TEP.

**EDTL:3143 Methods of Elementary Art and Field Experiences** **3 s.h.**

Application of studio methods to teaching children in Saturday Children's Art Class Program. Same as ARTE:3143.

**EDTL:3146 Elementary School Mathematics: Data/Probability and Algebra** **3 s.h.**

Problem-solving approach to current trends in math education and process of teaching math; current math content knowledge assessed at start and end of course; opportunities to strengthen data analysis/probability and algebra content knowledge; how grade K-5 children think about and learn math; core ideas of learning, teaching, planning, and assessing data/probability and algebra concepts and skills; research-based pedagogical strategies that help children develop math concepts and procedures. Requirements: admission to TEP.

**EDTL:3160 Reading and Language Arts Methods for Primary Students in Grades K-3** **3 s.h.**

Theoretical foundations and practical skills to become reflective professionals who can design and implement effective reading and language arts instruction; authentic formative assessment for economically, academically, culturally, racially, and linguistically diverse children in grades K-3; for preservice elementary teachers. Prerequisites: EDTL:3190 with a minimum grade of C- and EDTL:3002 with a minimum grade of C-. Requirements: admission to elementary TEP.

**EDTL:3161 Social Studies for the Elementary Classroom Teacher** **3 s.h.**

Individual growth and change due to environment, economy, and technology; focus on developing teacher's understanding of social and behavioral sciences and how they relate to geography, history, and government in student's growth toward democratic citizenship; emphasis on need to develop intellectually stimulating curricula based on Iowa Core in behavioral science; lesson and curriculum development from research-based best practices in teaching social studies and driven by Iowa Core goals and objectives; technology as a teaching tool and focus of investigation in today's society. Prerequisites: EDTL:3002 with a minimum grade of C- and EDTL:3190 with a minimum grade of C-. Requirements: admission to elementary TEP.

**EDTL:3163 Methods: Elementary School Mathematics** **2-3 s.h.**

Content; techniques of teaching and means of assessment for K-6 mathematics. Prerequisites: EDTL:3190 with a minimum grade of C- and EDTL:3002 with a minimum grade of C- and (EDTL:3141 or MATH:1120). Corequisites: EDTL:3170 and EDTL:3174. Requirements: admission to TEP.

**EDTL:3164 Reading and Language Arts Methods for Intermediate Students in Grades 3-6** **3 s.h.**

Theoretical foundations and practical skills to become reflective professionals who can design and implement effective reading and language arts instruction; authentic formative assessment for economically, academically, culturally, racially, and linguistically diverse children in grades 3-6; for preservice elementary teachers. Prerequisites: EDTL:3190 with a minimum grade of C- and EDTL:3002 with a minimum grade of C-. Requirements: admission to elementary TEP.

**EDTL:3165 Elementary Science Methods I** **3 s.h.**

Meaningful and practical learning experiences to foster elementary science learning environments that engage learners in scientific practices and understanding of biological and chemical sciences; essential concepts; instruction to promote elementary student learning; learning, teaching, subject matter, curriculum, and assessment. Prerequisites: EDTL:3002 with a minimum grade of C- and EDTL:3190 with a minimum grade of C-.

**EDTL:3166 Elementary Science Methods II** **3 s.h.**

Meaningful and practical learning experiences to foster elementary science learning environments that engage learners in scientific practices and understanding of physical and earth/space sciences; essential concepts; instruction to promote elementary student learning; learning, teaching, subject matter, curriculum, and assessment. Prerequisites: EDTL:3002 with a minimum grade of C- and EDTL:3190 with a minimum grade of C- and EDTL:3165.

**EDTL:3168 History for the Elementary Classroom Teacher** **3 s.h.**

Development of historical literacy in elementary students and their teachers; connecting children to the past using family histories; interactions and patterns in world history; diverse perspectives in U.S. history; using primary sources to investigate state and local history. Requirements: admission to TEP.

**EDTL:3170 Elementary Classroom Management** **1-3 s.h.**

Activities, techniques, strategies, theories related to effective classroom management. Prerequisites: EDTL:3190 with a minimum grade of C- and EDTL:3002 with a minimum grade of C-. Corequisites: EDTL:3163 and EDTL:3174.

**EDTL:3172 Elementary Reading Practicum** **3-4 s.h.**

Experience in teaching literacy to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; supervisor with classroom experience mentors and supports students at practicum site; on-site practicum experiences preceded by on-campus seminar experience with practicum coordinator and supervisors; for preservice teachers. Prerequisites: EDTL:3002 with a minimum grade of C- and EDTL:3190 with a minimum grade of C- and EDTL:3160 and EDTL:3164. Corequisites: EDTL:4171.

**EDTL:3174 Elementary Math Practicum** **arr.**

Experience in teaching mathematics to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; supervisor with classroom experience mentors and supports students at practicum site; on-site practicum experiences preceded by on-campus seminar experience with practicum coordinator and supervisors; for preservice teachers. Prerequisites: EDTL:3002 with a minimum grade of C- and EDTL:3190 with a minimum grade of C-. Corequisites: EDTL:3163 and EDTL:3170.

**EDTL:3175 Elementary Social Studies/Science Practicum** **2 s.h.**

Experience in teaching social studies and science to elementary students; opportunity to learn from an experienced teacher within a functioning classroom; mentoring and support from supervisor with classroom experience at practicum site; onsite practicum experiences preceded by on-campus seminar with practicum coordinator and supervisors; assignments designed to enrich and augment onsite experiences and tied to student's current methods courses; for preservice teachers. Requirements: admission to TEP.

- EDTL:3180 Drama in the Classroom** 3 s.h.  
Theories of community, culture, identity in relation to language arts teaching and learning; emphasis on incorporating multiple literacies, both oral and print, into language arts curricula; action research involving oral literacy. Same as THTR:3610.
- EDTL:3187 Early Literacy Instruction for Young Children** 3 s.h.  
Service-learning involving lecture, class discussion, and student participation in an early literacy program for preschoolers; concepts and skills necessary to conduct story time groups with young children that target development of print knowledge; application of learning by reading to small groups of preschool children. Recommendations: CSD:3118. Same as CSD:3187.
- EDTL:3190 Orientation to Elementary Education 1-2 s.h.**  
Overview of elementary education expectations, including options for student teaching; classroom observation, lesson planning, performance indicators, InTASC standards, classroom management, information about mandatory child abuse reporting, blood-borne pathogens, professional ethics.
- EDTL:3204 Art Education Studio and Field Components** 3 s.h.  
Art training related to processes of elementary and secondary school art teaching; studio methods applied to teaching children and adolescents. Requirements: concurrent enrollment in EDTL:3290 for Teacher Education Program student.
- EDTL:3205 Methods of Secondary Art and Field Experience** 3 s.h.  
Art education theory and methods at secondary levels; art curriculum, unit, and lesson planning; evaluation, motivation, instructional materials; observational techniques.
- EDTL:3212 Tasting Art: How the Senses Enhance Our Experience of Art** 3 s.h.  
Investigates how artists initiate sensory reactions in viewers through close looking at objects, careful reading of historical and contemporary texts, and producing art; examining how diverse fields such as social studies, science, math, literature, psychology, philosophy, and cultural studies have informed artists' interpretations of their environments; how to bring art into a variety of content areas to enrich the learner's understanding; how to analyze art, art history, art criticism, aesthetics, and art production.
- EDTL:3215 The Museum of Today and Tomorrow: How Museums Enhance the K-12 Classroom** 3 s.h.  
What do museums have to offer teachers? How are they relevant to social studies, math, English, and science teachers? Students are put in charge of answering these questions and build their knowledge about art and innovative teaching strategies in the K-12 classroom and museum, practice designing lessons around a work of art, and apply their knowledge about art and curriculum into interactive online modules; students work directly with art on campus in the Lindquist Art Collection in the College of Education and the University of Iowa Stanley Museum of Art. Same as MUSM:3215.
- EDTL:3290 Introduction and Practicum: Art** 2-3 s.h.  
Practice of learning from an experienced art teacher in an art classroom and setting; observations in an art classroom side-by-side with experience and insight gained through participating and teaching in the Saturday Art Workshop Program. Requirements: admission to TEP.
- EDTL:3375 Teaching and Performing Shakespeare** 3 s.h.  
Students work through Shakespeare's most frequently taught plays—*Romeo and Juliet*, *Macbeth*, *A Midsummer Night's Dream*, *Hamlet*, and *The Tempest*—by focusing on various learning strategies and resources; each play is taught in a different method, using a different edition, and through distinct teaching resources, most notably on the difference between the page (close reading, archival skills, historical analysis) and the stage (watching, reviewing, and, most importantly, producing drama).
- EDTL:3382 Language and Learning** 2-3 s.h.  
How language reflects and constructs learners' identities and cultures; readings related to oral and written language, native and second language development, linguistic diversity; discussion of the relationship of language theory to schools of language instruction. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as ENGL:3190.
- EDTL:3393 Reading and Teaching Adolescent Literature** 3 s.h.  
Reading and evaluation of literature suitable for junior and senior high school students. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. Same as ENGL:3191.
- EDTL:3492 Teaching Spanish Heritage Speakers** 3 s.h.  
Focus on cutting-edge research and methods to develop suitable language curriculum for Spanish heritage speakers (SHS); topics include bilingual development, sociolinguistics, language teaching, and heritage speakers' affective needs; use of these theories to help understand and apply best practices in teaching SHS; topics also help create best practices in teaching mixed language courses for second language and heritage students. Taught in Spanish. Requirements: at least one course taught in Spanish at the 2000 level or above. Same as SPAN:3192.
- EDTL:3532 Introduction and Practicum: Mathematics** 3 s.h.  
Experience designing and teaching lessons with varied instructional intent and use of multiple instructional strategies; study and practice methods of managing classroom learning environment; significant time spent in cooperating schools, on-campus meetings. Requirements: admission to TEP.
- EDTL:3534 Methods: Middle School Mathematics** 3 s.h.  
Subject matter content, teaching and assessment techniques for grades 5-9 math; how students learn mathematics; mathematics curricular planning for all students.
- EDTL:3605 Instrumental Techniques** 2 s.h.  
Same as MUS:3605.
- EDTL:3610 Introduction and Practicum: Music** 2 s.h.  
Experience observing and assisting music teachers and students in elementary or secondary schools; at least one hour per week in the school plus on-campus class meetings. Requirements: admission to TEP.
- EDTL:3620 Methods and Materials: General Music** 3 s.h.  
Methods for teaching general music in elementary and secondary schools. Prerequisites: EDTL:3002 and EDTL:3610.
- EDTL:3635 Instrumental Conducting** 3 s.h.  
Advanced skills for instrumental conducting, score analysis, rehearsal techniques, literature selection. Prerequisites: MUS:3625. Same as MUS:3635.

- EDTL:3640 Choral Methods** 3 s.h.  
Organization, implementation of effective choral music programs for all ages. Prerequisites: EDTL:3610. Same as MUS:3640.
- EDTL:3645 Choral Conducting and Literature** 3 s.h.  
Advanced skills appropriate to choral conducting, analysis, literature selection studied and implemented to develop a secure approach to choral art; students preparing to teach in the elementary or secondary schools must register under EDTL:3645. Prerequisites: MUS:3625. Same as MUS:3645.
- EDTL:3650 Instrumental Methods and Materials** 3 s.h.  
Elementary and secondary instrumental music methods course required for K-12 music teacher certification. Prerequisites: EDTL:3610. Same as MUS:3650.
- EDTL:3715 Experiential Teaching and Learning** 3 s.h.  
Introduction to practice of experiential learning and teaching; students create and lead experiential activities in formal and informal learning environments; exploration of factors that impact the value of an experience and assess impact; integration of multiple disciplines and perspectives in a collaborative manner; skills for processing and guiding reflection to determine outcomes of experiences; work collaboratively to design, plan, execute, and determine outcomes of an experience for a target population.
- EDTL:3905 Teaching Deaf and Hard of Hearing Students** 3-4 s.h.  
Issues in d/Deaf education; management techniques, communication strategies, teaching strategies, instructional materials, hands-on activities, assessments, parent involvement; use of technology, ethnic and cultural diversity, classroom management, pre-reading techniques, literacy development, educational program options. Taught in English and/or American Sign Language. Requirements: for 4 s.h. option—concurrent enrollment in ASL:2002, if not taken as a prerequisite. Same as ASLE:3905.
- EDTL:3915 Introduction: Strategist I (Elementary)** 1-2 s.h.  
Teaching students with mild disabilities in elementary resource placements; current trends and issues, basic and theoretical approaches, implications of federal and state statutes, multidisciplinary team approaches to providing appropriate educational programming; students complete a practicum with an elementary special education teacher. Requirements: admission to TEP.
- EDTL:3976 Reading Intervention for Students At Risk** 3 s.h.  
Reading instructional approaches for students at risk for, or with reading disabilities; students enrolled in lab apply content while working with a reading disability student; use of effective teaching principles and research-based practices for designing and delivering instruction in reading (including oral and silent reading), vocabulary development, reading fluency, comprehension. Requirements: admission to TEP.
- EDTL:4021 Science for High Ability Students** 1 s.h.  
Unique challenges and opportunities confronted by teachers of students with above average ability and interest in science; theory and practice; development of program outlines for science programs.
- EDTL:4022 Math Programming for High Ability Students** 1 s.h.  
Unique challenges and opportunities confronted by teachers of high-ability students; theory and practice, development of program outlines for implementation. Same as PSQF:4122.
- EDTL:4024 Differentiating Projects with Technology** 1 s.h.  
Use of digital tools to enrich student presentations; PowerPoint slide shows, presentations uploaded to World Wide Web, interactive multimedia presentations via HyperStudio.
- EDTL:4025 Differentiated Instruction for the Gifted** 1 s.h.  
Program options for K-12 gifted students; student abilities and needs linked with various curriculums; case studies, school materials.
- EDTL:4026 Reading for High-Ability Students** 1 s.h.  
Purposes and methods of reading instruction, with focus on developmentally appropriate needs of high-ability readers; genres of literature, enriched and accelerated reading curricula, role of reading in social and emotional development of gifted students.
- EDTL:4029 Developing Leadership Skills for Gifted and Talented Students, K-12** 1 s.h.
- EDTL:4032 Middle School Curriculum, Methods, and Practicum** 3 s.h.  
Junior high and middle school development compared; characteristics of exemplary programs, disciplinary and interdisciplinary trends; variety of teaching methods (group and individual); hands-on activities. Requirements: admission to TEP.
- EDTL:4065 Social Studies for High-Ability Learners** 1-2 s.h.  
Intersection of unique challenges presented by talented students and challenges of designing, implementing, and assessing quality inquiry-based social studies instruction; background in social studies or social studies education not required.
- EDTL:4066 Curriculum Concepts in Gifted Education** 3 s.h.  
Analyzing and refining understanding of curriculum in context of: needs of gifted and talented students, rationale for and implementation of curriculum differentiation, and curriculum principles for and applications to gifted and talented; designed for preservice and inservice educators, as well as those interested in curriculum development, design, and delivery.
- EDTL:4067 Conceptions of Talent Development** 3 s.h.  
Students review conceptions of talent development and explore possibilities for appropriate programming in specific fields across various stages in life; traditional opportunities in gifted education programs; stages of development in early childhood; development of knowledge and skills in addition to and beyond organized educational programs.
- EDTL:4072 Thinking Skills** 1 s.h.  
Factors involved in teaching thinking skills as a total concept; the relationship of critical and creative thinking; review of published programs.
- EDTL:4073 Programming/Curriculum for High Ability Students** 1 s.h.  
Programming and curriculum for K-12 students identified as gifted or highly able; in-class differentiations, special projects for pull-out programs, facilitating research projects, mentoring in advanced programming.
- EDTL:4074 Differentiation at the Secondary Level** 1 s.h.  
Importance of differentiation for gifted learners in middle school and high school; differentiation through advanced placement programs as well as broader perspectives on differentiation; essentials for differentiation understood and applied to a lesson that will be implemented with students.



**EDTL:4075 Topics in Talented and Gifted Programming****arr.**

Examination of various topics that allow educators to implement strategies for helping high-potential students succeed in gifted/talented programs.

**EDTL:4083 Talented and Gifted Enhanced Field Experience****1-3 s.h.**

Experience working with and/or observing gifted students; development of curricular materials; course is not the required practicum experience for talented and gifted (TAG) endorsement, but counts toward required total hours and provides a valuable learning opportunity to consider best practices for the age level students will be teaching.

**EDTL:4085 Current Readings and Research in Gifted Education****1 s.h.**

Research in the field of gifted education and talent development; applications of research to ensure best practices in providing services and programs for high-ability learners.

**EDTL:4087 Seminar: Curriculum and Student Teaching****1-3 s.h.**

Discussions, role-playing, group and individual reports, analysis of critical incidents, classroom management, videotapes of student classroom performance pertinent to participants' student teaching experiences. Requirements: student teaching.

**EDTL:4089 Special Subject Area Student Teaching****arr.**

Supervised teaching experience in a single subject in grades 1-6.

**EDTL:4091 Observation and Laboratory Practice in the Secondary School****arr.**

Student teaching experience in performing the duties of regular classroom teachers under supervision of experienced personnel in secondary schools.

**EDTL:4092 Observation and Laboratory Practice in the Secondary School****arr.**

Continuation of EDTL:4091.

**EDTL:4093 Teaching and Learning for a Global Perspective****3 s.h.**

Examination of conceptualizations and themes, along with theories, strategies, and resources that can inform teaching and learning for global competence education in all disciplines; teaching for prejudice reduction and education for informed and responsible global citizenship; creation of a standards-based curriculum project; designed for practicing teachers.

**EDTL:4096 Topics in Teaching and Learning****arr.****EDTL:4137 Introduction to Educating Gifted Students****3 s.h.**

Fundamental issues such as curriculum, counseling, family issues, gender and minority issues. Same as CSED:4137.

**EDTL:4153 Gifted and General Education Collaboration****1 s.h.**

Need for differentiated learning experiences throughout the school day for gifted students; how classroom teachers and gifted/talented resource teacher collaborate to provide appropriate instructional services to gifted students; collaborative models, planning process, and recommendations for both direct and indirect services. Requirements: internet access.

**EDTL:4171 Diversity and Exceptionalities in Literacy Instruction****3 s.h.**

Elaborates on content from EDTL:3160 and EDTL:3164; issues in theoretically sound reading and writing assessment, instruction in K-8 classrooms where local, state, and national goals play increasing roles; reading and writing processes; teaching and learning of reading and writing; focus on role of language and conversation in learning, content area reading instructional strategies, classroom-based reading and writing assessment, special issues in teaching, and learning with textbooks. Prerequisites: EDTL:3190 with a minimum grade of C- and EDTL:3002 with a minimum grade of C- and EDTL:3160 and EDTL:3164.

**EDTL:4187 Effective Teaching Strategies for the Elementary Teacher: Student Teaching Seminar****3 s.h.**

Provides student teachers with a structured, consistent forum to critically examine and engage in professional dialogue related to the process of becoming a teacher; draws on personal classroom experiences as well as theories and ideas about education studied throughout the teacher education program; guided by the InTASC Model Core Teaching Standards and the Iowa Teaching Standards, students study and discuss principles of effective teaching practice that lead to improved student achievement; as students work through components of planning, instruction, assessment, and lesson reflection, they complete a Teacher Performance Assessment (edTPA). Requirements: elementary education major in student teaching semester.

**EDTL:4188 Practicum in Teaching and Curriculum Development in Gifted Education****1-6 s.h.**

Experience in developing course materials for classes offered through the Belin-Blank Center for Gifted Education. Same as CSED:4188.

**EDTL:4189 Practicum in Gifted/Talented Education****1 s.h.**

Experience developing course materials for classes offered through the Belin-Blank Center for Gifted Education.

**EDTL:4190 Supervised Teaching in the Elementary School: Interactive Phase****arr.**

Student teaching at the elementary level (K-9). Corequisites: EDTL:4091. Requirements: application to the Office of Teacher Education and Student Services.

**EDTL:4191 Supervised Teaching in the Elementary School: Pre- and Post-Active Phase****arr.**

Corequisites: EDTL:4190. Requirements: application to the Office of Teacher Education and Student Services.

**EDTL:4192 Special Area Student Teaching****arr.**

Supervised teaching and observation in specific areas of elementary curriculum.

**EDTL:4193 Independent Study****arr.**

Requirements: senior standing.

**EDTL:4199 Program Models in Gifted Education****3 s.h.**

Development and refinement of preservice and inservice educators' understanding of academic programs; needs of gifted and talented students, including diverse and often underrepresented groups of students; rationale for and implementation of a comprehensive program model for gifted students. Requirements: internet access.

**EDTL:4220 The Avant-Garde at the University of Iowa** 3 s.h.

In 1968, the intermedia program was established in the School of Art and Art History as one of the first art programs that deliberately brought studio training and a range of other academic and performance disciplines together in order to foster new experimental practices; the UI also is home to the International Dada Archive and Research Center, established in 1979; using resources of the UI library and museum, students examine the ways avant-garde ideas enter into everyday life, and how radical ideas come to shape, transform, and activate new ways of learning today.

**EDTL:4314 Introduction and Practicum: Secondary English** 3 s.h.

Experience observing and assisting English or speech teachers and students in secondary schools; 12 hours per week in the school plus on-campus class meetings.

**EDTL:4315 Learning to Teach Secondary English/Language Arts and Field Experience** 3 s.h.

Organizational techniques, methods, materials for teaching high school English; experience in simulated teaching situations during laboratory sessions, integrated with lectures and discussions. Prerequisites: EDTL:4314. Same as ENGL:4810.

**EDTL:4355 Approaches to Teaching Writing** 3 s.h.

Theories, practices, strategies, and history of writing and teaching writing. English majors may apply this course to the following area and/or period requirement. AREA: Nonfiction and Creative Writing. GE: Engineering Be Creative. Same as CNW:4355.

**EDTL:4392 Voice, Drama, and Debate in the Secondary Schools** 3 s.h.

Introduction to elements of classical and contemporary rhetoric, the art of debate, oral interpretation and public speaking, dramatic methods in the classroom, and theater management; important issues and vocabulary of drama and debate including literary, theatrical, pedagogical, and sociohistorical concepts and terms; importance of classical rhetorical strategies and their relevance in the political realm; students work through drama, the creative process of playwriting, acting, designing, and staging a play.

**EDTL:4393 Critical Media Studies and Production in Secondary Schools** 3 s.h.

Introduction to teaching media in secondary schools; preparation to teach critical media literacy, media law and ethics, forms of journalism writing, and production process; emphasis on essential role of media in a democratic society; exploration of instructional strategies and organization practices to guide secondary students to think critically as media consumers and producers; students write and produce their own texts and experience processes to strengthen understanding of learning standards for secondary media students—communication, collaboration, creativity, and critical thinking.

**EDTL:4394 Secondary Reading Instruction** 2-3 s.h.

Methods and materials used in teaching developmental reading in all junior and senior high school content areas. Prerequisites: EDTL:4314.

**EDTL:4406 World Language Practicum I** 3 s.h.

Skill development for teaching languages in the early grades; curriculum design, test creation, microteaching with inservice teachers. Prerequisites: EDTL:4410. Corequisites: EDTL:4416.

**EDTL:4407 World Language Practicum II** 3 s.h.

Practice in lesson design, classroom management techniques, evaluation skills during work with inservice foreign language teachers. Prerequisites: EDTL:4410. Corequisites: EDTL:4417.

**EDTL:4410 Teaching K-12 Second Language Learners** 3 s.h.

Second language learning and teaching in the multicultural classroom; influence of school setting, societal context. Requirements: admission to TEP.

**EDTL:4416 Learning to Teach Second Languages I** 3 s.h.

Approaches, methods, and techniques of teaching the modalities of listening, speaking, reading, and writing in a second language. Corequisites: EDTL:4406.

**EDTL:4417 Learning to Teach Second Languages II** 3 s.h.

Curriculum design, classroom management, student evaluation, technology, using context to teach culture in second languages. Prerequisites: EDTL:4410 or EDTL:6483. Corequisites: EDTL:4407.

**EDTL:4418 ESL Practicum I** 4 s.h.

Skill development for teaching English as a second language; curriculum design, test creation, microteaching with inservice teachers.

**EDTL:4467 Methods: ESL and Bilingual Education** 4 s.h.

Exploration of approaches, methods, and practices in teaching English to speakers of other languages in K-12 school settings; communicative and content-based approaches to language learning with practical application of theory and research; issues concerning linguistically diverse learners covered with pedagogical implications; skills in teaching approaches for English language learners; lesson and unit planning, materials evaluation and adaptation, and assessment for placement, diagnosis, exit, and evaluation of English language learners.

**EDTL:4468 Instruction of English Language Learners for K-12 Classrooms** 3 s.h.

Preparation to work with English Learners (ELLs) in K-12 settings; dramatic increase in this population over recent decade; need for teachers to understand sociocultural and linguistic challenges faced by ELLs and their families; proficiency in instructional and differentiation strategies for instructing ELLs; ELL variation and cultural considerations, English language development standards, second language teaching and learning, differentiation for ELLs, effective practice for ELL instruction and assessment; for students in teacher preparation program.

**EDTL:4498 Language Structure for Teaching English Language Learners** 4 s.h.

Exploration of theory, rules, and examples to gain practical understanding of the system of language structure; focus on working with English language learners from a variety of first language backgrounds in educational settings; principles of discourse, phonology, morphology, syntax, pragmatics, and semantics that build a framework for discussion of applications and analysis of student and teacher language; address English language learners' development in P-12 settings; strategies to evaluate learner language; increase awareness of language challenges for English language learners that can occur in spoken and written educational instruction and materials. Requirements: admission to TEP.

**EDTL:4535 Methods: High School Mathematics** 3 s.h.

Subject matter content, teaching and assessment techniques for grades 9-12 math; how students learn mathematics; mathematics curricular planning for all students. Prerequisites: EDTL:3534.

**EDTL:4565 Mathematics in Management and Social Sciences** 3 s.h.

Various real life applications of modern mathematics including management, decision making, issue of optimization, methods for optimal scheduling, voting methods, game theory, error checking, and other related strategies.

**EDTL:4630 Psychology of Music** 2-3 s.h.

Cognition of music, affective response, aesthetic response, musical ability. Same as MUS:4630.

**EDTL:4640 Introduction to Music Research** 2-3 s.h.

Preparation for conducting research on music behavior.

**EDTL:4750 Assessment in Science, Technology, Engineering, and Mathematics (STEM)** 2 s.h.

Assessment used to evaluate teaching and learning in K-12 mathematics and science; formative and summative assessments; constructing assessment; methods to assess student knowledge in a classroom setting; culturally responsive assessment.

**EDTL:4751 Learning in the Science, Technology, Engineering, and Mathematics (STEM) Classroom** 2 s.h.

Meaningful learning experiences in preparation to create effective science learning environments for secondary school age students and construct a vision as teachers of secondary science; opportunities to delve into contemporary learning theories and examine ways that learning theories explain the learning process as negotiated within a classroom.

**EDTL:4752 Secondary Science Methods II with Field Experience** 3 s.h.

Developing, writing, and orally defending a robust research-based framework for teaching science that includes student goals, student actions, content, materials, activities, teaching behaviors and strategies, contemporary learning theories, self-evaluation. Prerequisites: EDTL:4751.

**EDTL:4753 Secondary Science Methods III with Field Experience** 3 s.h.

Articulating, experiencing, practicing a research-based framework for teaching science in the real world of students, schools, teaching. Prerequisites: EDTL:4752. Corequisites: EDTL:4779.

**EDTL:4768 Computer Science Methods** 3 s.h.

Introduction to issues and ideas related to instruction of computer science courses; how to integrate computer science learning into other content areas or content learning into computer science courses in meaningful ways; meets all requirements the Iowa Board of Educational Examiners have set forth for computer science methods courses including curriculum development, project-based methodologies, communication about computing, and digital citizenship.

**EDTL:4779 Secondary School Science Practicum** arr.

Supervised teaching experience in a single subject; secondary school setting.

**EDTL:4811 Introduction and Practicum: Secondary Social Studies** 3 s.h.

Experience observing and assisting social studies teachers and students in secondary schools; nine hours per week in the school plus on-campus class meetings. Requirements: admission to TEP.

**EDTL:4870 Methods: Secondary Social Studies** 3 s.h.

Analysis of the teaching-learning process; organization of social studies content for teaching purposes; evaluation of learning procedures and new strategies; practicum work includes microteaching, computer-assisted modules, lesson plan development, writing test items.

**EDTL:4876 Advanced Methods for Teaching and Learning in a Culturally Responsive Classroom** 3 s.h.

Multiculturalism and equity issues in education that support development of resources and lesson activities to appeal to a diverse student body; asynchronous online course for educators in all disciplines who are pursuing licensure or currently teaching in a K-12 classroom, advanced technological literacy not required. Eight weeks. Requirements: successful completion of a methods course in K-12 licensure program.

**EDTL:4900 Foundations of Special Education** 3 s.h.

Students with disabilities, gifted and talented; strategies for effective treatment, collaboration between regular and special education teachers; remediation of academic, behavioral, social problems. GE: Diversity and Inclusion.

**EDTL:4921 Transition and Related Issues** 3 s.h.

Curriculums, programs, and delivery systems that help persons with disabilities move from preschool to elementary, elementary to middle school, middle school to high school, and to postsecondary life; emphasis on ecological and task analysis, transition planning strategies, interagency collaboration, self-determination, access to resources and support services.

**EDTL:4922 Supervised Teaching: Elementary Strategist I** 6 s.h.

Student teaching at the elementary level in a program for students with mild to moderate disabilities. Requirements: elementary education major.

**EDTL:4934 Parent-Teacher Communication** 1-3 s.h.

Realities of working with parents; interpersonal skills; options for parent support services. Same as PSQF:4134.

**EDTL:4936 Home/School/Community Partnerships** 3 s.h.

Issues related to collaboration among families, educators, community members in implementing school programs. Same as PSQF:4136.

**EDTL:4940 Characteristics of Disabilities** 3 s.h.

Etiologies of mild/moderate disabilities; current educational trends; educational alternatives; importance of multidisciplinary team; psychological and social-emotional characteristics of individuals.

**EDTL:4950 Behavioral and Social Interventions** 3 s.h.

Individual behavioral management, behavioral change strategies, and social interaction strategies, methods, and techniques for individuals with exceptional learning needs.

**EDTL:4967 Integrated Disability Studies Practicum** 2 s.h.

Hands-on, interactive experience to learn what is involved in working with young adult students with multiple learning and cognitive disabilities; four whole-group classroom sessions and required attendance at one UI REACH course.

**EDTL:4975 Explicit Instruction** 3 s.h.

Empirically supported methods for teaching reading and mathematics K-12 to students with mild-moderate disabilities; assessment and curricular adaptations to individual needs.

**EDTL:4980 Special Education Literacy 3 s.h.**

Curriculum and materials to teach reading explicitly; making instructional decisions about student progress, evidence-based practices, and strategies to teach reading to students with disabilities; pedagogical principles and practices to instruct a whole class, small group, or individuals; focus on essential knowledge and skills associated with assessment, instruction, intervention, and assistive technology for students with and at risk for disabilities in grades K-8; designing lesson plans that incorporate reading strategies, practices, and assistive technology within reading instruction.

**EDTL:4982 Instructional Decision Making in Education 3 s.h.**

Overview of and practical application with curriculum-based procedures for assessment and evaluation; classroom-based measures to make educational decisions for instruction of students, particularly those experiencing academic difficulty.

**EDTL:4983 Academic and Behavioral Strategies for Students with Learning Disabilities and Behavioral Disorders 3 s.h.**

Merge theory and practices for assessing, planning interventions, delivering instruction, and monitoring progress for individuals who have learning disabilities and emotional/behavioral disorders.

**EDTL:4984 Academic Skills for Students with Special Needs 3 s.h.**

Introduction to appropriate methodology for teaching academic skills to students with significant learning difficulties; how to teach students effectively regardless of the label that might be applied to them or the setting to which they might be assigned; effective application of classroom-based measurement, curriculum development, and instructional strategies for teaching academic skills to education students with special needs.

**EDTL:4987 Introduction to Assistive Technology 3 s.h.**

How assistive technology can be used for attainment of goals in education or work. Same as CSED:4187.

**EDTL:4990 Interdisciplinary Issues in Disabilities 1-3 s.h.**

Critical issues related to interdisciplinary delivery of services to persons with developmental disabilities; observation and participation in staffing and consultation; opportunity for related community experiences.

**EDTL:5055 Academic Writing Workshop 3 s.h.**

Drafting and workshopping academic papers including dissertations, proposals, manuscripts, conferences, and courses; discussions center on cross-disciplinary perspectives about academic writing processes and discourses; rhetorical considerations in academic writing; audience and readership within and across disciplines; clear and effective communication of data; writing choices, styles, and tones; students set writing goals and projects.

**EDTL:5080 Workshop: Teacher Training for Advanced Placement Courses 1-2 s.h.**

Focus on a particular academic content area.

**EDTL:5081 Facilitating Student-Centered Discussions 3 s.h.**

Support for educators who want to create classroom environments that prioritize student voice and democratic exchange of ideas; theoretical approaches to classroom discourse and dialogic teaching; how linguistic and racial power inform and constrain discussion; students analyze their current classroom discourse practices through theoretical lenses, including how teachers and students are informed by historically dominant discourse norms and ways that discussion topics and issues are labeled as controversial.

**EDTL:5083 Diagnostic Reading Instruction 3 s.h.**

Examination of research, policies, and practices related to reading assessments and intervention for school-aged children and adolescents; key focus on translating theoretical foundations of reading into practice of designing targeted interventions for students with varying strengths and weaknesses in core reading components; activities provide an understanding of underlying principles of diagnostic reading instruction and field-based practice in administering, scoring, and interpreting reading assessments; making data-based decisions about instruction for individual and small groups of students. Requirements: admission to M.A. in teaching, leadership, and cultural competency program.

**EDTL:5085 Generation Innovation: Technology Integration in 21st-Century K-12 Schools 3 s.h.**

Exploration of the technology that shapes 21st-century U.S. schools, curriculum, and teacher professional development; examination of ways in which technology integration and use shapes student learning and identity development. Requirements: admission to M.A. program in teaching, leadership, and cultural competency.

**EDTL:5087 Anti-Oppressive Literature Instruction 3 s.h.**

Support for K-12 teachers in selecting, analyzing, and planning discussions about literary texts in support of anti-racist and anti-oppressive teaching and learning; educators and scholars committed to critical pedagogy and anti-racist and anti-oppressive education argue that reading and analyzing texts by and about people of color and historically marginalized groups is an essential part of equitable, democratic education; how education is never neutral; choosing an explicit anti-oppressive stance; recognizing literature's role in promoting equity and analyzing oppressive forces in education.

**EDTL:5090 Diversity and Identity in K-12 Schools 3 s.h.**

Advanced seminar on diversity- and identity-related issues in K-12 education for practicing teachers and K-12 professionals; students engage in regular self-evaluation of practices and develop deeper understanding of racism, sexism, classism, and other forms of oppression as they relate to the practices of K-12 teachers and schools; curricular and pedagogical decision making, relative to impact on student identity. Requirements: admission to master's in teaching, leadership, and cultural competency program.

**EDTL:5091 LGBTQ Topics in Education 3 s.h.**

In spite of many challenges that lesbian, gay, bisexual, transgender, and queer-identified youth experience in U.S. K-12 schools, queer youth demonstrate agency and action as they create positive spaces and community for their identities; examination of the intersection of policy and practice with respect to queer identities at all levels of K-12 education; history of queerness in the U.S. with focus on the creation of the concept of compulsory heterosexuality and the manner in which this concept is reinforced in K-12 schools.

- EDTL:5095 Issues in U.S. Schools** 3 s.h.  
Addresses critical questions facing American public schools—governance, finance, and policy structures that have influenced teaching and learning in public schools; particular emphasis on disproportionate access and privilege within the institutions that comprise and support public schooling. Requirements: admission to the M.A. in teaching, leadership, and cultural competency program.
- EDTL:5099 Conducting School-Based Action Research** 3 s.h.  
Focus on teachers or administrators as change agents and researchers in schools/districts; scholarly approach to improving teaching and learning by way of an action research project. Requirements: completion of all M.A. in teaching, leadership, and cultural competency coursework.
- EDTL:5104 Language Disorders in School-Aged Children** 3 s.h.  
Emphasis on elementary grades; usually taken in conjunction with EDTL:4192, which provides approximately 70 hours of supervised clinical practice in elementary schools. Recommendations: primarily for communication sciences and disorders majors. Same as CSD:5104.
- EDTL:5222 Creativity, Imagination, Play, and Human Development Through the Arts** 3 s.h.  
Theories related to human development and visual arts; use of visual arts to make meaning from experience; ways to integrate visual arts into everyday life; cognitive and physical processes involved in making, understanding, and looking at visual art through studio experiences; theories of cognitive development; role of visual art in education; introduction to art production, history, criticism, and aesthetics.
- EDTL:5600 Graduate Music Education Workshop** 1 s.h.  
For inservice music teachers; topics vary. Same as MUS:5600.
- EDTL:5601 Graduate Music Education Workshop II** 1 s.h.  
Varied topics; for inservice music teachers. Same as MUS:5601.
- EDTL:5610 Foundations of Music Education Curricula** 3 s.h.  
Curriculum development, instructional materials, analysis of current teaching methods and techniques in school music programs; historical foundations of music education.
- EDTL:5961 Foundation of Applied Behavior Analysis** 3 s.h.  
Foundational knowledge in basic principles and philosophical assumptions of behavior analysis, behavioral terminologies, verbal operants, and measurement concepts; explicitly links theory of behavior to practical application (e.g., special education); one of seven courses needed to qualify for the Board Certified Behavior Analyst (BCBA) exam. Corequisites: EDTL:7953.
- EDTL:5962 Function of Behaviors and Interventions** 4 s.h.  
Functional assessment/analysis and interventions designed to change behaviors; describing and implementing components of functional behavioral assessment; using results of a functional assessment to develop a program to teach appropriate behavior and/or decrease inappropriate behaviors; development of an instructional program to teach desired behaviors; third in a four-course sequence to prepare Chinese-speaking students to sit for the Board Certified Assistant Behavior Analyst (BCaBA) certification exam sponsored by the Behavior Analyst Certification Board (BACB). Prerequisites: EDTL:5961 and EDTL:7953.
- EDTL:5963 Ethics and Professional Conduct for Behavior Analysts and Psychologists** 3 s.h.  
Issues related to ethical and professional conduct of behavior analysts and school psychologists; content aligned with BACB Professional Disciplinary and Ethical Standards and Guidelines for Responsible Conduct for Behavior Analysts, NASP principles of professional ethics, and APA ethical principles; ethical conduct considerations for professionals conducting research or providing services to vulnerable populations; one of seven courses meeting academic requirements for board certification as a behavior analyst; ethical practices relate to working with individuals with autism spectrum disorders, developmental disabilities, and behavioral/emotional disorders.
- EDTL:5964 Behavior Analyst Practicum** 1-4 s.h.  
Development, implementation, and evaluation of techniques that produce behavior changes in clients; discussion of key issues related to techniques of applied behavior analysis; review of various theoretical, conceptual, historical, legal, and practical aspects of behavior analysis; provides a portion of the supervisory component as required by the Behavior Analyst Certification Board (BACB).
- EDTL:5965 Ethics and Professional Conduct of Behavior Analysts II** 3 s.h.  
Addresses issues related to ethical and professional conduct of behavior analysts when working with clients according to the Behavior Analyst Certification Board (BACB) Professional Disciplinary and Ethical Standards and Guidelines for Responsible Conduct for Behavior Analysts; this is a second course in ethics and professional conduct designed to prepare students who speak Chinese to sit for the Board Certified Behavior Analyst certification exam sponsored by the BACB; students in this course will examine the BACB Guidelines for Responsible Conduct and issues related to (a) interventions, (b) behavior change systems, and (c) implementation, management, and supervision. Prerequisites: EDTL:5961 and EDTL:5963 and EDTL:7953.
- EDTL:5966 Advanced Topics in Applied Behavior Analysis** 3 s.h.  
Behavior-change considerations, behavior-change systems, intervention, and issues related to implementation, management, and supervision; devotes specific attention to interventions commonly applied to individuals with developmental disabilities.
- EDTL:6015 Ph.D. Seminar: Literacy, Culture, and Language Education** 3 s.h.  
Exploration of theoretical and epistemological foundations in literacy, culture, and language education; exposure to diverse disciplinary and interdisciplinary foundations that inform literacy education, cultural studies, multilingual education, and social studies education; goal is for students to identify a disciplinary and interdisciplinary focus that will inform their research.
- EDTL:6104 Literature for Children II** 3 s.h.  
Current theory, research, and practice in reading and responding to children's literature; genre and topic vary. Same as ENGL:6104.
- EDTL:6164 Early Literacy Development and Instruction** 2-3 s.h.  
Understanding of early reading and writing experiences; relationship of reading to other communication areas; knowledge of instructional approaches, techniques, materials, assessment procedures; interrelationship of home and school experiences; identification of current and crucial issues and relevant research.

**EDTL:6165 Reading and Writing Across Intermediate Grades 3 s.h.**

Issues in teaching, learning, and assessment of students grades 4-9; fostering positive literate identities, literacy engagement, strategies for reading, writing, and critically responding to texts in a range of genres and formats and across content areas.

**EDTL:6167 Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms 3 s.h.**

Theoretical and practical organization of developmentally appropriate curricula and teaching methods to promote learning.

**EDTL:6171 Advanced Reading Clinic Techniques 2-3 s.h.**

Instructional procedures for children and early adolescents with severe learning problems in reading; causes of reading disorders; educational prognosis for severely disabled readers. Corequisites: EDTL:6172.

**EDTL:6172 Advanced Reading Clinic Practicum 2-3 s.h.**

Practice in selecting and using instructional procedures that address the needs and interests of struggling literacy learners, with emphasis on teaching to students' strengths; how to fit clinical teaching techniques into an overall literacy instructional program. Corequisites: EDTL:6171.

**EDTL:6267 Seminar: Current Issues in Art Education 3-4 s.h.**

Analysis of literature in art education and related disciplines. Same as ARTE:6267.

**EDTL:6293 Individual Instruction arr.****EDTL:6315 M.A. Seminar: English Education arr.**

Significant developments in English education; primary and collateral readings. Same as ENGL:6315.

**EDTL:6393 Master's Thesis arr.****EDTL:6400 Fundamentals of Second Language Assessment 3 s.h.**

How to write language tests; discussion of fundamental issues in development of new tests or selection of existing tests. Same as SLA:6503.

**EDTL:6402 Second Language Program Management 3 s.h.**

Preparation for supervising, administering foreign language programs at all levels; for precollegiate language teachers and graduate students. Same as SLA:6504.

**EDTL:6403 Language Policy and Planning 3 s.h.**

Theoretical foundations, research methods, and findings in language policy and planning research; consideration of local, national, and international language policies; multiple disciplinary perspectives on language policy including linguistics, political science, law, and sociology.

**EDTL:6409 Cultural Curriculum 3 s.h.**

Culture's role in foreign/second language teaching; definition, pedagogy, assessment, and materials that allow culture to be taught and learned. Same as SLA:6970.

**EDTL:6480 Graduate Seminar in Multilingual Education 3 s.h.**

Theoretical perspectives of pivotal research issues at the forefront of foreign language education; systems available to foreign language professionals for disseminating research. Same as SLA:6500.

**EDTL:6483 Multilingual Education and Applied Linguistics 3 s.h.**

Introduction to research in language teaching and learning, drawing on theories and research in applied linguistics, sociolinguistics, anthropology, and psychology; students gain understanding of fundamentals in second language acquisition, educational linguistics, applied linguistics, and methods used in teaching and learning second/foreign languages; applications and implications of research considered when reviewing multilingual education policy and practice. Same as ASIA:6483, SLA:6506.

**EDTL:6484 Reading in a Second Language 3 s.h.**

Current theory, research, practice in second language reading field; role of textual features and the reader in reading comprehension. Same as SLA:6501.

**EDTL:6497 Principles of Course Design for Second Language Instruction 3 s.h.**

Contemporary views of second language curriculum design; guidelines necessary for the creation of prototypical curriculum units to be transposed into classroom-ready forms; for individuals interested in foreign language materials development. Same as SLA:6502.

**EDTL:6536 Teaching of Geometry 2-3 s.h.**

Current developments in teaching middle school/junior high and high school geometry; selection, organization of content; research on teaching and learning.

**EDTL:6563 STEM Through Mathematical Modeling 3 s.h.**

Prepares potential STEM teachers or in-service teachers who want to develop integrated STEM learning environments to learn mathematical modeling as an interdisciplinary instructional approach; mathematical modeling practice to learn and teach mathematics, science, engineering, and technology focused on students' understanding of new concepts from an individual knowledge basis; engagement in problem-based learning where individuals develop conjectures, critique arguments, and revise ideas to reach conclusions; students will understand how people learn new concepts and how teachers should provide adequate learning environments for students to learn and understand the core concepts of STEM.

**EDTL:6570 Foundation of School Mathematics Curriculum 3 s.h.**

Elementary and secondary background developments in school and mathematics curriculum; definitions, historical perspective, reform, theories of knowledge, implementation, evaluation, international perspectives, issues in mathematics curriculum.

**EDTL:6600 Individual Projects in Music Education 1-2 s.h.**

Projects of special concern to individual music teachers in public schools.

**EDTL:6757 Learning in the Science Classroom 2-3 s.h.**

Assumptions about learning and about learning theories and their impact on pedagogical actions; how some concepts are planned and implemented.

**EDTL:6758 Writing in the Science Classroom 3 s.h.**

Literacy in the science classroom; theoretical and pedagogical perspectives; practical classroom activities that lead to effective writing and increased learning.

**EDTL:6759 Advanced Pedagogy 3 s.h.**

Theoretical and practical perspectives on pedagogy; how to assess practice, provide feedback, and build learning pathways for teachers.

**EDTL:6761 STEM Research and Leadership Seminar****3 s.h.**

Broad overview of research supporting new and innovative teaching practices in STEM disciplines and integrated STEM learning; focus on relevant journals related to STEM learning and teaching; students will summarize, critique, and discuss a variety of research perspectives and articles and describe how the information relates to their current teaching; students explore ways to improve their STEM pedagogical and instructional practices and methods for assessing critical student outcomes; students develop awareness of research that provides a foundation for effective STEM teaching and learning and strategies for implementing research supported practices in STEM learning contexts of all types.

**EDTL:6762 STEM Experiential Learning****3 s.h.**

Overview of research supporting new and innovative teaching practices in STEM disciplines and integrated STEM learning; focus on problem-based and experiential learning curriculum, instruction, and assessment by engaging in authentic experiences and reflecting on how these influence practice and student learning; facilitates ability to solve real world STEM problems of interest to students and community through engagement with community partners; assists students to acquire and demonstrate 21st-century competencies the STEM workplace identifies as critical; provides authentic, meaningful, and cross-curricular experience in facilitating student engagement in real-world situations.

**EDTL:6764 STEM Extracurricular Experience and Capstone****6 s.h.**

Engages teachers in STEM experience outside the traditional classroom; provides 90-hour STEM inclusive experience coupled with a capstone project; engagement with STEM community leaders, business partners, or outreach leaders to develop a plan for participation in and investigation of a STEM related experience; may work with a STEM extracurricular activity in a school or university, a STEM related business or industry partner, or a STEM related grant funded project through a university; course completion is accomplished through a capstone sharing of their experience, how the experience has solidified their understanding of STEM, and how the experience will impact their classroom activities.

**EDTL:6765 STEM Independent Research****3 s.h.**

Opportunity to develop an independent research project and explore a STEM education question of personal interest; students design and carry out research in an authentic STEM learning environment, collect and analyze data, develop claims and conclusions based on their research, present findings, and develop a plan for utilizing findings to improve STEM education learning environments. Prerequisites: EDTL:6761.

**EDTL:6766 Physical Science Topics in STEM Education****3 s.h.**

Increase knowledge of physical science content in a form that is relevant to education standards, such as Next Generation Science Standards (NGSS), and connected to engaging and contemporary issues in physical science; weekly expectations differentiated to provide opportunities for deepening knowledge of science; students gain insight into teaching science and work together to think critically on the conceptual basis of subject matter appropriate for learners in their context; for educators at all levels (e.g., elementary, secondary, informal settings).

**EDTL:6767 Systems Thinking in Biology and Integrated STEM Education****3 s.h.**

Preparation for potential STEM or in-service teachers who want to design integrated STEM learning environments and cultivate students' systems thinking skills; emphasis on computational modeling environments in biology education; how to craft problems based on principles derived from primary literature on systems thinking and STEM educational research; no programming experience required or expected. Recommendations: general background in biology, chemistry, and physics.

**EDTL:6833 History and Foundations of Social Studies Education****3 s.h.**

Historical, philosophical, social foundations of social studies education; recent debates over content and instructional processes; student research proposals.

**EDTL:6840 Theories and Perspectives in Global Education****3 s.h.**

Examination of theories and perspectives within global education that help to understand historical and contemporary social, political, economic, and cultural issues; relationship to international studies, international education, global cultures, human rights, social justice, and other areas; interaction with global educators who conduct research and/or teach in institutes of higher education around the world.

**EDTL:6841 Attaining a Global Perspective****2-3 s.h.**

Rationales, conceptualizations, and themes in global perspectives in education, implications for curriculum change; elements of perspective consciousness, cultural universals, cultural diversity, cross-cultural awareness, global systems, global history, global issues; application and evaluation of ideas within fields of study and varied teaching situations.

**EDTL:6906 Practicum with Exceptional Persons****arr.**

Practicum experience with students with disabilities; experiences differ depending upon student's program of study.

**EDTL:6909 Seminar: Graduate Supervised Teaching****1 s.h.**

For students enrolled in graduate student teaching practicum. Requirements: special education major.

**EDTL:6936 Special Education Administration****3 s.h.**

Builds a foundation of dispositions, knowledge, and skills for tasks performed by directors of special education, building leaders, and administrators, when supervising needs of special education students and economically and socially deprived students; knowledge and application of legal aspects, individual educational programs, and continuum of academic and social/emotional behavior supports; for prospective school administrative personnel. Same as EPLS:6236.

**EDTL:6950 Strategist I Student Teaching: Elementary****arr.**

Student teaching in an elementary mild and moderate special education program.

**EDTL:6951 Strategist I Student Teaching: Secondary****arr.**

Student teaching in a secondary mild and moderate special education program.

**EDTL:6953 Strategist II Student Teaching: Elementary****arr.**

Student teaching in K-8 learning disabilities or behavior disorders.

- EDTL:6954 Strategist II Student Teaching: Secondary** **arr.**  
Student teaching in secondary learning disabilities or behavior disorders.
- EDTL:7004 Schooling in the United States** **3 s.h.**  
Governance, finance, and policy structures that have influenced teaching and learning in public schools.
- EDTL:7008 Seminar: Research and Current Issues** **arr.**  
Review of literature, critical analysis of reported research, and study of current issues and problems for a specific curricular area; topics vary.
- EDTL:7015 Ph.D. Seminar in Language, Literacy, and Culture** **arr.**  
Historical, recent research and theory in literacy education; topics vary.
- EDTL:7033 Seminar on Teacher Education** **3 s.h.**  
History, structure, and politics of teacher education; current practice and agendas for reform; new developments in teacher assessment.
- EDTL:7040 Advanced Topics in Teaching and Learning** **arr.**  
Topics vary.
- EDTL:7070 Qualitative Research Methods in Teaching and Learning** **3 s.h.**  
Conceptual and practical exploration of qualitative research design methods, including data collection, analysis, and reporting; understanding proposal writing.
- EDTL:7071 Critical Discourse Analysis in Educational Research** **3 s.h.**  
Critical discourse analysis (CDA) as theory and method; social and power relations, identities, and knowledge through written, visual, and spoken texts in social settings, such as schools, families, communities; theoretical and methodological traditions of CDA in educational research; critical approaches to analyzing spoken, written, and visual texts. Prerequisites: EDTL:7070 or PSQF:7331 or EPLS:7373 or CSED:7338.
- EDTL:7072 Advanced Methods of Literacy Research: Qualitative Data Analysis and Reporting** **3 s.h.**  
Advanced course in traditional and contemporary qualitative data analysis methods and varied forms of reporting to understand, critique, and conduct research about literacy learning and teaching. Prerequisites: CSED:7338 or EDTL:7070 or EPLS:7373 or PSQF:7331.
- EDTL:7073 Ethnographic Methods, Theories, and Texts** **3 s.h.**  
Practical and theoretical background for conducting ethnographic field studies in literacy, schooling, language, or a field of student's choice; methods, methodologies, and perspectives from anthropology, sociology, folklore, journalism, literary criticism, cultural, critical, and composition theory; read historical and contemporary ethnography, consider ethnographic forms of expression (films, graphics, fiction, poems); roles, responsibilities, and ethics of writer, reader, viewer, and informant; tools, methods, and writer's techniques to develop an ethnographic portfolio. Prerequisites: PSQF:7331 or EDTL:7070 or CSED:7338 or EPLS:7373. Same as CNW:7073.
- EDTL:7092 Field Service Project** **arr.**  
Individual field service project in a specific curricular area; for advanced students.
- EDTL:7093 Research Project** **arr.**  
Individual research projects in a specific curricular area; for advanced students.
- EDTL:7165 Reading Clinic: Supervision** **arr.**  
Supervised experience in guiding and improving teacher performance in clinical practicums.
- EDTL:7380 Practicum in College Teaching** **arr.**  
Supervised college teaching experience in courses related to major academic areas; collaboration with faculty course instructors.
- EDTL:7385 Teaching and Learning in Higher Education** **3 s.h.**  
Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as CSED:7385, EPLS:7385, GRAD:7385, PSQF:7385.
- EDTL:7405 Research Methods in Literacy, Culture, and Language Education** **3 s.h.**  
Overview of common research methods used to study second language (L2) teaching and learning and related fields; variety of readings from current L2 publications, presentations, video testimonials by active L2 researchers, discussions of readings, and activities designed to process and apply concepts; field research methods; designing a rigorous research study on topic of student's choice; speaking and writing with confidence about research methods used in other studies.
- EDTL:7406 Proposal Writing for Second Language Research** **3 s.h.**  
Procedures and techniques for writing research proposals at the doctoral level; written research proposal dealing with a question in second language teaching and learning.
- EDTL:7410 Mixed Methods Research** **3 s.h.**  
Introduction to mixed methods research in education; knowledge and skills necessary to conduct mixed methods study; history and language of mixed methods research; identification and processing arguments for and against mixed methods research; extend understanding of research in education; how to assess strengths and weaknesses of published mixed methods studies; investigation of one or more mixed methods research designs in depth; application of mixed methods research design to a research proposal. Prerequisites: EALL:5150. Requirements: formal introduction to quantitative and qualitative research methods, and familiarity with basic steps of research process. Recommendations: direct experience conducting research studies not required. Same as EPLS:7392.
- EDTL:7493 Ph.D. Thesis** **arr.**
- EDTL:7535 Seminar: Research in Mathematics Education** **arr.**  
Analysis of current research, research methodology, curriculum developments in mathematics education; topics vary.
- EDTL:7600 Seminar: Current Topics in Music Education** **1-3 s.h.**  
Major areas of professional and research interest.
- EDTL:7640 Advanced Research in Music Education** **3 s.h.**  
Design, performance, analysis, and reporting of music research.
- EDTL:7707 Research: Science Education** **arr.**  
Planning of individual research projects by M.S. and Ph.D. students.



**EDTL:7750 Seminar: Science Education** 0-2 s.h.

Discussion of completed faculty and doctoral candidates' research, national issues, program features.

**EDTL:7751 Advanced Qualitative Data Analysis** 3 s.h.

Varied approaches to qualitative data analysis and philosophical foundations; analysis and interpretation of qualitative data; writing qualitative research findings. Prerequisites: EPLS:7373 or EDTL:7070 or PSQF:7331 or CSED:7338.

**EDTL:7755 Independent Study in Science Education Research** 2-3 s.h.**EDTL:7756 Research Apprenticeship in Science Education** 3 s.h.

Practical experiences in science education research in a collaborative, team-oriented environment; apprenticeship model of instruction in which students' participation in authentic tasks and their learning are mutually constitutive; engagement in actual research practices to produce an empirically based product; development of expertise with some aspect of research methodology determined by instructor; for graduate students with interests in research or development based in K-16 contexts.

**EDTL:7774 Qualitative Research with Computer-Aided Qualitative Data Analysis Software** 3 s.h.

Qualitative data analysis using computer-aided qualitative data analysis software (CAQDAS); emphasis on methodological approaches to data analysis, and practical and experiential aspects of using CAQDAS to conduct these stages of analysis; opportunity to work with ATLAS.ti, NVivo, Dedoose, and the Coding Analysis Toolkit (CAT); capstone product is a research report based upon qualitative analysis; students strongly encouraged to analyze data from their own research.

**EDTL:7932 Field Service Project in Special Education Internship** arr.

Part-time or full-time experience as an intern in school districts or area education agencies; develops skills in supervision and administration of special education.

**EDTL:7943 Proseminar: Issues, Trends, and Research in Special Education** 2-3 s.h.

Conceptual and practical development of research across special education and related disciplines; empirical review of the literature; focus on professional writing skills.

**EDTL:7944 Proseminar: Issues, Trends, and Research in Special Education II** 2-3 s.h.

Recent research from a variety of special education areas reviewed by students; simulated comprehensive examinations. Prerequisites: EDTL:7943.

**EDTL:7945 Current Issues and Trends in Learning Disabilities** 3 s.h.

Readings and discussions of current issues and trends in learning disabilities (e.g., definition, prevalence, interventions, subtyping, assessment).

**EDTL:7948 Contemporary Research in Behavioral Disorders** 3 s.h.

In-depth analysis of current research in behavioral disorders; emphasis on evaluating its methodology and contribution to the field.

**EDTL:7952 Seminar: Behavioral Assessment and Evaluation** 3 s.h.

Broadens skills of graduate students who engage in research with exceptional persons; research designs are usually taught in the Department of Psychological and Quantitative Foundations, but because of the nature of handicapping conditions and the low incidence of some handicaps, the single-subject design yields better research information. Same as PSQF:7352.

**EDTL:7953 Seminar: Single Subject Design Research** 3 s.h.

Reviews of single subject research, development of student proposals; focus on special education, applied research.

## Science Education Courses

**SIED:3001 Introduction to Museum Studies** 3 s.h.

Overview of museum history, function, philosophy, collection, and curatorial practices; governance and funding issues; exhibition evaluation and audience studies; examples from Stanley Museum of Art, Museum of Natural History, Old Capitol Museum, and Medical Museum. GE: Social Sciences. Same as ANTH:3001, EDTL:3001, MUSM:3001.

**SIED:4102 Societal and Educational Applications of Earth Science and Environmental** arr.

Major ideas and principles of earth and environmental sciences; emphasis on common applications in today's world.

**SIED:4103 Societal and Educational Applications of Biological Sciences** arr.

Basic conceptual themes of biology, how they have been derived; emphasis on a current social issue related to biology.

**SIED:4105 Societal and Educational Applications of Physical Sciences** arr.

Major ideas of physics and how they have been derived; emphasis on how such ideas affect modern society.

**SIED:4106 Societal and Educational Applications of Chemical Concepts** arr.

Principles of chemistry as applied in industry, communication, daily living.

**SIED:4110 Exploring the Geology, Mining History, and Environmental Issues of the Colorado Rockies** 4 s.h.

Basic concepts of physical geology, historical, and environmental geology of the Rocky Mountains in context of mineral exploration, mining, and environment; collection of a teaching suite of basic igneous, sedimentary, and metamorphic rocks and rock forming minerals; scientific/educational photography, field inquiry, and curriculum development projects; students spend 10 days probing the mountains of Colorado for clues to its geologic past including mountains, seas, and volcanic activity; knowledge is tested in the field along with connecting the geology of Colorado with future teaching employment locations.

**SIED:4115 Directed Study** arr.**SIED:4135 The Nature of Science** 3-4 s.h.

Ideas on understanding and ways of thinking that are essential in a world shaped by science, technology, engineering, and mathematics; focus on increasing science literacy by examining the nature of science; comparison of characteristics specific to individual science disciplines; identification of great episodes and debates in history of science and habits that are essential for science literacy; scope and sequence of content and process skills for K-12 curriculum, instruction, and assessment.

# Art Education, B.A.

## Requirements

The Bachelor of Arts with a major in art education requires a minimum of 120 s.h., including a minimum of 48 s.h. in art professional education courses and a minimum of 33 s.h. in art education content courses. Students must maintain a g.p.a. of at least 2.70 in professional education course requirements. They also must complete the GE CLAS Core [p. 20]. The major requires admission to the Teacher Education Program (TEP). Application information can be obtained through the Office of Student Services.

Students must earn a B.A. in art [p. 118] or a B.F.A. in art [p. 118] in the School of Art and Art History at the University of Iowa in order to earn the B.A. in art education; both degrees may be earned at the same time. Separate application to each degree program is required. Graduates who have earned one of these degrees at another institution and wish to earn the B.A. in art education should consult the Department of Teaching and Learning; additional coursework may be required.

The art major provides a foundation in art history as well as an understanding of the formal traditions and contemporary practices in studio art. Students take courses in the school's studio art programs, including animation, ceramics, graphic design, three-dimensional (3D) design, drawing, intermedia, jewelry and metal arts, painting, photography, printmaking, and sculpture. Students also complete coursework in teacher licensure including student teaching.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Additional subject area endorsements can be completed in any 5-12 licensure program. Students who plan to teach art typically complete a program that prepares them for both elementary- and secondary-level licensure. For more information and an advisor, contact the Department of Teaching and Learning.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations and students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline for students planning to student teach the following fall semester is November 15 and April 15 for the following spring semester.

The B.A. with a major in art education requires the following work.

## Professional Education Course Requirements

Students complete 48 s.h. from the following.

## Foundation Courses

Foundation courses may be completed before or after admission to the major.

Code	Title	Hours
All of these:		
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

## Additional Licensure Courses

Code	Title	Hours
All of these:		
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts	3
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:3143	Methods of Elementary Art and Field Experiences	3
EDTL:3204	Art Education Studio and Field Components	3
EDTL:3205	Methods of Secondary Art and Field Experience	3
EDTL:3290	Introduction and Practicum: Art	3
EPLS:4180	Human Relations for the Classroom Teacher	3

## Student Teaching

Transfer students should consult their advisor since they must complete certain courses before they student teach.

Code	Title	Hours
All of these:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4192	Special Area Student Teaching	6

## Mathematics Course

Students complete a college-level math course. Most students complete this course as a part of their GE CLAS Core [p. 20] requirement in Quantitative or Formal Reasoning. For questions about how the math course can be applied to the licensure requirement, see Academic Advising on the College of Education website.

Code	Title	Hours
One of these:		
CS:1110	Introduction to Computer Science	3

CS:1210	Computer Science I: Fundamentals	4
STAT:1010	Statistics and Society	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
Any mathematics course (prefix MATH), except MATH:0100, MATH:1005, or MATH:1210		

## Art Education Content Courses

Students complete at least 33 s.h. from the following.

### Art History

Code	Title	Hours
Two of these:		
ARTH:1040	Arts of Africa	3
ARTH:1050	From Cave Paintings to Cathedrals: Survey of Western Art I	3
ARTH:1060	From Mona Lisa to Modernism: Survey of Western Art II	3
ARTH:1070	Asian Art and Culture	3
ARTH:1095	Native American Art	3
And:		
Two additional art history courses, excluding ARTH:1080, ARTH:4999, and the art history courses above		6

### Studio Art

Code	Title	Hours
Both of these:		
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3

### Two-Dimensional Art

Code	Title	Hours
Two of these:		
ANIM:3125	Animation I	4
DRAW:2310	Life Drawing I	3
DSGN:2500	Graphic Design I	3
PHTO:2600	Photography I	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3

### Three-Dimensional Art

Code	Title	Hours
Both of these:		
CERM:2010	Ceramics I: Handbuilding	3
CERM:2020	Ceramics II: Wheel Throwing	3
One of these:		
INTM:2710	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
SCLP:2810	Undergraduate Sculpture I	3
TDSN:2210	Introduction to 3D Design	3

## Electives

Students complete their major requirements with additional art or art history courses.

# Elementary Education, B.A.

## Requirements

The Bachelor of Arts with a major in elementary education requires a minimum of 120 s.h., including at least 83 s.h. for the major. Students must complete all requirements for the elementary education major and the Teacher Education Program (TEP), including student teaching. Students who are pursuing the combined B.A. with the special education subprogram and the M.A. in teaching and learning with the special education subprogram must complete the requirements of the elementary education major plus the coursework required to complete the M.A. degree. All B.A. students must complete the GE CLAS Core [p. 20].

## Elementary Education Requirements

The B.A. with a major in elementary education requires the following work.

### Foundation Courses

Students may complete the foundation courses before being admitted to the major in elementary education, but the courses are not prerequisite to admission to the major.

Code	Title	Hours
All of these:		
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

### First-Year Courses

New first-year students must take EDTL:2111 Teaching Elementary Learners I: Pursuits and Reflection and EDTL:2112 Teaching Elementary Learners II: Communities and Classrooms before full admission to the TEP. Transfer students and students changing colleges are not required to take EDTL:2111, but must take EDTL:2112.

Code	Title	Hours
Both of these:		
EDTL:2111	Teaching Elementary Learners I: Pursuits and Reflection	2
EDTL:2112	Teaching Elementary Learners II: Communities and Classrooms	2

### Courses for the Major

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2

EDTL:3103	Assessment for Instructional Planning and Practice	3
EDTL:3120	Methods and Materials: Music for the Classroom Teacher	2
EDTL:3123	Reading and Responding to Children's Literature	3
EDTL:3127	Methods and Materials: Physical Education, Health, and Wellness	2
EDTL:3160	Reading and Language Arts Methods for Primary Students in Grades K-3	3
EDTL:3161	Social Studies for the Elementary Classroom Teacher	3
EDTL:3163	Methods: Elementary School Mathematics	3
EDTL:3164	Reading and Language Arts Methods for Intermediate Students in Grades 3-6	3
EDTL:3165	Elementary Science Methods I	3
EDTL:3166	Elementary Science Methods II	3
EDTL:3170	Elementary Classroom Management	2
EDTL:3172	Elementary Reading Practicum	4
EDTL:3174	Elementary Math Practicum	1
EDTL:3190	Orientation to Elementary Education	2
EDTL:4171	Diversity and Exceptionalities in Literacy Instruction	3
EPLS:4180	Human Relations for the Classroom Teacher	3
One of these:		
STAT:1010	Statistics and Society	3
STAT:1020	Elementary Statistics and Inference	3
One of these:		
EDTL:3141	Elementary School Mathematics: Number and Operations	3
MATH:1120	Logic of Arithmetic	4
One of these:		
EDTL:3142	Elementary School Mathematics: Geometry and Measurement	3
MATH:1140	Mathematical Basis of Elementary Geometry	3

## Student Teaching

Students seeking initial licensure must complete the following.

Code	Title	Hours
EDTL:4187	Effective Teaching Strategies for the Elementary Teacher: Student Teaching Seminar	3

EDTL:4190	Supervised Teaching in the Elementary School: Interactive Phase	6
EDTL:4191	Supervised Teaching in the Elementary School: Pre- and Post-Active Phase	6

## Endorsements

Students have the option of completing an endorsement in one of the following areas: art, English, English as a Second Language (ESL), mathematics, middle school, reading, science, social studies, and special education (Instructional Strategist I: Mild/Moderate). Courses in the endorsement area may be taken pass/nonpass if they are offered with the pass/nonpass option. Requirement lists for each endorsement area are available from the Department of Teaching and Learning.

The University of Iowa also offers an added endorsement in talented and gifted education.

## Transfer Students

Before they student teach, transfer students must complete the following courses at the University of Iowa.

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3190	Orientation to Elementary Education	1-2
A practicum		
Two of these:		
EDTL:3123	Reading and Responding to Children's Literature	3
EDTL:3160	Reading and Language Arts Methods for Primary Students in Grades K-3	3
EDTL:3161	Social Studies for the Elementary Classroom Teacher	3
EDTL:3163	Methods: Elementary School Mathematics	3
EDTL:3164	Reading and Language Arts Methods for Intermediate Students in Grades 3-6	3

Transfer students must follow the normal application procedures. In addition, they are asked to complete a disclosure statement describing all practicum experiences they have taken at other institutions and a release statement allowing the College of Education Office of Student Services to contact all institutions where they have done professional preparatory work.

## TEP: Secondary Education

The College of Education offers the Teacher Education Program (TEP) in secondary education for undergraduate students in the College of Liberal Arts and Sciences. Students must complete all requirements for graduation from the College of Liberal Arts and Sciences, including the GE CLAS Core [p. 20] and the requirements for their majors (see College of Liberal Arts and Sciences [p. 17] in the Catalog). They also must complete all requirements of the College of Education's TEP.

Licensure/certification requires a major of at least 30 s.h. of coursework in one of the secondary school subject areas listed

below. Licensure/certification course requirements for each major are available from the Department of Teaching and Learning. Candidates for secondary school teaching licensure/certification also may receive approval to teach in additional subject areas by completing an approved program of 12-24 s.h. or more of coursework in those areas.

As a requirement for completion of an approved TEP for initial teaching licensure, the state of Iowa requires a passing score on edTPA, a performance-based assessment. Passing the edTPA is required before recommendation for licensure or certification to any state.

The College of Education offers secondary school teacher preparation programs in the following areas.

- Art
- Coaching<sup>1</sup>
- English
- English as a second language<sup>1</sup>
- Mathematics
- Middle school<sup>1</sup>
- Music
- Reading<sup>1</sup>
- Science, including biology, chemistry, physics, earth science, and 9-12 all science
- Social science, including anthropology, economics, geography, history, political science, psychology, and sociology
- All social sciences<sup>1</sup>
- Talented and gifted<sup>1</sup>
- World languages—Chinese, French, German, Italian, Japanese, Latin, Spanish

<sup>1</sup> Available as an additional approval area only; a major in one of the other areas is required for licensure.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Students planning to teach art or music typically complete a program that prepares them for both elementary- and secondary-level licensure.

Secondary teacher preparation programs in foreign language also offer a program that leads to licensure/certification as a subject matter specialist in grades K-8. This K-8 licensure/certification is available only in the same subject area as the secondary certification.

For more information and the name of an advisor, contact the Department of Teaching and Learning.

## Requirements

Undergraduates working toward licensure/certification to teach in secondary schools must complete the following requirements in addition to the requirements of their major. All coursework must be completed before student teaching.

Code	Title	Hours
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3

EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:1075	Educational Psychology and Measurement	3
One or more introduction and practicum courses in the major field		2-3
One or more methods of teaching courses in the major field		3-6
One college-level mathematics course, except MATH:0100, MATH:1005, or MATH:1210		
Student teaching		15

For initial licensure in all subject areas, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 70-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special programs provide experience in districts with diverse populations, including Aldine, Texas (Houston area) and Rialto, California. In most program areas, students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline is November 15 for students planning to student teach the following fall semester and February 15 for students planning to student teach the following spring semester.

## Transfer Students

Transfer students must complete the following work before they student teach.

Code	Title	Hours
EDTL:3002	Teaching and Learning Technologies	2-3
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1

Appropriate methods courses

A practicum at the University of Iowa

All coursework in the major

Transfer students must follow the normal application procedures. In addition, they are asked to complete a disclosure statement describing all practicum experiences they have taken at other institutions and a release statement allowing the College of Education's Office of Student Services to contact all institutions where they have done professional preparatory work.

## Elementary Education with Special Education Subprogram Requirements

Elementary education students may pursue the B.A. in elementary education with a special education subprogram if they have been admitted to the M.A. in teaching and learning with a special education subprogram (K-8 instructional strategist I: mild/moderate with no thesis) and complete the M.A. degree.

It is appropriate for students who are currently enrolled in the Teacher Education Program (TEP) as undergraduates working toward a major in elementary education. Students who desire to pursue a M.A. degree, who are motivated to broaden their experience, and are inspired to serve students with disabilities are well suited for pursuing this combined program.

Students may complete both degrees in five years. In their last semester of undergraduate coursework, students enroll in two M.A.-level courses in special education (EDTL:4950 Behavioral and Social Interventions and EDTL:4984 Academic Skills for Students with Special Needs) that count toward both degrees. Once they complete all B.A. requirements, students complete the remaining M.A. special education courses. They are then eligible for their student teaching field experience. Students complete two placements—one in general education elementary education and one in K-8 special education—thus making them eligible for teaching licensure in both elementary education and special education. To obtain licensure they only need to complete and pass edTPA, a performance-based assessment in elementary education.

The B.A. in elementary education with a special education subprogram and the M.A. in teaching and learning with a special education subprogram (K-8 instructional strategist I: mild/moderate with no thesis) requires the following work.

## Foundation Courses

Code	Title	Hours
All of these:		
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

## First-Year Courses

New first-year students must take EDTL:2111 Teaching Elementary Learners I: Pursuits and Reflection and EDTL:2112 Teaching Elementary Learners II: Communities and Classrooms before full admission to the TEP. Transfer students and students changing colleges are not required to take EDTL:2111, but must take EDTL:2112.

Code	Title	Hours
Both of these:		
EDTL:2111	Teaching Elementary Learners I: Pursuits and Reflection	2

EDTL:2112	Teaching Elementary Learners II: Communities and Classrooms	2
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## Courses for the Major

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3103	Assessment for Instructional Planning and Practice	3
EDTL:3120	Methods and Materials: Music for the Classroom Teacher	2
EDTL:3123	Reading and Responding to Children's Literature	3
EDTL:3127	Methods and Materials: Physical Education, Health, and Wellness	2
EDTL:3160	Reading and Language Arts Methods for Primary Students in Grades K-3	3
EDTL:3161	Social Studies for the Elementary Classroom Teacher	3
EDTL:3163	Methods: Elementary School Mathematics	3
EDTL:3164	Reading and Language Arts Methods for Intermediate Students in Grades 3-6	3
EDTL:3165	Elementary Science Methods I	3
EDTL:3166	Elementary Science Methods II	3
EDTL:3170	Elementary Classroom Management	2
EDTL:3172	Elementary Reading Practicum	4
EDTL:3174	Elementary Math Practicum	1
EDTL:3190	Orientation to Elementary Education	2
EDTL:4171	Diversity and Exceptionalities in Literacy Instruction	3
EPLS:4180	Human Relations for the Classroom Teacher	3
One of these:		
STAT:1010	Statistics and Society	3
STAT:1020	Elementary Statistics and Inference	3
One of these:		
EDTL:3141	Elementary School Mathematics: Number and Operations	3
MATH:1120	Logic of Arithmetic	4
One of these:		
EDTL:3142	Elementary School Mathematics: Geometry and Measurement	3
MATH:1140	Mathematical Basis of Elementary Geometry	3

## Language Development

Code	Title	Hours
One of these:		
EDTL:3382	Language and Learning	3
EDTL:4410	Teaching K-12 Second Language Learners	3
EDTL:4468	Instruction of English Language Learners for K-12 Classrooms	3
LING:1010	Language and Society	3

## Oral Communication

Code	Title	Hours
One of these:		
EDTL:2821	Oral Interpretation	3
EDTL:3180	Drama in the Classroom	3
CLSA:3742	Word Power: Building English Vocabulary	3
LING:3001	Introduction to Linguistics	3

## Parent-Teacher Communication

Code	Title	Hours
This course:		
EDTL:4934	Parent-Teacher Communication	3

## Courses Taken in the Last Semester of B.A. Completion

Code	Title	Hours
Both of these:		
EDTL:4950	Behavioral and Social Interventions	3
EDTL:4984	Academic Skills for Students with Special Needs	3

## Additional Courses to Complete the M.A.

Code	Title	Hours
All of these:		
EDTL:4975	Explicit Instruction	3
EDTL:4980	Special Education Literacy	3
EDTL:5961	Foundation of Applied Behavior Analysis	3
EDTL:6906	Practicum with Exceptional Persons	3
EDTL:7953	Seminar: Single Subject Design Research	3

## Student Teaching

Students seeking initial licensure must complete the following.

Code	Title	Hours
All of these:		
EDTL:4187	Effective Teaching Strategies for the Elementary Teacher: Student Teaching Seminar	3
EDTL:4190	Supervised Teaching in the Elementary School: Interactive Phase	6

EDTL:4922

Supervised Teaching:  
Elementary Strategist I

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## Combined Programs

### B.A. (Special Education Subprogram)/M.A. in Teaching and Learning (Special Education Subprogram)

The combined B.A. in elementary education with a special education subprogram and the M.A. in teaching and learning with a special education subprogram (K-8 instructional strategist I: mild/moderate; nonthesis) program is available for students. Students are able to earn both degrees in less time than it would take to complete both degrees separately.

Students pay undergraduate tuition and fees during the combined undergraduate/graduate semester which is generally in the spring semester of their fourth year. In the following semester when they begin coursework for the M.A., they pay graduate tuition and fees. For more information on the combined program, see "Elementary Education with Special Education Subprogram Requirements" under Requirements [p. 1484] in this section of the Catalog.

### Admission

Applicants must:

- be a University of Iowa undergraduate student enrolled in the B.A. in elementary education TEP program,
- have completed at least 74 s.h.,
- have a g.p.a. of at least 3.25 (the admissions committee considers other aspects of an application when the undergraduate g.p.a. is below 3.25), and
- submit a writing sample.

Applicants have the option to submit a Graduate Record Examination (GRE) General Test score. A score above 300 may bolster an application with an undergraduate g.p.a. below 3.25.

## Career Advancement

The B.A. program prepares students to teach kindergarten through grade 6. In Iowa, the elementary specialization areas are designated as kindergarten through grade 8.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Elementary Education, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
The Academic Advising Center advises elementary education students during the first two semesters. Students are advised for success, based on academic strengths, and not necessarily for a four-year plan. Students are guided through the Teacher Education Program (TEP) application in EDTL:2112 Teaching Elementary Learners II.		
GE CLAS Core: Students who need to complete the World Language requirement should consult with their academic advisor about when to add courses to plan of study. <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
EDTL:2111	Teaching Elementary Learners I: Pursuits and Reflection	2
PSQF:1075	Educational Psychology and Measurement <sup>c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE: Historical Perspectives <sup>d</sup>		3
GE: Natural Sciences without Lab <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
EDTL:2112	Teaching Elementary Learners II: Communities and Classrooms	2
EDTL:2122	Creativity, Imagination, Play, and Human Development through the Arts <sup>c</sup>	3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE: Natural Sciences with Lab <sup>d</sup>		4
GE: Social Sciences <sup>d</sup>		3
10-hour pre-admission school field experience <sup>e</sup>		
Apply to progress for full admission to TEP <sup>f</sup>		
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3190	Orientation to Elementary Education	2
EDTL:4900	Foundations of Special Education <sup>c</sup>	3
EPLS:3000	Foundations of Education <sup>c</sup>	3
STAT:1010	Statistics and Society	3
GE: International and Global Issues <sup>d</sup>		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
EDTL:3120	Methods and Materials: Music for the Classroom Teacher	2
EDTL:3123	Reading and Responding to Children's Literature	3



EDTL:3141	Elementary School Mathematics: Number and Operations	3
Course for added endorsement or elective course <sup>g,</sup> <sub>h</sub>		3
Course for added endorsement or elective course <sup>g,</sup> <sub>h</sub>		3

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**Hours** **14**

**Third Year****Fall**

EDTL:3127	Methods and Materials: Physical Education, Health, and Wellness	2
EDTL:3160	Reading and Language Arts Methods for Primary Students in Grades K-3	3
EDTL:3161	Social Studies for the Elementary Classroom Teacher	3
EDTL:3165	Elementary Science Methods I	3
EPLS:4180	Human Relations for the Classroom Teacher	3

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**Hours** **14**

**Spring**

EDTL:3163	Methods: Elementary School Mathematics	3
EDTL:3164	Reading and Language Arts Methods for Intermediate Students in Grades 3-6	3
EDTL:3166	Elementary Science Methods II	3
EDTL:3170	Elementary Classroom Management	2
EDTL:3174	Elementary Math Practicum	1
Course for added endorsement or elective course <sup>g,</sup> <sub>h</sub>		3

Apply for student teaching (see the College of  
Education website for application instructions and  
deadlines)

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**Hours** **15**

**Fourth Year****Fall**

EDTL:3103	Assessment for Instructional Planning and Practice	3
EDTL:3142	Elementary School Mathematics: Geometry and Measurement	3
EDTL:3172	Elementary Reading Practicum	4
EDTL:4171	Diversity and Exceptionalities in Literacy Instruction	3
Course for added endorsement or elective course <sup>g,</sup> <sub>h</sub>		3

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**Hours** **16**

**Spring**

EDTL:4187	Effective Teaching Strategies for the Elementary Teacher: Student Teaching Seminar <sup>i</sup>	3
EDTL:4190	Supervised Teaching in the Elementary School: Interactive Phase <sup>i</sup>	6
EDTL:4191	Supervised Teaching in the Elementary School: Pre- and Post- Active Phase <sup>i</sup>	6

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall) <sup>j</sup>

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**Hours** **15**

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**Total Hours** **121-123**

- a To fulfill the GE CLAS Core requirement in World Languages, students must complete four years of a single world language in high school or achieve fourth level of proficiency in a world language through coursework or an appropriate exam. See General Catalog for more information.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c The following foundation courses may be completed prior to admission to TEP, but are not prerequisites for admission: PSQF:1075, EDTL:2122, EDTL:4900, EPLS:3000.
- d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.
- f Please see your advisor and the College of Education website for detailed application instructions and deadlines.
- g Students have the option of completing added endorsements that certify them to teach areas of specialization in grades K-8. Consult an advisor, the General Catalog, or the College of Education website for more information.
- h Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- i All coursework must be completed prior to student teaching.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# English Education, B.A.

## Requirements

The Bachelor of Arts with a major in English education requires a minimum of 120 s.h., including a minimum of 41 s.h. in English professional education courses and a minimum of 27 s.h. in English education content courses. Students must maintain a g.p.a. of at least 2.70 in professional education course requirements. They also must complete the GE CLAS Core [p. 20]. The major requires admission to the Teacher Education Program (TEP). Application information can be obtained through the Office of Student Services.

Students must earn a B.A. in English [p. 436] or a B.A. in English and creative writing [p. 446] at the University of Iowa in order to earn the B.A. in English education; both degrees may be earned at the same time. Separate application to each degree program is required. Graduates who have earned one of these degrees at another institution and wish to earn the B.A. in English education should consult the Department of Teaching and Learning; additional coursework may be required.

The Department of English offers courses in literature, cultural studies, language, and critical and creative writing. In these courses, students read poetry, fiction, essays, criticism, and theory to acquire methods for understanding literature and culture and respond creatively to the texts. In addition to providing these essential elements of a liberal arts and sciences education, the department's courses can augment students' specialized interests in other fields. Students also complete coursework in teacher licensure including student teaching.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Additional subject area endorsements can be completed in any 5-12 licensure program. For more information and an advisor, contact the Department of Teaching and Learning.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline for students planning to student teach the following fall semester is November 15 and April 15 for the following spring semester.

The B.A. with a major in English education requires the following work.

## Professional Education Course Requirements

Students must complete 41 s.h. from the following.

### Foundation Courses

Foundation courses may be completed before or after admission to the major.

Code	Title	Hours
All of these:		
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

### Additional Licensure Courses

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:4314	Introduction and Practicum: Secondary English	3
EDTL:4315	Learning to Teach Secondary English/Language Arts and Field Experience	3
EDTL:4394	Secondary Reading Instruction	3
EPLS:4180	Human Relations for the Classroom Teacher	3

### Student Teaching

Transfer students should consult their advisor since they must complete certain courses before they student teach.

Code	Title	Hours
All of these:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

### Mathematics Course

Students complete a college-level math course. Most students complete this course as a part of their GE CLAS Core [p. 20] requirement in Quantitative or Formal Reasoning. For questions about how the math course can be applied to the licensure requirement, see Academic Advising on the College of Education website.

Code	Title	Hours
One of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
STAT:1010	Statistics and Society	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
Any mathematics course (prefix MATH), except MATH:0100, MATH:1005, or MATH:1210		

## English Education Content Courses

Students complete at least 27 s.h. from the following.

### Oral Communication and Language Development

Code	Title	Hours
This course:		
EDTL:3382	Language and Learning	3

### Written Communication

Code	Title	Hours
Both of these:		
EDTL:4355	Approaches to Teaching Writing	3
A nonfiction or creative writing course numbered 2000 or above		3

### Adolescent Literature

Code	Title	Hours
This course:		
EDTL:3393	Reading and Teaching Adolescent Literature	3

### American Literature

Code	Title	Hours
Three of these:		
Courses numbered ENGL:2400-ENGL:2499 or ENGL:3400-ENGL:3499 or ENGL:4001 or ENGL:4005		9

### British (English) Literature

Code	Title	Hours
This course:		
ENGL:3287	Shakespeare	3
One of these:		
Course numbered ENGL:2300-ENGL:2399 or ENGL:3300-ENGL:3399 or ENGL:4002 or ENGL:4006		3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### English Education, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please see the College of Education's website.		
Students must maintain a GPA of at least 2.70 in professional education course requirements.		

Students must earn another major at the University of Iowa in order to earn the BA in English education. Both degrees may be earned at the same time.<sup>a</sup>

Graduates who have earned one of these degrees at another institution and wish to earn the BA in English education should consult the Department of Teaching and Learning; additional coursework may be required.

GE CLAS Core: Sustainability<sup>b</sup>

**Hours 0**

#### First Year

##### Fall

RHET:1030	Rhetoric	4
GE CLAS Core: Quantitative or Formal Reasoning <sup>c, d</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>e</sup>		4 - 5
CSI:1600	Success at Iowa	2
Course(s) required for second degree - consult sample plan for BA in English or BA in English and creative writing		3

**Hours 16-17**

##### Spring

EDTL:4900	Foundations of Special Education	3
PSQF:1075	Educational Psychology and Measurement	3

GE CLAS Core: Literary, Visual, and Performing Arts<sup>d, f</sup> 3

GE CLAS Core: World Languages Second Level Proficiency or elective course<sup>e</sup> 4 - 5

Course(s) required for second degree - consult sample plan for BA in English or BA in English and creative writing 3

**Hours 16-17**

#### Second Year

##### Fall

EPLS:3000	Foundations of Education	3
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>e</sup>		4 - 5

Course(s) required for second degree - consult sample plan for BA in English or BA in English and creative writing 3

10-hour pre-admission school field experience (Teacher Education Program application requirement) (second year fall or spring)<sup>g</sup>

**Hours 16-17**

##### Spring

Major: American literature course <sup>h</sup>		3
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d, f</sup>		3

GE CLAS Core: Natural Sciences with Lab<sup>d</sup> 4

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>e</sup> 4 - 5

Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation)

**Hours 17-18**

**Third Year****Fall**

EDTL:3382	Language and Learning	2 - 3
EDTL:3393	Reading and Teaching Adolescent Literature	3
ENGL:3287	Shakespeare	3
Major: nonfiction or creative writing course numbered 2000 or above		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
Admission Application: apply to the Teacher Education Program <sup>i</sup>		

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<b>Hours</b>	<b>14-15</b>
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**Spring**

EDTL:3002	Teaching and Learning Technologies	2 - 3
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:4314	Introduction and Practicum: Secondary English	3
EDTL:4355	Approaches to Teaching Writing	3
Major: American literature course <sup>h</sup>		3
Major: British literature course <sup>h</sup>		3
Apply for student teaching (see the College of Education website for application instructions and deadlines)		

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<b>Hours</b>	<b>17-18</b>
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**Fourth Year****Fall**

EDTL:4315	Learning to Teach Secondary English/Language Arts and Field Experience	3
EDTL:4394	Secondary Reading Instruction	2 - 3
EPLS:4180	Human Relations for the Classroom Teacher	3
Major: American literature course <sup>h</sup>		3
Course(s) required for second degree - consult sample plan for BA in English or BA in English and creative writing		3

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<b>Hours</b>	<b>14-15</b>
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**Spring**

EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

Exam: edTPA<sup>k</sup>

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<b>Hours</b>	<b>15</b>
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<b>Total Hours</b>	<b>125-132</b>
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c Choose a math course that will satisfy the Teacher Education Program math requirement.

d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

f Students majoring in English are not required to fulfill the GE CLAS Core Interpretation of Literature requirement but instead may substitute a Literary, Visual, and Performing Arts course excluding: DANC:1010 through DANC:2040, MUS:1001, and MUS:1020.

g Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.

h See General Catalog and degree audit for BA in English education. Students also should consider requirements for the second degree when selecting these courses.

i Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

k As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The assessment is required before recommendation for licensure or certification to any state.

a These majors include a BA in English or a BA in English and creative writing.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

# Mathematics Education, B.A.

## Requirements

The Bachelor of Arts with a major in mathematics education requires a minimum of 120 s.h., including 42 s.h. in mathematics professional education courses, and a minimum of 41-42 s.h. in mathematics education content courses for students earning the B.A. in mathematics or a minimum of 47-50 s.h. in mathematics education content courses for students earning the B.S. in mathematics. Students must maintain a g.p.a. of at least 2.70 in professional education course requirements. They also must complete the GE CLAS Core [p. 20]. The major requires admission to the Teacher Education Program (TEP). Application information can be obtained through the Office of Student Services.

Students must earn a B.A. in mathematics [p. 834] (Program B) or a B.S. in mathematics [p. 840] (Program B) at the University of Iowa in order to earn the B.A. in mathematics education; both degrees may be earned at the same time. Separate application to each degree program is required. Graduates who have earned one of these degrees at another institution and wish to earn the B.A. in mathematics education should consult the Department of Teaching and Learning; additional coursework may be required. Students also complete coursework in teacher licensure including student teaching.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Additional subject area endorsements can be completed in any 5-12 licensure program. For more information and an advisor, contact the Department of Teaching and Learning.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations and students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline for students planning to student teach the following fall semester is November 15 and April 15 for the following spring semester.

The B.A. with a major in mathematics education requires the following work.

## Professional Education Course Requirements

Students complete 42 s.h. from the following.

### Foundation Courses

Foundation courses may be completed before or after admission to the major.

Code	Title	Hours
All of these:		
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

## Additional Licensure Courses

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:3532	Introduction and Practicum: Mathematics	3
EDTL:3534	Methods: Middle School Mathematics	3
EDTL:4535	Methods: High School Mathematics	3
EPLS:4180	Human Relations for the Classroom Teacher	3

## Student Teaching

Transfer students should consult their advisor since they must complete certain courses before they student teach.

Code	Title	Hours
All of these:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

## Mathematics Education Content Courses

Students earning a B.A. in mathematics complete at least 41-42 s.h. from the following; students earning a B.S. in mathematics complete at least 47-50 s.h. from the following.

Code	Title	Hours
All of these:		
CS:1210	Computer Science I: Fundamentals	4
MATH:1850	Calculus I	4
MATH:1860	Calculus II	4
MATH:2150	Foundations of Geometry	3
MATH:2700	Introduction to Linear Algebra	4
MATH:2850	Calculus III	4
MATH:3720	Introduction to Abstract Algebra I	4
MATH:3770	Fundamental Properties of Spaces and Functions I	4

STAT:3120	Probability and Statistics	4
One of these:		
MATH:4050	Introduction to Discrete Mathematics	3
MATH:4060	Discrete Mathematical Models	3
And:		
For students earning a B.A. in mathematics, one additional course beyond calculus		3-4
For students earning a B.S. in mathematics, three additional courses beyond calculus, including at least two courses numbered MATH:4120 or above		9-12

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Mathematics Education, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please consult an advisor for the College of Education.		
Students must maintain a GPA of at least 2.70 in professional education course requirements.		
Students must earn another major at the University of Iowa in order to earn the BA in mathematics education. Both degrees may be earned at the same time. <sup>a</sup>		
Graduates who have earned one of these degrees at another institution and wish to earn the BA in mathematics education should consult the Department of Teaching and Learning; additional coursework may be required.		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:1850	Calculus I <sup>c</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>13-15</b>
<b>Spring</b>		
PSQF:1075	Educational Psychology and Measurement	3
MATH:1860	Calculus II	4
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	

GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>	4 - 5
10-hour pre-admission school field experience <sup>e</sup>	
<b>Hours</b>	<b>14-16</b>

#### Summer

Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation)

**Hours**

**0**

#### Second Year

##### Fall

EPLS:3000	Foundations of Education	3
GE CLAS Core: International and Global Issues <sup>g</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		8
Admission Application: apply to the Teacher Education Program <sup>f</sup>		
<b>Hours</b>		<b>18-19</b>

##### Spring

EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
GE CLAS Core: Social Sciences <sup>g</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		3
<b>Hours</b>		<b>16-17</b>

#### Third Year

##### Fall

EDTL:3532	Introduction and Practicum: Mathematics	3
EDTL:4900	Foundations of Special Education	3
GE CLAS Core: Historical Perspectives <sup>g</sup>		3
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		7
<b>Hours</b>		<b>16</b>

##### Spring

EDTL:3534	Methods: Middle School Mathematics	3
EPLS:4180	Human Relations for the Classroom Teacher	3
GE CLAS Core: Natural Sciences without Lab <sup>g</sup>		3
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		8
Apply for student teaching (see the College of Education website for application instructions and deadlines)		
<b>Hours</b>		<b>17</b>

**Fourth Year****Fall**

EDTL:4535	Methods: High School Mathematics	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>g</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>g</sup>		4
Course(s) required for second degree - consult sample plan for BA or BS in mathematics (Program B)		7 - 8
<b>Hours</b>		<b>17-18</b>

**Spring**

EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
Exam: edTPA <sup>i</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>126-133</b>

- a These majors include a BA in mathematics (program B) or a BS in mathematics (program B) at the University of Iowa.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Enrollment in math courses requires completion of a placement exam.
- d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- e Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.
- f Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.
- g GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.
- i As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The assessment is required before recommendation for licensure or certification to any state.

# Music Education, B.A.

## Requirements

The Bachelor of Arts with major in music education requires a minimum of 120 s.h., including a minimum of 44 s.h. in music professional education courses and 75-86 s.h. in the B.M. in music degree from the College of Liberal Arts and Sciences. Students must maintain a g.p.a. of at least 2.70 in professional education course requirements. They also must complete the GE CLAS Core [p. 20]. The major requires admission to the Teacher Education Program (TEP). Application information can be obtained through the Office of Student Services.

Students must earn a B.M. in music [p. 886] with a performance subprogram of brass/woodwind, jazz, organ, percussion, piano, piano with teacher education, string, or voice at the University of Iowa in order to earn the B.A. in music education; both degrees may be earned at the same time. Separate application to each degree program is required. Graduates who have earned a bachelor's degree in music performance at another institution and wish to earn the B.A. in music education should consult the Department of Teaching and Learning; additional coursework may be required.

The B.M. with a major in music is intended for undergraduates who wish to major in music as part of a broad liberal arts education irrespective of specific career aspirations. The curriculum includes musicianship, performance, and electives. Students must audition and be accepted into a performance area. They develop musicianship, performance skills, and select from a wide variety of music electives.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Additional subject area endorsements can be completed in any 5-12 licensure program. Students who plan to teach music complete a program that prepares them for both elementary- and secondary-level licensure (i.e., K-12). For more information and an advisor, contact the Department of Teaching and Learning.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations and students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline to complete the application in order to student teach occurs one year prior to the requested student teaching semester: November 15 for the following fall semester and April 15 for the following spring semester.

The B.A. with a major in music education requires the following work.

## Professional Education Course Requirements

Students complete 44 s.h. from the following.

## Foundation Courses

Foundation courses may be completed before or after admission to the major.

Code	Title	Hours
All of these:		
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

## Additional Licensure Courses

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:3610	Introduction and Practicum: Music	2
EDTL:3620	Methods and Materials: General Music	3
EDTL:3640	Choral Methods	3
EDTL:3650	Instrumental Methods and Materials	3
EPLS:4180	Human Relations for the Classroom Teacher	3

## Student Teaching

Transfer students should consult their advisor since they must complete certain courses before they student teach.

Code	Title	Hours
All of these:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4192	Special Area Student Teaching	6

## Mathematics Course

Students complete a college-level math course. Most students complete this course as a part of their GE CLAS Core [p. 20] requirement in Quantitative or Formal Reasoning. For questions about how the math course can be applied to the licensure requirement, see Academic Advising on the College of Education website.

Code	Title	Hours
One of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
STAT:1010	Statistics and Society	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3



STAT:1030	Statistics for Business	4
Any mathematics course (prefix MATH), except MATH:0100, MATH:1005, or MATH:1210		

## Music Education Content Courses

In addition to the requirements below, students complete other music courses that relate to their major field of study.

### Jazz (Piano) with Choral Emphasis Majors

Code	Title	Hours
All of these:		
EDTL:3645	Choral Conducting and Literature	3
MUS:1120	Secondary Performance - Voice (taken twice for 1 s.h. each)	2
MUS:1510	Diction for Singers I	2
MUS:2510	Diction for Singers II	2
MUS:3625	Techniques of Conducting	2
MUS:3659	Class Strings (section 1)	1
MUS:3664	Introduction to Wind and Percussion Instruments	2
4 s.h. from these (courses may be repeated):		
MUS:1176	Voxman Chorale	1
MUS:3170	Kantorei	1
MUS:3172	Camerata Singers	1

### Jazz (String Bass) Majors

Code	Title	Hours
All of these:		
EDTL:3635	Instrumental Conducting	3
MUS:3180	Orchestra (taken four times for 1 s.h. each)	4
MUS:3625	Techniques of Conducting	2
MUS:3659	Class Strings (taken three times for 1 s.h. each)	3
MUS:3664	Introduction to Wind and Percussion Instruments	2

### Jazz (Wind Instruments, Percussion, Piano, or Organ) with Band Emphasis Majors

Code	Title	Hours
All of these:		
EDTL:3605	Instrumental Techniques (taken three times for 2 s.h. each; students select appropriate topic of flute/percussion, brass, or woodwinds)	6
EDTL:3635	Instrumental Conducting	3
MUS:1165	Hawkeye Marching Band	1
MUS:3160	Symphony Band/Concert Band (taken four times for 1 s.h. each)	4
MUS:3625	Techniques of Conducting	2
MUS:3659	Class Strings (section 1)	1
MUS:3666	Marching Band Techniques	1

### Piano or Organ with Choral Emphasis Majors

Code	Title	Hours
All of these:		
EDTL:3645	Choral Conducting and Literature	3
MUS:1120	Secondary Performance - Voice (taken twice for 1 s.h. each)	2
MUS:1510	Diction for Singers I	2
MUS:2510	Diction for Singers II	2
MUS:3659	Class Strings (section 1)	1
MUS:3664	Introduction to Wind and Percussion Instruments	2

### String Instrument Majors

Code	Title	Hours
All of these:		
EDTL:3635	Instrumental Conducting	3
MUS:3664	Introduction to Wind and Percussion Instruments	2
MUS:3659	Class Strings (taken three times for 1 s.h. each)	3

### Voice Majors

Code	Title	Hours
All of these:		
EDTL:3645	Choral Conducting and Literature	3
MUS:1121	Secondary Performance - Piano	1
MUS:2213	Group Instruction in Piano III	1
MUS:3659	Class Strings (section 1)	1
MUS:3664	Introduction to Wind and Percussion Instruments	2

### Wind Instruments, Percussion, Piano, or Organ with Band Emphasis Majors

Code	Title	Hours
All of these:		
EDTL:3605	Instrumental Techniques (taken three times for 2 s.h. each; students select appropriate topic of flute/percussion, brass, or woodwinds)	6
EDTL:3635	Instrumental Conducting	3
MUS:1165	Hawkeye Marching Band	1
MUS:1711	Jazz Rhythms and Interpretation I	1
MUS:3659	Class Strings (section 1)	1
MUS:3666	Marching Band Techniques	1
MUS:3760	Jazz Band Techniques	1

### Electives

Students consult their advisor and complete their major requirements with additional music courses.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Music Education, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please see the College of Education's website.

Students must maintain a GPA of at least 2.70 in professional education course requirements.

Students must earn a BM in music with a performance subprogram at the University of Iowa in order to earn the BA in music education. Both degrees may be earned at the same time.

Graduates who have earned a bachelor's degree in music performance at another institution and wish to earn the BA in music education should consult the Department of Teaching and Learning; additional coursework may be required.

GE CLAS Core: Sustainability <sup>a</sup>

<b>Hours</b>	<b>0</b>
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#### First Year

##### Fall

RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
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GE CLAS Core: World Languages First Level Proficiency <sup>b</sup>	4 - 5
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CSI:1600 Success at Iowa	2
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Course(s) required for second degree - consult sample plan for BM in music	9 - 10
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10-hour pre-admission school field experience <sup>c</sup>

Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation)

<b>Hours</b>	<b>18-21</b>
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##### Spring

PSQF:1075	Educational Psychology and Measurement	3
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RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
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GE CLAS Core: World Languages Second Level Proficiency <sup>b</sup>	4 - 5
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Course(s) required for second degree - consult sample plan for BM in music	9 - 10
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Admission Application: apply to the Teacher Education Program <sup>d</sup>

<b>Hours</b>	<b>19-22</b>
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### Second Year

#### Fall

EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
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EDTL:3605	Instrumental Techniques	2
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EDTL:3610	Introduction and Practicum: Music	2
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MUS:3666	Marching Band Techniques	1
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GE CLAS Core: World Languages Second Level Proficiency <sup>b</sup>	4 - 5
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Course(s) required for second degree - consult sample plan for BM in music	10 - 11
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<b>Hours</b>	<b>22-24</b>
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#### Spring

EDTL:3002	Teaching and Learning Technologies	2
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EDTL:3605	Instrumental Techniques	2
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MUS:3659	Class Strings	1
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GE CLAS Core: World Languages Fourth Level Proficiency <sup>b</sup>	4 - 5
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Course(s) required for second degree - consult sample plan for BM in music	11 - 12
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<b>Hours</b>	<b>20-22</b>
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### Third Year

#### Fall

EDTL:3605	Instrumental Techniques	2
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EDTL:3650	Instrumental Methods and Materials	3
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EPLS:3000	Foundations of Education	3
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MUS:1711	Jazz Rhythms and Interpretation I	1
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Course(s) required for second degree - consult sample plan for BM in music	10 - 11
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<b>Hours</b>	<b>19-20</b>
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#### Spring

EDTL:3620	Methods and Materials: General Music	3
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EDTL:3635	Instrumental Conducting	3
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EDTL:4900	Foundations of Special Education	3
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MUS:3760	Jazz Band Techniques	1
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GE CLAS Core: Literary, Visual, and Performing Arts <sup>e, f</sup>	3
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Course(s) required for second degree - consult sample plan for BM in music	7 - 8
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<b>Hours</b>	<b>20-21</b>
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### Fourth Year

#### Fall

EDTL:3095	Teaching Reading in Secondary Content Areas	1
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EDTL:3640	Choral Methods	3
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EPLS:4180	Human Relations for the Classroom Teacher	3
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MUS:1165	Hawkeye Marching Band	1
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GE CLAS Core: International and Global Issues <sup>f</sup>	3
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GE CLAS Core: Natural Sciences with Lab <sup>f</sup>	4
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Course(s) required for second degree - consult sample plan for BM in music	3 - 4
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Apply for student teaching (see the College of Education website for application instructions and deadlines)

<b>Hours</b>		<b>18-19</b>
<b>Spring</b>		
GE CLAS Core: Historical Perspectives <sup>e, f</sup>		3
GE CLAS Core: Natural Sciences without Lab <sup>f</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>f, g</sup>		3
GE CLAS Core: Social Sciences <sup>f</sup>		3
Course(s) required for second degree - consult sample plan for BM in music		4 - 5
<b>Hours</b>		<b>16-17</b>
<b>Fifth Year</b>		
<b>Fall</b>		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4192	Special Area Student Teaching	6
Degree Application: Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
Exam: edTPA <sup>i</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>167-181</b>

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- c Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.
- d Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.
- e This requirement may be met by a course required for the BM in music.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Choose a course that will satisfy the Teacher Education Program math requirement.
- h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.
- i As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The assessment is required before recommendation for licensure or certification to any state.

# Science Education, B.A.

## Requirements

The Bachelor of Arts with major in science education requires a minimum of 120 s.h., including a minimum of 43 s.h. in science education professional education courses, completion of an approved College of Liberal Arts and Sciences science degree, and science education content courses. Students must maintain a g.p.a. of at least 2.70 in professional education course requirements. They also must complete the GE CLAS Core [p. 20]. [p. 20]The major requires admission to the Teacher Education Program (TEP). Application information can be obtained through the Office of Student Services.

Students must earn one of these majors at the University of Iowa, with a minimum of 36 s.h., in order to earn the B.A. in science education: a B.A. in biology [p. 193], a B.S. in biology [p. 198], a B.A. in chemistry [p. 225], a B.S. in chemistry [p. 229], a B.A. in environmental sciences [p. 488], a B.S. in environmental sciences [p. 493], a B.A. in geoscience [p. 406], a B.S. in geoscience [p. 410], a B.A. in physics [p. 939], a B.S. in physics [p. 945], or a B.S. in science studies [p. 1509]; both degrees may be earned at the same time. Separate application to each degree program is required. Graduates who have earned one of these degrees at another institution and wish to earn the B.A. in science education should consult the Department of Teaching and Learning; additional coursework may be required.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Additional subject area endorsements can be completed in any 5-12 licensure program. For more information and an advisor, contact the Department of Teaching and Learning.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations and students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline for students planning to student teach the following fall semester is November 15 and April 15 for the following spring semester.

The B.A. with a major in science education requires the following work.

## Professional Education Course Requirements

Students complete 43 s.h. from the following.

### Foundation Courses

Foundation courses may be completed before or after admission to the major.

Code	Title	Hours
All of these:		
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

## Additional Licensure Courses

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EPLS:4180	Human Relations for the Classroom Teacher	3
And all of these taken in this order:		
EDTL:4751	Learning in the Science, Technology, Engineering, and Mathematics (STEM) Classroom	2
EDTL:4752	Secondary Science Methods II with Field Experience	3
EDTL:4753	Secondary Science Methods III with Field Experience	3
EDTL:4779	Secondary School Science Practicum	2

## Student Teaching

Transfer students should consult their advisor since they must complete certain courses before they student teach.

Code	Title	Hours
All of these:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

## Mathematics Course

Students complete a college-level math course. Most students complete this course as a part of their GE CLAS Core [p. 20] requirement in Quantitative or Formal Reasoning. For questions about how the math course can be applied to the licensure requirement, see Academic Advising on the College of Education website.

Code	Title	Hours
One of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
STAT:1010	Statistics and Society	3

STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
Any mathematics course (prefix MATH), except MATH:0100, MATH:1005, or MATH:1210		

## Science Education Content Courses

Students select science courses that relate to their major field of study. In addition, students complete the Broad Science Field Block below:

### Broad Field Science Block

Students complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	4
SIED:4103	Societal and Educational Applications of Biological Sciences	4
SIED:4105	Societal and Educational Applications of Physical Sciences	4
SIED:4106	Societal and Educational Applications of Chemical Concepts	4

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Science Education, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please see the College of Education's website.		
Students must maintain a GPA of at least 2.70 in professional education course requirements.		
Students must earn another major at the University of Iowa in order to earn the BA in science education. Both degrees may be earned at the same time. <sup>a</sup>		
Graduates who have earned one of these degrees at another institution and wish to earn the BA in science education should consult the Department of Teaching and Learning; additional coursework may be required. <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>

### First Year

#### Fall

RHET:1030	Rhetoric or ENGL:1200 or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
Course(s) required for second degree, including a course that applies to the GE CLAS Core Natural Sciences area - consult sample plan for chosen program <sup>a</sup>		4

#### Hours

**13-15**

#### Spring

PSQF:1075	Educational Psychology and Measurement	3
ENGL:1200	The Interpretation of Literature or RHET:1030 or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
Course(s) required for second degree, including a course that applies to the GE CLAS Core Natural Sciences area - consult sample plan for chosen program <sup>a</sup>		3 - 8

#### Hours

**13-20**

### Second Year

#### Any Semester

10-hour pre-admission school field experience<sup>d</sup>

#### Hours

**0**

#### Fall

EPLS:3000	Foundations of Education	3
Major: societal and educational applications course <sup>e</sup>		4
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		7 - 9
Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation)		

#### Hours

**18-21**

#### Spring

EDTL:4900	Foundations of Special Education	3
GE CLAS Core: Quantitative or Formal Reasoning <sup>g, h</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>c</sup>		4 - 5
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		7 - 9
Admission Application: apply to the Teacher Education Program <sup>f</sup>		

#### Hours

**17-20**

### Third Year

#### Fall

EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1

EDTL:4751	Learning in the Science, Technology, Engineering, and Mathematics (STEM) Classroom <sup>i</sup>	2
Major: societal and educational applications course <sup>e</sup>		
GE CLAS Core: Social Sciences <sup>h</sup>		
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		
<b>Hours</b>		<b>21-22</b>
<b>Spring</b>		
EDTL:4752	Secondary Science Methods II with Field Experience <sup>j</sup>	3
EPLS:4180	Human Relations for the Classroom Teacher	3
GE CLAS Core: Historical Perspectives <sup>h</sup>		
GE CLAS Core: Literary, Visual, and Performing Arts <sup>h</sup>		
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		
<b>Hours</b>		<b>18-22</b>
<b>Fourth Year</b>		
<b>Fall</b>		
EDTL:4753	Secondary Science Methods III with Field Experience <sup>i</sup>	3
EDTL:4779	Secondary School Science Practicum <sup>i</sup>	2
SIED:4135	The Nature of Science	4
GE CLAS Core: International and Global Issues <sup>h</sup>		
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		
<b>Hours</b>		<b>18-19</b>
<b>Spring</b>		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6
Degree Application: Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>k</sup>		
Exam: edTPA <sup>l</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>133-154</b>

- a Approved majors for the second degree include a BA in biology, a BS in biology, a BA in chemistry, a BS in chemistry, a BA in environmental sciences, a BS in environmental sciences, a BA in geoscience, a BS in geoscience, a BA in physics, a BS in physics, or a BS in science studies.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world

- languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.
- e Students must complete two of SIED:4102, SIED:4103, SIED:4105, or SIED:4106.
- f Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.
- g Choose a course that will satisfy the Teacher Education Program math requirement.
- h GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- i Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- j Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.
- l As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The assessment is required before recommendation for licensure or certification to any state.

# Social Studies Education, B.A.

## Requirements

The Bachelor of Arts with major in social studies education requires a minimum of 120 s.h., including a minimum of 39 s.h. in social studies professional education courses, 30-36 s.h. in social studies education content courses, and 15 s.h. in a social studies area outside of their designated major area of study. Students must maintain a g.p.a. of at least 2.70 in professional education course requirements. They must also must complete the GE CLAS Core [p. 20]. The major requires admission to the Teacher Education Program (TEP). Application information can be obtained through the Office of Student Services.

Students must earn one of these majors at the University of Iowa in order to earn the B.A. in social studies education: a B.A. in anthropology [p. 82], a B.S. in anthropology [p. 89], a B.A. in economics [p. 1253], a B.S. in economics [p. 1256], a B.A. in geography [p. 572], a B.S. in geography [p. 580], a B.A. in history [p. 704], a B.A. in political science [p. 974], a B.S. in political science [p. 978], a B.A. in psychology [p. 994], a B.S. in psychology [p. 998], a B.A. in sociology [p. 1078], or a B.S. in sociology [p. 1087]; both degrees may be earned at the same time. Separate application to each degree program is required. Graduates who have earned one of these degrees at another institution and wish to earn the B.A. in social studies education should consult the Department of Teaching and Learning; additional coursework may be required.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Additional subject area endorsements can be completed in any 5-12 licensure program. For more information and an advisor, contact the Department of Teaching and Learning.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations and students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline for students planning to student teach the following fall semester is November 15 and April 15 for the following spring semester.

The B.A. with a major in social studies education requires the following work.

## Professional Education Course Requirements

Students complete 39 s.h. from the following.

### Foundation Courses

Foundation courses may be completed before or after admission to the major.

Code	Title	Hours
All of these:		
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

## Additional Licensure Courses

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:4811	Introduction and Practicum: Secondary Social Studies	3
EDTL:4870	Methods: Secondary Social Studies	3
EPLS:4180	Human Relations for the Classroom Teacher	3

## Student Teaching

Transfer students should consult their advisor since they must complete certain courses before they student teach.

Code	Title	Hours
All of these:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

## Mathematics Course

Students complete a college-level math course. Most students complete this course as a part of their GE CLAS Core [p. 20] requirement in Quantitative or Formal Reasoning. For questions about how the math course can be applied to the licensure requirement, see Academic Advising on the College of Education website.

Code	Title	Hours
One of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
STAT:1010	Statistics and Society	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
Any mathematics course (prefix MATH), except MATH:0100, MATH:1005, or MATH:1210		

## Social Studies Education Content Courses

Students complete 30-36 s.h. in an approved College of Liberal Arts and Sciences social studies major and an additional 15 s.h. in social studies coursework outside of their designated area of study.

Those interested in the all-social studies endorsement as a second area should consult their advisor.

### Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Social Studies Education, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please see the College of Education's website.		
Prerequisites for admission into the Teacher Education Program for social studies education include 9 s.h. in content-area courses with a minimum GPA of 3.00, as follows: 3 s.h. from HIST:XXXX; 6 s.h. of additional coursework with prefixes ANTH, ECON, GEOG, HIST, POLI, PSY, or SOC.		
Students must maintain a GPA of at least 2.70 in professional education course requirements.		
Students must earn another major at the University of Iowa in order to earn the BA in social studies education. Both degrees may be earned at the same time. Students complete an additional 15 s.h. in social studies coursework outside of their designated major area of study. <sup>a</sup>		
Graduates who have earned one of these degrees at another institution and wish to earn the BA in social studies education should consult the Department of Teaching and Learning; additional coursework may be required. <sup>a</sup>		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
Coursework in social studies area outside of designated major area of study		3
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: International and Global Issues <sup>c</sup>		3
GE CLAS Core: Social Sciences <sup>c, d</sup>		3
CSI:1600	Success at Iowa	2
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		3 - 4
<b>Hours</b>		<b>17-19</b>

<b>Spring</b>		
PSQF:1075	Educational Psychology and Measurement	3
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Historical Perspectives <sup>c, d</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>c</sup>		4
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		3 - 4
<b>Hours</b>		<b>16-18</b>

### Second Year

#### Any Semester

10-hour pre-admission school field experience <sup>e</sup>		0
<b>Hours</b>		<b>0</b>

#### Fall

EPLS:3000	Foundations of Education	3
Coursework in social studies area outside of designated major area of study		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>c, f</sup>		3
GE CLAS Core: World Languages First Level Proficiency <sup>g</sup>		4 - 5
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		6
Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation) <sup>h</sup>		
<b>Hours</b>		<b>19-20</b>

#### Spring

EDTL:4900	Foundations of Special Education	3
Coursework in social studies area outside of designated major area of study		3
GE CLAS Core: World Languages Second Level Proficiency <sup>g</sup>		4 - 5
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		6
Admission Application: apply to the Teacher Education Program <sup>h</sup>		
<b>Hours</b>		<b>16-17</b>

### Third Year

#### Fall

EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
GE CLAS Core: Natural Sciences without Lab <sup>c</sup>		3
GE CLAS Core: World Languages Second Level Proficiency <sup>g</sup>		4 - 5
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		6
<b>Hours</b>		<b>19-20</b>

#### Spring

EDTL:4870	Methods: Secondary Social Studies	3
EPLS:4180	Human Relations for the Classroom Teacher	3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>g</sup>		4 - 5



Course(s) required for second degree - consult sample plan for chosen program<sup>a</sup> 6

Apply for student teaching (see the College of Education website for application instructions and deadlines)

**Hours 16-17**

#### Fourth Year

##### Fall

EDTL:4811 Introduction and Practicum: Secondary Social Studies 3

Coursework in social studies area outside of designated major area of study 6

GE CLAS Core: Literary, Visual, and Performing Arts<sup>c</sup> 3

Course(s) required for second degree - consult sample plan for chosen program<sup>a</sup> 6 - 8

**Hours 18-20**

##### Spring

EDTL:4087 Seminar: Curriculum and Student Teaching 3

EDTL:4091 Observation and Laboratory Practice in the Secondary School 6

EDTL:4092 Observation and Laboratory Practice in the Secondary School 6

Degree Application: Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>i</sup>

Exam: edTPA<sup>j</sup>

**Hours 15**

**Total Hours 136-146**

requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

j As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The assessment is required before recommendation for licensure or certification to any state.

a Approved majors for the second degree include a BA in anthropology, a BS in anthropology, a BA in economics, a BS in economics, a BA in geography, a BS in geography, a BA in history, a BA in political science, a BS in political science, a BA in psychology, a BS in psychology, a BA in sociology, or a BS in sociology.

b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

c GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

d This requirement may be met by a course required for the second degree.

e Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.

f Choose a course that will satisfy the Teacher Education Program math requirement.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all

# World Language Education, B.A.

## Requirements

The Bachelor of Arts with a major in world language education requires a minimum of 120 s.h., including a minimum of 48 s.h. in world language professional education courses and 30-36 s.h. in world language education content courses. Students must maintain a g.p.a. of at least 2.70 in professional education course requirements. They also must complete the GE CLAS Core [p. 20]. The major requires admission to the Teacher Education Program (TEP). Application information can be obtained through the Office of Student Services.

Students must earn one of these majors at the University of Iowa in order to earn the B.A. in world language education: a B.A. in Asian languages and literature [p. 172] with a Chinese or Japanese subprogram, a B.A. in French [p. 522], a B.A. in German [p. 605], a B.A. in Italian [p. 526], a B.A. in Russian [p. 177], a B.A. in Spanish [p. 1114], or a B.A. in classical languages [p. 265] with a Latin language emphasis; both degrees may be earned at the same time. Separate application to each degree program is required. Graduates who have earned one of these degrees at another institution and wish to earn the B.A. in world language education should consult the Department of Teaching and Learning; additional coursework may be required.

An Iowa secondary teaching license qualifies holders to teach in grades 5-12. Additional subject area endorsements can be completed in any 5-12 licensure program. Secondary teacher preparation programs in world language also offer a program that leads to licensure as a subject matter specialist in grades K-8. For more information and an advisor, contact the Department of Teaching and Learning.

For initial licensure, student teaching must be an all-day, full-semester experience. Most students are placed in a district within a 60-mile radius of Iowa City. Placements outside this area require special approval and are considered on an individual basis. Special site programs provide experience in districts with diverse populations and students also may apply to student teach at international sites for the second half of the semester.

Additional information about options for student teaching and application procedures is available from the Office of Student Services. Applications for student teaching must be submitted during the calendar year before the student teaching semester. The deadline for students planning to student teach the following fall semester is November 15 and April 15 for the following spring semester.

The B.A. with a major in world language education requires the following work.

## Professional Education Course Requirements

Students complete at least 48 s.h. from the following.

### Foundation Courses

Foundation courses may be completed before or after admission to the major.

Code	Title	Hours
All of these:		
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
PSQF:1075	Educational Psychology and Measurement	3

## Additional Licensure Courses

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:4406	World Language Practicum I	3
EDTL:4407	World Language Practicum II	3
EDTL:4410	Teaching K-12 Second Language Learners	3
EDTL:4416	Learning to Teach Second Languages I	3
EDTL:4417	Learning to Teach Second Languages II	3
EPLS:4180	Human Relations for the Classroom Teacher	3

## Student Teaching

Transfer students should consult their advisor since they must complete certain courses before they student teach.

Code	Title	Hours
All of these:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6
Optional course:		
EDTL:4089	Special Subject Area Student Teaching	3-6

## Mathematics Course

Students complete a college-level math course. Most students complete this course as a part of their GE CLAS Core [p. 20] requirement in Quantitative or Formal Reasoning. For questions about how the math course can be applied to the licensure requirement, see Academic Advising on the College of Education website.

Code	Title	Hours
One of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4
STAT:1010	Statistics and Society	3

STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:1030	Statistics for Business	4
Any mathematics course (prefix MATH), except MATH:0100, MATH:1005, or MATH:1210		

## World Language Education Content Courses

Students complete 30-36 s.h. in an approved College of Liberal Arts and Sciences world language major.

### Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## World Language Education, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Admission to the Teacher Education Program, College of Education, is by competitive application. For information about application requirements, process, and deadlines, please see the College of Education's website.		
Students must maintain a GPA of at least 2.70 in professional education course requirements.		
Students must earn another major at the University of Iowa in order to earn the BA in world language education. Both degrees may be earned at the same time. <sup>a</sup>		
Prerequisites for admission into the Teacher Education Program for world language education include 12 s.h. of coursework in the language of the second degree. <sup>a</sup>		
Graduates who have earned one of these degrees at another institution and wish to earn the BA in world language education should consult the Department of Teaching and Learning; additional coursework may be required.		
GE CLAS Core: Sustainability <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
GE CLAS Core: World Languages First Level Proficiency <sup>c</sup>		4 - 5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE CLAS Core: Social Sciences <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
PSQF:1075	Educational Psychology and Measurement	3

GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Historical Perspectives <sup>d</sup>		3
<b>Hours</b>		<b>13-15</b>

### Second Year

#### Any Semester

10-hour pre-admission school field experience <sup>e</sup>		0
<b>Hours</b>		<b>0</b>

#### Fall

EPLS:3000	Foundations of Education	3
GE CLAS Core: World Languages Second Level Proficiency <sup>c</sup>		4 - 5
GE CLAS Core: Quantitative or Formal Reasoning <sup>d, f</sup>		3
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		6
Prepare materials for Teacher Education Program application (e.g. essays, letters of recommendation) <sup>g</sup>		
<b>Hours</b>		<b>16-17</b>

#### Spring

EDTL:4900	Foundations of Special Education	3
GE CLAS Core: World Languages Fourth Level Proficiency <sup>c</sup>		4 - 5
GE CLAS Core: International and Global Issues <sup>d</sup>		3
GE CLAS Core: Natural Sciences with Lab <sup>d</sup>		4
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		3
Admission Application: apply to the Teacher Education Program <sup>g</sup>		
<b>Hours</b>		<b>17-18</b>

### Third Year

#### Fall

EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:4410	Teaching K-12 Second Language Learners	3
GE CLAS Core: Natural Sciences without Lab <sup>d</sup>		3
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		6
<b>Hours</b>		<b>18</b>

#### Spring

EDTL:4407	World Language Practicum II <sup>h</sup>	3
EDTL:4417	Learning to Teach Second Languages II <sup>h</sup>	3
EPLS:4180	Human Relations for the Classroom Teacher	3
Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup>		9
Apply for student teaching (see the College of Education website for application instructions and deadlines)		
<b>Hours</b>		<b>18</b>

**Fourth Year****Fall**

EDTL:4406	World Language Practicum I <sup>i</sup>	3
EDTL:4416	Learning to Teach Second Languages I <sup>i</sup>	3

Course(s) required for second degree - consult sample plan for chosen program <sup>a</sup> 12

**Hours 18**

**Spring**

EDTL:4087	Seminar: Curriculum and Student Teaching	3
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EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
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EDTL:4092	Observation and Laboratory Practice in the Secondary School	6
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Degree Application: Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>

Exam: edTPA <sup>k</sup>

**Hours 15**

**Total Hours 130-136**

assessment is required before recommendation for licensure or certification to any state.

- a Approved majors for the second degree include a BA in Asian languages and literature with a Chinese or Japanese subprogram, a BA in French, a BA in German, a BA in Italian, a BA in Russian, a BA in Spanish, or a BA in classical languages with a Latin language emphasis.
- b Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.
- d GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- e Complete the College of Education 10-hour pre-admission school field experience verification form available on the Teacher Education Program web page.
- f Choose a course that will satisfy the Teacher Education Program math requirement.
- g Please see the College of Education website for detailed application instructions and deadlines. Admission is selective and a priority deadline exists.
- h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- i Typically this course is offered in fall semesters only. Check MyUI for course availability since offerings are subject to change.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.
- k As a requirement for completion of an approved Teacher Education Program for initial teaching licensure, the state of Iowa requires a passing score on this exam. The

## Science Studies, B.S.

Science studies provides preparation in more than one discipline of science; a consideration of science from a philosophical, historical, and sociological perspective; an introduction to applied science (technology); and an education sequence.

Program planning in science studies requires the cooperation and involvement of a variety of University departments and colleges. Most of the program's requirements are drawn from courses offered by these varied academic units.

### Learning Outcomes

Students who major in science studies gain:

- knowledge in two or more areas of science;
- a specified proficiency in mathematics as a tool of science (with more mathematics study required for the physical science emphases than for the biological ones);
- a view of science from a historical, philosophical, and cultural perspective; and
- experience with the application of scientific knowledge.

### Research

Each faculty member in science studies is responsible for one or more areas of research. Major interests include studies of effective teaching and learning, science through writing, philosophy and sociology of science, individualized learning, social issues in science and technology, curriculum planning and development, professional development, intellectual development related to teaching and learning science, studies of effective use of hands-on activities, and evaluation and assessment of science instruction and programs.

### Programs and Projects

A wide range of funded programs provides ample opportunity for students to be involved in innovative development and research in science studies.

Science studies faculty members collaborate on a number of international research projects in many countries. Activities include faculty exchanges and cross-national studies.

International students enrich the opportunities for graduate studies in science studies. New international collaborative efforts are under way each year.

### Requirements

The Bachelor of Science with a major in science studies (awarded by the College of Liberal Arts and Sciences) requires a minimum of 120 s.h., including at least 48 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The major in science studies is interdisciplinary. It is intended for students interested in education; it is not intended to prepare students for advanced study in one area of science. When graduates of the science studies program elect to pursue graduate study in a specific area of science, they often must complete additional coursework in that discipline after they are admitted to the Graduate College.

The science studies curriculum includes courses offered by science departments in the College of Liberal Arts and

Sciences, science applications courses, and courses in the history, philosophy, and sociology of science.

The major offers five emphasis areas: all-science, biology, chemistry, earth science, and physics. The all-science emphasis area is open only to students who will earn teacher licensure and would like equal preparation in biology, chemistry, earth science, and physics. Students who choose the all-science emphasis area do not choose a secondary emphasis area. They must complete all requirements for teacher licensure in order to graduate in the all-science emphasis area.

Students who do not choose the all-science emphasis area may elect whether or not to earn teacher licensure. They choose a primary and a secondary emphasis area from biology, chemistry, earth science, and physics, acquiring depth in the primary emphasis area equivalent to six semesters of sequential study and preparation in the secondary area equivalent to four semesters of sequential study.

All science studies students must complete the requirements for their emphasis area(s) plus the broad field science block. Those who wish to earn teacher licensure also must complete the College of Education's Teacher Education Program (TEP), including the 47 s.h. professional education sequence; see "Teacher Licensure" below.

### Special Rules

The Science Studies Program may involve many faculty advisors and more than one college or department. Consequently, the following special rules apply to science studies students.

- At least 10 s.h. of graded credit in science must be earned at the University of Iowa.
- No credit from the CLEP Natural Science General Examination may be applied toward the major in science studies.
- Courses for the major may not be taken pass/nonpass. Grades from all courses applied toward the science studies major are used in computing a student's grade-point average in the major, both at the University of Iowa and overall.

Since mathematics forms an integral part of so many aspects of modern science, all-science emphasis area education students are urged to complete appropriate advanced courses in both pure and applied mathematics (including statistics and computer science) so that they may be qualified to do graduate work and quantitative research later.

The B.S. with a major in science studies requires the following coursework.

### All-Science Emphasis Area

Students who choose the all-science emphasis area do not choose a secondary emphasis area. They complete a minimum of 48 s.h. for the major, including at least 36 s.h. in the following coursework (at least 9 s.h. in each of the four science disciplines—biology, chemistry, earth science, and physics), and 12 s.h. in the broad field science block. They also must complete all requirements for teacher licensure (see "Teacher Licensure" below).

## Biology

Code	Title	Hours
At least 9 s.h. from these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
BIOL:2211	Genes, Genomes, and the Human Condition	3
BIOL:2673	Ecology	3
BIOL:3172	Evolution	4
HHP:3500	Human Physiology	3

## Chemistry

Code	Title	Hours
At least 9 s.h. from these:		
CHEM:1110	Principles of Chemistry I	4
CHEM:1120	Principles of Chemistry II	4
CHEM:2021	Fundamentals of Chemical Measurements	3
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3

## Earth Science

Code	Title	Hours
At least 9 s.h. from these:		
EES:1030	Introduction to Earth Science	3-4
EES:1040	Evolution and the History of Life	3-4
EES:1050	Introduction to Geology	4
EES:1080	Introduction to Environmental Science	3-4
EES:3000	Geologic Training Assignment	1-3
EES:3070	Marine Ecosystems and Conservation	3

## Physics

At least 9 s.h. chosen as follows.

Code	Title	Hours
At least one of these:		
ASTR:1070	Stars, Galaxies, and the Universe	3-4
PHYS:1200	Physics of Everyday Experience	3
No more than one of these:		
PHYS:1511	College Physics I	4
PHYS:1611	Introductory Physics I	4
PHYS:1701	Physics I	4
No more than one of these:		
PHYS:1512	College Physics II	4
PHYS:1612	Introductory Physics II	3-4
PHYS:1702	Physics II	4

## Broad Field Science Block

Students complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	4
SIED:4103	Societal and Educational Applications of Biological Sciences	4
SIED:4105	Societal and Educational Applications of Physical Sciences	4
SIED:4106	Societal and Educational Applications of Chemical Concepts	4

## Biology Emphasis Area

Students who choose biology as their primary emphasis area complete a minimum of 50 s.h. for the major, including 24-25 s.h. in the following biology coursework plus at least 15 s.h. in a secondary emphasis area (chemistry, earth science, or physics) and 12 s.h. in the broad field science block. With their advisor's permission, students may include a science applications course in their secondary emphasis area.

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
BIOL:2512	Fundamental Genetics	4
One of these:		
BIOL:2374	Biogeography	3
BIOL:2673	Ecology	3
One of these:		
BIOL:1370	Understanding Evolution	3
BIOL:3172	Evolution	4
One of these:		
BIOL:3343	Animal Physiology	3
HHP:3500	Human Physiology	3
One of these:		
BIOL:2723	Cell Biology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3363	Plant Developmental Biology	3
BMB:3110	Biochemistry	3

And all of these:

Coursework in a secondary emphasis area (chemistry, earth science, or physics)	15
Coursework listed under "Broad Field Science Block" below	12

## Broad Field Science Block

Students complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	4
At least two of these:		

SIED:4102	Societal and Educational Applications of Earth Science and Environmental	4
SIED:4103	Societal and Educational Applications of Biological Sciences	4
SIED:4105	Societal and Educational Applications of Physical Sciences	4
SIED:4106	Societal and Educational Applications of Chemical Concepts	4

## Chemistry Emphasis Area

Students who choose chemistry as their primary emphasis area complete a minimum of 50 s.h. for the major, including 23 s.h. in the following chemistry coursework plus at least 15 s.h. in a secondary emphasis area (biology, earth science, or physics) and 12 s.h. in the broad field science block. With their advisor's permission, students may include a science applications course in their secondary emphasis area.

Code	Title	Hours
All of these:		
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CHEM:2410	Organic Chemistry Laboratory	3
CHEM:3250	Inorganic Chemistry (spring)	3
One of these:		
BMB:3110	Biochemistry	3
CHEM:3110	Analytical Chemistry I	3
CHEM:4431	Physical Chemistry I	3
And all of these:		
Coursework in a secondary emphasis area (biology, earth science, or physics)		15
Coursework listed under "Broad Field Science Block" below		12

## Broad Field Science Block

Students complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	4
SIED:4103	Societal and Educational Applications of Biological Sciences	4
SIED:4105	Societal and Educational Applications of Physical Sciences	4
SIED:4106	Societal and Educational Applications of Chemical Concepts	4

## Earth Science Emphasis Area

Students who choose earth science as their primary emphasis area complete a minimum of 48 s.h. for the major, including at least 21 s.h. in the following earth science coursework plus at least 15 s.h. in a secondary emphasis area (biology, chemistry, or physics) and 12 s.h. in the broad field science block. With their advisor's permission, students may include a science applications course in their secondary emphasis area.

Code	Title	Hours
Both of these:		
EES:1040	Evolution and the History of Life	4
EES:1080	Introduction to Environmental Science	4
One of these:		
EES:1030	Introduction to Earth Science	3-4
EES:1050	Introduction to Geology	4
One of these:		
EES:2831	Geologic Field Methods	3
EES:3000	Geologic Training Assignment	1-3
EES:3300	Sedimentary Geology	4
EES:3840	Structural Geology	4
One of these:		
EES:3020	Earth Surface Processes	3
EES:3210	Principles of Paleontology	3
EES:3360	Soil Genesis and Geomorphology	3
One of these:		
EES:1290	Energy and the Environment	3
GEOG:1050	Foundations of GIS	4
GEOG:4010	Field Methods in Physical Geography	3
One of these:		
EES:3070	Marine Ecosystems and Conservation	3
EES:3080	Introduction to Oceanography	2
And all of these:		
Coursework in a secondary emphasis area (biology, chemistry, or physics)		15
Coursework listed under "Broad Field Science Block" below		12

## Broad Field Science Block

Students complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	4
SIED:4103	Societal and Educational Applications of Biological Sciences	4

SIED:4105	Societal and Educational Applications of Physical Sciences	4
SIED:4106	Societal and Educational Applications of Chemical Concepts	4

## Physics Emphasis Area

Students who choose physics as their primary emphasis area complete a minimum of 47 s.h. for the major, including at least 20 s.h. in the following physics coursework plus at least 15 s.h. in a secondary emphasis area (biology, chemistry, or earth science) and 12 s.h. in the broad field science block.

With their advisor's permission, students may include a science applications course in their secondary emphasis area.

Code	Title	Hours
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II (if physics is a secondary emphasis area)	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8
PHYS:1701- PHYS:1702	Physics I-II	8
One of these:		
PHYS:2703	Physics III	4
PHYS:3710	Intermediate Mechanics	3
One of these:		
ASTR:1070	Stars, Galaxies, and the Universe (if physics is a secondary emphasis area)	3-4
ASTR:1080	Exploration of the Solar System (if physics is a secondary emphasis area)	3-4
ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy	4
One of these:		
PHYS:3811	Electricity and Magnetism I	3
PHYS:3850	Electronics	4
This course:		
PHYS:1200	Physics of Everyday Experience	3
And all of these:		
Coursework in a secondary emphasis area (biology, chemistry, or earth science)		15
Coursework listed under "Broad Field Science Block" below		12

## Broad Field Science Block

Students complete 12 s.h. from the following.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	4
At least two of these:		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	4
SIED:4103	Societal and Educational Applications of Biological Sciences	4

SIED:4105	Societal and Educational Applications of Physical Sciences	4
SIED:4106	Societal and Educational Applications of Chemical Concepts	4

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

The science studies program offers outstanding students the opportunity to graduate with honors in the major. Honors students must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and fulfill other requirements; contact the Science Education program for more information about graduating with honors in the science studies major.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the science studies major.

## Career Advancement

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The Four-Year Graduation Plan is not available to students majoring in science studies.

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Science Studies, B.S.

- Biology Emphasis [p. 1513]
- Chemistry Emphasis [p. 1514]
- Earth Science Emphasis [p. 1515]
- Physics Emphasis [p. 1516]



## Biology Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students will choose a secondary emphasis area from chemistry, earth science, or physics.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
or CHEM:1070	or General Chemistry I	
ENGL:1200	The Interpretation of Literature	3 - 4
or RHET:1030	or Rhetoric	
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology	4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:1412	Diversity of Form and Function	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>14-16</b>
<b>Spring</b>		
SIED:4103	Societal and Educational Applications of Biological Sciences	4
BIOL:2512	Fundamental Genetics	4
Major: secondary emphasis area course <sup>g</sup>		3 - 4
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>15-17</b>
<b>Third Year</b>		
<b>Fall</b>		
SIED:4106	Societal and Educational Applications of Chemical Concepts	4
or SIED:4102	or Societal and Educational Applications of Earth Science and Environmental	
or SIED:4105	or Societal and Educational Applications of Physical Sciences	
BIOL:3172	Evolution	3
or BIOL:1370	or Understanding Evolution	

i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Chemistry Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students will choose a secondary emphasis area from biology, earth science, or physics.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
CHEM:1120	Principles of Chemistry II	4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Second Year</b>		
<b>Fall</b>		
CHEM:2210	Organic Chemistry I	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Major: secondary emphasis area course <sup>f</sup>		3 - 4
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-19</b>
<b>Spring</b>		
CHEM:2220	Organic Chemistry II	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5
GE CLAS Core: Quantitative or Formal Reasoning <sup>e</sup>		3
Major: secondary emphasis area course <sup>f</sup>		3 - 4
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Third Year</b>		
<b>Fall</b>		
CHEM:2410	Organic Chemistry Laboratory	3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3

Major: applications course <sup>g</sup>		4
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
CHEM:3250	Inorganic Chemistry	3
GE CLAS Core: Values and Culture <sup>e</sup>		3
GE CLAS Core: Historical Perspectives <sup>e</sup>		3
Major: applications course <sup>g</sup>		4
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16</b>
<b>Fourth Year</b>		
<b>Fall</b>		
BMB:3110 or CHEM:4431 or CHEM:3110	Biochemistry or Physical Chemistry I or Analytical Chemistry I	3
SIED:4135	The Nature of Science	4
Major: secondary emphasis area course <sup>f</sup>		3 - 4
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
GE CLAS Core: International and Global Issues <sup>e</sup>		3
Major: secondary emphasis area course <sup>f</sup>		3 - 4
Major: secondary emphasis area course (if needed) <sup>f</sup>		3 - 4
Elective course <sup>d</sup>		3
Elective course (if needed) <sup>d</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>h</sup>		
<b>Hours</b>		<b>15-17</b>
<b>Total Hours</b>		<b>125-136</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in chemistry courses requires completion of a placement exam.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students must complete 15 semester hours in their secondary emphasis area.

g Students must take two of the applications courses SIED:4102, SIED:4103, SIED:4105, or SIED:4106.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate

timing, contact your academic advisor or Graduation Services.

## Earth Science Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students will choose a secondary emphasis area from biology, chemistry, or physics.		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
EES:1040	Evolution and the History of Life	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Social Sciences <sup>b</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>c</sup>		4 - 5
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>16-18</b>
<b>Spring</b>		
EES:1030 or EES:1050	Introduction to Earth Science or Introduction to Geology	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>b</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-18</b>
<b>Second Year</b>		
<b>Fall</b>		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental <sup>e</sup>	4
EES:1080	Introduction to Environmental Science	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>15-17</b>
<b>Spring</b>		
EES:3300 or EES:3840	Sedimentary Geology or Structural Geology	4
GE CLAS Core: Historical Perspectives <sup>b</sup>		3
GE CLAS Core: Quantitative or Formal Reasoning <sup>b</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>c</sup>		4 - 5
<b>Hours</b>		<b>14-15</b>

## Third Year

### Fall

SIED:4105 or SIED:4106 or SIED:4103	Societal and Educational Applications of Physical Sciences <sup>e</sup> or Societal and Educational Applications of Chemical Concepts or Societal and Educational Applications of Biological Sciences	4
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EES:3070	Marine Ecosystems and Conservation	3
Major: secondary emphasis area course <sup>f</sup>		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>b</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>

### Spring

EES:1290 or GEOG:1050	Energy and the Environment or Foundations of GIS	3
Major: secondary emphasis area course <sup>f</sup>		3 - 4
GE CLAS Core: Values and Culture <sup>b</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>15-16</b>

## Fourth Year

### Fall

SIED:4135	The Nature of Science	4
EES:3360 or EES:3020 or EES:3210	Soil Genesis and Geomorphology or Earth Surface Processes or Principles of Paleontology	3
Major: secondary emphasis area course <sup>f</sup>		3 - 4
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>16-17</b>

### Spring

Major: secondary emphasis area course <sup>f</sup>		3 - 4
Major: secondary emphasis area course (if needed) <sup>f</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>b</sup>		3
Elective course <sup>d</sup>		3
Elective course (if needed) <sup>d</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)		

<b>Hours</b>		<b>15-17</b>
<b>Total Hours</b>		<b>123-135</b>

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

c Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world

languages courses requires a placement exam, unless enrolling in a first-semester-level course.

d Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

e Students must take two of the applications courses SIED:4102, SIED:4103, SIED:4105, or SIED:4106.

f Students must complete 15 semester hours in their secondary emphasis area.

g Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Physics Emphasis

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Students will choose a secondary emphasis area from biology, chemistry, or earth science.

GE CLAS Core: Sustainability <sup>a</sup>

Hours	0
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### First Year

Fall		Hours
MATH:1850	Calculus I <sup>b, c</sup>	4
PHYS:1611 or PHYS:1701	Introductory Physics I or Physics I	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>d</sup>		4 - 5
CSI:1600	Success at Iowa	2
Hours		17-19

### Spring

MATH:1860	Calculus II <sup>b</sup>	4
PHYS:1612 or PHYS:1702	Introductory Physics II or Physics II	4
GE CLAS Core: Diversity and Inclusion <sup>e</sup>		3
GE CLAS Core: Social Sciences <sup>e</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Hours		18-19

### Second Year

Fall		Hours
PHYS:3710 or PHYS:2703	Intermediate Mechanics or Physics III	3 - 4
Major: applications course <sup>f</sup>		4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>d</sup>		4 - 5
Hours		14-17

### Spring

GE CLAS Core: Historical Perspectives <sup>e</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>d</sup>		4 - 5
Elective course <sup>g</sup>		3

Elective course <sup>g</sup>		3
Hours		13-14

### Third Year

Fall		Hours
ASTR:1771	Introductory Astronomy I: Basic Astrophysics and Planetary Astronomy	4
PHYS:1200	Physics of Everyday Experience	3
Major: secondary emphasis area course <sup>h</sup>		3 - 4
GE CLAS Core: Literary, Visual, and Performing Arts <sup>e</sup>		3
Elective course <sup>g</sup>		3
Hours		16-17

### Spring

Major: applications course <sup>f</sup>		4
Major: secondary emphasis area course <sup>h</sup>		3 - 4
GE CLAS Core: Values and Culture <sup>e</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Hours		16-17

### Fourth Year

Fall		Hours
SIED:4135	The Nature of Science	4
PHYS:3811 or PHYS:3850	Electricity and Magnetism I or Electronics	3 - 4
Major: secondary emphasis area course <sup>h</sup>		3 - 4
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Hours		16-18

### Spring

Major: secondary emphasis area course <sup>h</sup>		3 - 4
Major: secondary emphasis area course (if needed) <sup>h</sup>		3 - 4
GE CLAS Core: International and Global Issues <sup>e</sup>		3
Elective course <sup>g</sup>		3
Elective course (if needed) <sup>g</sup>		3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>i</sup>		
Hours		15-17

Total Hours	125-138
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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b MATH:1850 and MATH:1860 are corequisites for required courses.

c Enrollment in math courses requires completion of a placement exam.

d Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

e GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

f Students must take two of the applications courses SIED:4102, SIED:4103, SIED:4105, or SIED:4106.

- g Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- h Students must complete 15 semester hours in their secondary emphasis area.
- i Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Teaching and Learning, M.A.

## Learning Outcomes

Students will:

- demonstrate understanding of and ability to analyze theoretical concepts and research in their field of study;
- express ideas effectively in written and spoken communication;
- connect research to practice and practical questions in their professional context;
- effectively apply their knowledge and skills to their professional context; and
- demonstrate curiosity, inquiry, and critical and data-based decision making.

### Art Education

The Master of Arts in teaching and learning with an art education subprogram requires a minimum of 38 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program prepares highly qualified teachers of art for elementary and secondary schools and community colleges. Its strong academic emphasis helps teachers who are creative artists to become highly literate in the history and language of art.

The M.A. in teaching and learning with an art education subprogram requires the following coursework.

### Requirements

Code	Title	Hours
One of these options:		
Studio art courses (12 s.h.) and art history courses (6 s.h.)		18
Art history courses (12 s.h.) and studio art courses (6 s.h.)		18
And these:		
EDTL:6267	Seminar: Current Issues in Art Education	3-4
Additional coursework (consult advisor)		12
Studio or written thesis course (consult advisor)		5

### Admission

Applicants must meet the admission requirements of the Graduate College. They must have completed the equivalent of the minimum coursework in art required for a University of Iowa B.A. or B.F.A. in art and must have a license/certificate to teach art. Applications must include a representative portfolio of the applicant's work, consisting of eight digital reproductions of artwork and one example of written work, which may be a paper previously written for a course or an original paper.

### Developmental Reading

The Master of Arts in teaching and learning with a developmental reading subprogram requires a minimum of 35 s.h. of graduate credit with thesis and a minimum of 33 s.h.

of graduate credit without thesis. Students must maintain a program g.p.a. of at least 3.00.

The program prepares graduate students for positions as reading specialists in kindergarten and grades 1-12. The required coursework develops the skills, knowledge, and competencies needed for K-12 literacy support positions, including literacy instructional coaching positions, curriculum directors of literacy, and literacy interventionists. The program also builds a background in reading/literacy for students who want to specialize further in the area and eventually plan to teach and/or conduct research at a college or university.

Successful completion of this program, combined with three years of successful teaching experience that includes teaching reading as a significant part of the responsibility, qualifies a student for certification as a reading specialist.

The M.A. in teaching and learning with a developmental reading subprogram requires the following coursework.

### Required Courses

Code	Title	Hours
All of these:		
EDTL:4171	Diversity and Exceptionalities in Literacy Instruction	3
EDTL:4394	Secondary Reading Instruction	3
EDTL:6164	Early Literacy Development and Instruction	3
EDTL:6165	Reading and Writing Across Intermediate Grades	3
EDTL:6167	Inquiry-Based Curriculum Development in Early Childhood and Elementary Classrooms	3
EDTL:6171	Advanced Reading Clinic Techniques	3
EDTL:6172	Advanced Reading Clinic Practicum	3
EDTL:7008	Seminar: Research and Current Issues (literacy)	3
PSQF:4740	Issues in K-12 Assessment	3
One of these:		
EDTL:5085	Generation Innovation: Technology Integration in 21st-Century K-12 Schools	3
PSQF:4750	Learning Environments: Design, Context, and Activity	3
PSQF:6200	Educational Psychology	3
PSQF:6208	Digital Media and Learning	3
One of these:		
EDTL:7165	Reading Clinic: Supervision	3
EPLS:6383	Supervision and Evaluation	3

### Thesis

A thesis is required for the thesis option.

Code	Title	Hours
EDTL:6393	Master's Thesis	2

## Electives

Students, in consultation with their advisors, may select any remaining semester hours as electives from areas such as curriculum, supervision, language arts, testing and evaluation, linguistics, or speech pathology.

## Comprehensive Examination

Comprehensive examinations are typically composed of two components. In consultation with an advisor, students select from a menu of options that best meets their professional goals. Options might include writing a paper for publication, designing a professional development workshop, a review of literature focused on one aspect of their studies, and writing/submitting a grant to fund a project at their school.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate g.p.a. of at least 3.00; hold an early childhood, elementary, or secondary school teaching certificate; and show evidence of completing two years of successful teaching experience.

### English Education

The Master of Arts in teaching and learning with an English education subprogram requires a minimum of 30 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is intended for experienced teachers of English. It provides opportunities for professional development and preparation for department chairs, supervisors of English, and curriculum specialists for secondary schools.

M.A. students specialize in English education and in one or two other areas. The other area(s) may include reading, writing, curriculum, adolescent literature, or a literary area. Students and their advisors plan the program of study together. The only required course is EDTL:6315 M.A. Seminar: English Education.

## Comprehensive Examinations

Comprehensive examinations are developed in consultation with a student's advisor. Students ask three faculty members to serve on their committee. Faculty members may include professors outside of the College of Education. One of these faculty members, usually a student's advisor, serves as chair of the committee.

## Admission

Applicants must meet the admission requirements of the Graduate College. They should have taken extensive coursework in English and should have taught English for at least two years. Application should be made to the College of Education.

### Mathematics Education

The Master of Arts in teaching and learning with a mathematics education subprogram requires a minimum of 32 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program provides students with advanced specialization in mathematics and education as a better foundation for K-12 teaching.

## Required Courses

M.A. students take a minimum of 9 s.h. of coursework in mathematics approved by their advisor. They also take a minimum of four courses in mathematics education and three courses chosen in consultation with their advisor.

Students choose a cognate area, usually enrolling in three or more courses in the area. Suggested areas include educational psychology, educational statistics and measurement, history or philosophy of education, pure or applied mathematics, instructional design and technology, counselor education, curriculum, administration, and special education. Courses are chosen in consultation with a faculty member from their cognate area.

Students also complete a sufficient number of electives in mathematics and education, chosen with the approval of their advisor, to complete 32 s.h. of credit.

## Comprehensive Examination

Students take three two-hour comprehensive exams: one in mathematics education, the second in mathematics, and the third in their cognate area.

## Admission

Applicants must meet the admission requirements of the Graduate College. Except in unusual cases, they should hold a professional license/certificate to teach school mathematics.

### Multilingual Education

The Master of Arts in teaching and learning with a multilingual education subprogram requires a minimum of 33 s.h. of graduate credit. Students take at least 15 s.h. in multilingual education coursework, 9 s.h. in graduate language or linguistics courses, and 9 s.h. in elective coursework. They must earn 9 s.h. in courses numbered 5000 or above. Students must maintain a g.p.a. of at least 3.00 while enrolled in the program. Candidacy for the master's degree is reevaluated annually.

The program is designed for students who would like to pursue a multilingual education specialization in teaching, including English as a Second Language (ESL), bilingual and dual language education, or world language education, or in a related field (e.g., language laboratory directors, instructional materials designers, evaluation specialists, or assessment developers). It also offers enrichment in multilingual language pedagogical knowledge for practicing teachers. Students may design programs with a special focus.

The M.A. in teaching and learning with a multilingual education subprogram requires the following work, including these suggested courses.

Code	Title	Hours
This course:		
EDTL:6483	Multilingual Education and Applied Linguistics	3
At least 12 s.h. from these:		
EDTL:6015	Ph.D. Seminar: Literacy, Culture, and Language Education	3

EDTL:6400	Fundamentals of Second Language Assessment	3
EDTL:6402	Second Language Program Management	3
EDTL:6403	Language Policy and Planning	3
EDTL:6409	Cultural Curriculum	3
EDTL:6480	Graduate Seminar in Multilingual Education	3
EDTL:6484	Reading in a Second Language	3
EDTL:6497	Principles of Course Design for Second Language Instruction	3
EDTL:7405	Research Methods in Literacy, Culture, and Language Education	3

Students may take other courses to meet this requirement, in consultation with their advisor

## Target Language

In consultation with their advisor, students select at least 9 s.h. in graduate language or linguistics courses.

## Elective Courses

Students complete at least 9 s.h. in elective coursework chosen in consultation with their advisor.

## Master's Examination

Students take a written exam during the semester in which they plan to graduate. The exam covers multilingual education and the two areas of specialization selected by a student. It is written by the graduate committee, which consists of at least three faculty members, two of whom must be from the multilingual education area. The candidate and the advisor discuss and formalize the exam's content and process eight months before the exam.

## Admission

Applicants must meet the admission requirements of the Graduate College and have prior teaching experience. Applicants should submit a statement of purpose explaining their graduate study goals and their commitment to multicultural education. International applicants should satisfy the English proficiency requirements as specified by the Graduate College.

## Social Studies Education

The Master of Arts in teaching and learning with a social studies education subprogram requires 38 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program provides an opportunity for interdisciplinary work in education, history, social science, or related areas for classroom teachers, high school department chairs, supervisors, and others interested in advancing their competence in history and the social sciences and greater proficiency in teaching and supervision.

## Requirements

Students create a course of study in consultation with their advisor that aligns with their interests related to social studies

education and/or their profession. Students distribute the program's required 38 s.h. among three concentration fields in history or a social science (or related area), social studies and global education, and general education. At least 9 s.h. must be earned in history or a social science and in general education courses numbered 3000 or above. Students also must earn at least 9 s.h. in courses numbered 6000 or above offered through the social studies education program or a related area of education.

## Thesis Option

Students who choose the thesis option complete a research or investigative problem. If the thesis is research or investigation in history, social science, or a related area, the thesis director is a member of the appropriate department. If the thesis is an investigative problem in social studies education, the thesis director is a College of Education faculty member.

## Comprehensive Examination

Candidates select one faculty member from each concentration area to serve as a committee member responsible for creating and reviewing a question for the written exam. Committee members are selected in consultation with a candidate's advisor. The required comprehensive examination consists of three two-hour written exams, one on each of the three concentration fields.

## Admission

Applicants must meet the admission requirements of the Graduate College. They should have a bachelor's degree in education, history, or one of the social sciences from an accredited institution; a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 3.00 in history and/or social science courses; and two letters of recommendation. Evidence of writing ability in a completed major paper or essay also is required. Typically, applicants are expected to hold a secondary teaching license/certificate.

## Special Education

The Master of Arts in teaching and learning with a special education subprogram requires a minimum of 32 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program prepares individuals to deliver appropriate levels of service to students with disabilities at the elementary and secondary levels, in either public or private settings. Applicants with a master's degree and special education certification may request admission in order to obtain an additional area of special education licensure/certification (i.e., professional improvement). Students typically receive licensure/certification in at least one area upon completing the program. Contact the Department of Teaching and Learning for specific program requirements.

Special education programs are offered in K-8 and 5-12 Instructional Strategist I: Mild/Moderate, and K-12 Instructional Strategist II: BD/LD. These programs are designed to prepare graduates for positions in public schools, local and state education agencies, clinical settings, and institutions of higher education. All teacher licensure/certification programs are approved by the Iowa Department of Education. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.



## Admission

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate g.p.a. of at least 3.00 and/or at least 3.00 on a minimum of 12 s.h. of graduate coursework. A combined verbal and quantitative score of at least 300 on the Graduate Record Exam (GRE) General Test is preferred. Applicants seeking initial teacher licensure must have at least 10 hours of documented experience in K-12 schools. Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL).

Application materials must include a completed Graduate College application form; copies of official transcripts for all college coursework; an official report of Graduate Record Exam (GRE) General Test scores; three current letters of recommendation; and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.

### Teaching, Leadership, and Cultural Competency

The Master of Arts in teaching and learning with a teaching, leadership, and cultural competency subprogram requires a minimum of 33 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is offered completely online. The program addresses identified needs within the profession: English Language Learner (ELL) instruction, cultural competency in the classroom, evidenced-based frameworks for technology integration, educational leadership, and teacher leader/instructional coaching best practices.

Students take a 24 s.h. core, including courses in instructional leadership, cultural competency and diversity, assessment, technology, and curriculum; and 9 s.h. of specialized coursework. Iowa teachers can apply their course credits toward their ongoing learning requirements for maintaining licensure. The program requirements also are aligned with the National Board for Professional Teaching Standards (NBPTS) certification process. Additionally, elective tracks are aligned with Iowa added endorsements in talented and gifted (TAG); science, technology, engineering, and math (STEM); and English as a second language (ESL).

The M.A. in teaching and learning with a teaching, leadership, and cultural competency subprogram requires the following coursework.

Code	Title	Hours
All of these:		
EDTL:5090	Diversity and Identity in K-12 Schools	3
EDTL:5095	Issues in U.S. Schools	3
EDTL:6483	Multilingual Education and Applied Linguistics	3
EPLS:5090	Instructional Coaching for Teaching Excellence	3
PSQF:4740	Issues in K-12 Assessment	3
PSQF:4750	Learning Environments: Design, Context, and Activity	3

EDTL:5099	Conducting School-Based Action Research	3
Specialization courses (consult advisor)		9
One of these:		
EDTL:5085	Generation Innovation: Technology Integration in 21st-Century K-12 Schools	3
PSQF:4760	Participatory Learning and Media: Creating, Remixing, Making, and Education	3

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree, a g.p.a. of at least 3.00 in undergraduate coursework, a teaching license, or relevant significant teaching experience in K-12 education. Applicants are asked to supply two letters of recommendation from individuals familiar with their work in schools or in an educational program. International applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL).

# Teaching and Learning, M.A.T.

## Learning Outcomes

Students will:

- demonstrate understanding of the central concepts, tools of inquiry, and structures of the discipline to be taught;
- plan discipline-specific and ethical instruction and assessment that reflect research and theory in education and their discipline;
- implement discipline-specific and ethical instruction and assessment using a variety of methods of teaching, instructional strategies, and pedagogical tools;
- demonstrate understanding of learner development and learning differences that vary across the cognitive, linguistic, social, emotional, and physical areas, as well as diverse cultures and communities; and
- express ideas effectively in written and spoken communication in collaboration with university and school professionals.

### Art Education

The Master of Arts in Teaching in teaching and learning with an art education subprogram requires a minimum of 58 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed primarily for graduates of baccalaureate degree programs in art who would like to become teachers but have no previous coursework in education. It features advanced work in art along with the courses required for certification. Additional art coursework may be advised to render a student's degree equivalent to one from the University of Iowa and to fulfill licensure requirements. Successful completion of the program enables students to receive a credential to teach art in grades K-12. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with an art education subprogram requires the following work.

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
EDTL:3143	Methods of Elementary Art and Field Experiences	3
EDTL:3204	Art Education Studio and Field Components	3
EDTL:3205	Methods of Secondary Art and Field Experience	3
EDTL:3290	Introduction and Practicum: Art	3
EDTL:4087	Seminar: Curriculum and Student Teaching	3

EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4192	Special Area Student Teaching	6
EDTL:4900	Foundations of Special Education	3
EDTL:5222	Creativity, Imagination, Play, and Human Development Through the Arts (must be taken during student's first semester in the college)	3
EDTL:6267	Seminar: Current Issues in Art Education	4
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3
Graduate-level coursework in art studio or art history or a related area (consult advisor)		6
<b>Total Hours</b>		<b>58</b>

The coursework in art studio or art history or a related field may contribute to licensure requirements. Other art licensure requirements may be taken prior to or in addition to the courses listed above. To be considered for a teaching assistant (TA) position, students must take EDTL:7380 Practicum in College Teaching for 1 s.h. after their first semester in the program and after completion of EPLS:3000 Foundations of Education, EPLS:4180 Human Relations for the Classroom Teacher, and PSQF:6200 Educational Psychology, and a course in creativity, imagination, and play: human development through art.

## Comprehensive Examination

Students complete comprehensive examinations before their student teaching semester. The comprehensive examination involves a reflective project supervised by art education faculty. The project encompasses issues explored throughout the course of study and can involve inquiry through studio work or practice. For deadlines, checklist, and instructions, see Graduate Exams on the Office of Student Services website.

## TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning with the art education subprogram.

## Admission

Applicants must meet the admission requirements of the Graduate College. They should have completed a baccalaureate degree program in art, equivalent to that which is offered through the College of Liberal Arts and Sciences at the University of Iowa, with an undergraduate g.p.a. of at least 3.00. Candidates also must meet all Teacher Education Program (TEP) application requirements. Since the M.A.T. is a credentialing program, candidates must not have qualified previously for a credential.

## English Education

The Master of Arts in Teaching in teaching and learning with an English education subprogram requires a minimum of 45 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed for students who have an undergraduate degree in English and few or no professional education courses. Successful completion of the program enables students to receive a credential to teach English in secondary schools. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with an English education subprogram requires the following work.

### English

Code	Title	Hours
All of these:		
EDTL:3382	Language and Learning	3
EDTL:3393	Reading and Teaching Adolescent Literature	3
EDTL:4355	Approaches to Teaching Writing	3
EDTL:6315	M.A. Seminar: English Education	arr.

Students may take the following English courses as part of the M.A.T. program or as part of their undergraduate program:

A course in Shakespeare

Three courses in American literature

A course in British literature

A course in nonfiction or creative writing, in addition to EDTL:4355

### Education

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4092	Observation and Laboratory Practice in the Secondary School	arr.
EDTL:4314	Introduction and Practicum: Secondary English (must be completed before enrollment in EDTL:4315 and EDTL:4394)	3
EDTL:4315	Learning to Teach Secondary English/Language Arts and Field Experience	3

EDTL:4394	Secondary Reading Instruction	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

### Comprehensive Examination

The comprehensive examination involves a series of reflective projects supervised by English education faculty. The projects encompass issues explored throughout the course of study and involve integration of theory and practice.

### TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (English education).

### Admission

Applicants must meet the admission requirements of the Graduate College. They must have been granted a B.A. in English or the equivalent, with an undergraduate g.p.a. of at least 3.00. They also must meet all Teacher Education Program (TEP) application requirements. Since the M.A.T. is a credentialing program, candidates must not have qualified previously for a credential. Applicants are expected to have no more than 6 s.h. of coursework in professional education courses before admission.

### Mathematics Education

The Master of Arts in Teaching in teaching and learning with a mathematics education subprogram requires a minimum of 48 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed primarily for students who decide they would like to become teachers and have already completed a B.S. or B.A. in mathematics. It features advanced work in mathematics along with the courses required for certification. It is a means by which students can obtain both a master's degree and certification. It is assumed that students have completed a baccalaureate degree in mathematics equivalent to one that would be completed at the University of Iowa, but has no previous coursework in education. More coursework may be advised if there are mathematics courses a student has not taken as part of the undergraduate mathematics baccalaureate degree program to render the student's degree equivalent to one from the University of Iowa.

Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with a mathematics education subprogram requires the following work.

## Education

Code	Title	Hours
The first three courses should be taken during the first semester of registration:		
EDTL:3002	Teaching and Learning Technologies	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas	1
All of these:		
EDTL:3532	Introduction and Practicum: Mathematics	3
EDTL:3534	Methods: Middle School Mathematics	3
EDTL:4535	Methods: High School Mathematics	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3
One additional graduate-level mathematics education course in consultation with an advisor		
The following courses are taken concurrently and constitute the student teaching semester:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

## Graduate Mathematics Requirements

Code	Title	Hours
At least one of these:		
MATH:4050	Introduction to Discrete Mathematics	3
MATH:4060	Discrete Mathematical Models	3
MATH:4120	History of Mathematics	3

## Comprehensive Examination

The comprehensive exam includes a required two-part exam in mathematics and mathematics education. At the discretion of the examining committee, this exam may consist of two parts and is both written and oral. The mathematics and mathematics education comprehensive examinations will not duplicate course examinations, but will assess both mathematics education and the mathematics specialization area chosen by a student.

## Admission

Applicants must meet the admission requirements of the Graduate College. They also must meet all Teacher Education

Program (TEP) application requirements. Candidates should have completed a baccalaureate degree program in mathematics equivalent to that which is offered through the College of Liberal Arts and Sciences at the University of Iowa. An undergraduate g.p.a. of at least 3.00 is required for admission and must be maintained throughout the enrollment period.

## Combined Program

### B.A. in Mathematics/M.A.T.

The College of Liberal Arts and Sciences and the College of Education offer students the opportunity to earn their Bachelor of Arts in mathematics/Master of Arts in Teaching degree in education with a mathematics education subprogram in as little as five years.

The Combined B.A./M.A.T. (4+1) program is a seamless process whereby students can progress from undergraduate to graduate status. The usual period of study for both the Bachelor of Arts and the Master of Arts in Teaching degree is six years. Through careful planning, many of the courses required for the M.A.T. program can be taken during the undergraduate years, creating an opportunity to focus the fifth year of study on the comprehensive and student teaching requirements. Visit B.A./M.A.T. Mathematics Education on the College of Education website.

## Admission

Students are eligible to apply to the 4+1 program during their sophomore or junior year if they have a cumulative g.p.a. of at least 3.25 or if they meet special considerations. Application materials must include a completed application to the Teacher Education Program (TEP), two recommendations from University of Iowa faculty, a career plan describing how this program will enhance the student's scholarly and or career goals, and an unofficial transcript of student's prior work.

Students who submit completed applications will be notified within 30 days if they have been accepted into the program. The program accepts a limited number of students each year on a competitive basis. Once accepted into the program, a student meets with an advisor to select an advisory committee to plan a course of study.

During the sixth semester, a student in the program who has completed 80 s.h. of undergraduate work and maintained a 3.00 minimum g.p.a. must apply to the Graduate College. Application to the Graduate College must include a completed Graduate College application form, a letter of application/statement of purpose, one additional letter of recommendation from a faculty member in the mathematics major, Graduate Record Exam (GRE) General Test scores (however, the GRE requirement has been suspended for the 2022-23 admissions cycle), and Test of English as a Foreign Language (TOEFL) test scores for international students.

Students are granted undergraduate/graduate credit for coursework during the seventh semester; they begin paying graduate tuition during the eighth semester until completion of the program. The baccalaureate degree must be conferred at the end of the eighth semester or in the program's fourth year.

## Science Education

The Master of Arts in Teaching in teaching and learning with a science education subprogram requires a minimum of 48 s.h.

of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed primarily for graduates of bachelor's degree programs in science who decide that they would like to become teachers. It features advanced work in science along with the courses required for certification, enabling students to earn a master's degree and teaching certification at the same time. It is assumed that students have completed considerable coursework in science (at least 56 s.h.) as undergraduates, but no previous coursework in education. Students' science coursework should be equivalent to that required by the University of Iowa Science Education program.

Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with a science education subprogram requires the following work.

## Professional Education Foundation Sequence

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
One of these:		
PSQF:1075	Educational Psychology and Measurement	3
PSQF:6200	Educational Psychology	3
Science education courses taken in the following sequence:		
EDTL:4751	Learning in the Science, Technology, Engineering, and Mathematics (STEM) Classroom	2
EDTL:4752	Secondary Science Methods II with Field Experience	3
These two taken concurrently:		
EDTL:4753	Secondary Science Methods III with Field Experience	3
EDTL:4779	Secondary School Science Practicum	2
These three taken concurrently:		
EDTL:4087	Seminar: Curriculum and Student Teaching	3

EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

## Electives

A minimum of one graduate course in biology, chemistry, earth science, or physics is required. Students who have satisfied portions of the required science coursework listed above must take additional science coursework to meet the minimum requirement of 48 s.h. of credit.

## Comprehensive Examination

Students complete comprehensive examinations before their student teaching semester. Two written comprehensive exams, one in science education and one in a science specialization area, are required. Students may not duplicate course examinations in these areas.

## TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (science education).

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have a bachelor's degree with a major or the equivalent in one of the sciences. A g.p.a. of at least 3.00 is required for admission and must be maintained throughout the program. Applicants must meet all Teacher Education Program (TEP) application requirements.

## Combined Program

### B.A./M.A.T.

College of Liberal Arts and Sciences students who want to teach science and are working toward a Bachelor of Arts degree with a major in biology, chemistry, environmental sciences, or physics may apply to the combined Bachelor of Arts/Master of Arts in Teaching with a science education subprogram offered by the College of Liberal Arts and Sciences and the College of Education. The combined program enables students to earn a B.A. and an M.A.T. in five years by beginning to earn graduate credit during their fourth year of undergraduate study and by counting up to 19 s.h. of qualifying credit toward both degrees.

B.A. students are admitted to the combined program before their fourth year. They may begin taking education courses during their third year, but they may not earn graduate credit for them until their fourth and fifth years, after they have been admitted to the combined program. Students take 30 s.h. of coursework during the fifth year and must complete all remaining requirements for both degrees that year.

## Science Specialization (Broad Field Science Block)

The following courses are required for the undergraduate degree in science studies at the University of Iowa. They need not be repeated by M.A.T. candidates who need one or more advanced courses in their major science area, or by students from other interdisciplinary science discipline programs that prepare teachers for grades 6-9.

Code	Title	Hours
This course:		
SIED:4135	The Nature of Science	4
Two of these (unless completed during undergraduate study):		
SIED:4102	Societal and Educational Applications of Earth Science and Environmental	4
SIED:4103	Societal and Educational Applications of Biological Sciences	4
SIED:4105	Societal and Educational Applications of Physical Sciences	4
SIED:4106	Societal and Educational Applications of Chemical Concepts	4

Education courses required for the combined program are listed under "Combined Program" above. Requirements for the B.A. degree are listed under the B.A. in biology [p. 193], B.A. in chemistry [p. 225], B.A. in environmental sciences [p. 488], and B.A. in physics [p. 939] (College of Liberal Arts and Sciences) in the Catalog.

## Social Studies Education

The Master of Arts in Teaching in teaching and learning with a social studies subprogram requires at least 47 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program provides an opportunity for interdisciplinary work in education, history, social science, or related areas. It is for students who have a bachelor's degree in history or a social science (or considerable coursework in one of the areas) and who wish to obtain a teaching license/certificate while earning the M.A.T. degree. Students must apply to both the Graduate College and the College of Education.

## Requirements

Students should have completed considerable work in the social sciences and/or history as undergraduates. Students in the College of Education's Teacher Education Program (TEP) for secondary education in social studies may not apply credit they have earned as undergraduates in required licensure courses to the 38 s.h. required for the M.A.T., even though the credit counts toward state teaching licensure.

Students who completed EDTL:4811 Introduction and Practicum: Secondary Social Studies and/or EDTL:4870 Methods: Secondary Social Studies as undergraduate or postbaccalaureate students at the University of Iowa are required to retake these courses during the M.A.T. program and before student teaching. Required teaching licensure coursework completed at other colleges or universities is reviewed on a case-by-case basis.

For licensure, students must complete 30 s.h. in a history or social science area; the 30 s.h. may include previous undergraduate and/or graduate-level coursework. Required professional education coursework not completed as part of the baccalaureate degree must be completed for licensure.

Students also must complete 15 s.h. in an additional history or social science licensure area; previous undergraduate coursework may apply.

Of the total semester hours required for the M.A.T., students must earn at least 8 s.h. in courses numbered 6000 or above in social studies education and a minimum of 9 s.h. of graduate coursework in history or a social science area. Students should take at least one course taught by the instructor who will serve on the examining committee in the history or social science area.

Students must complete all of the following professional education courses, unless they completed some of them as part of their bachelor's degree. In such cases, the semester-hour requirement is reduced accordingly, but it never is below 47 s.h. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

## Professional Education Courses

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1
EDTL:4087	Seminar: Curriculum and Student Teaching	3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6
EDTL:4811	Introduction and Practicum: Secondary Social Studies	3
EDTL:4870	Methods: Secondary Social Studies	3
EDTL:4900	Foundations of Special Education	3
EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

## Comprehensive Examination

Candidates select one faculty member from each concentration area to serve as a committee member responsible for creating and reviewing a question for the written exam. Committee members are selected in consultation with a candidate's advisor. The required

comprehensive examination consists of three two-hour written exams, one on each of the three concentration fields.

## TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (social studies education).

## Admission

Applicants must meet the admission requirements of the Graduate College. They should have a bachelor's degree in education, history, or one of the social sciences from an accredited institution; a cumulative g.p.a. of at least 3.00; a g.p.a. of at least 3.00 in history and/or social science courses; and two letters of recommendation. Evidence of writing ability in a completed major paper or essay also is required.

## World Language Education

The Master of Arts in Teaching in teaching and learning with a world language education subprogram requires a minimum of 54 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed for superior liberal arts and sciences graduates who have had few or no professional education courses. Successful completion of the program leads to elementary and/or secondary teacher licensure. The M.A.T. is available in Chinese, French, German, Japanese, Latin, Russian, and Spanish languages.

Students must take 24 s.h. of post-secondary coursework in their language of licensure to obtain their teaching license. This work can be taken prior to entry into this program as part of an undergraduate degree program. Students may need to complete additional courses or other requirements to meet state standards for teacher preparation, licensure, or endorsements.

The M.A.T. in teaching and learning with a world language education subprogram requires the following work. Students also must complete at least 9 s.h. in graduate coursework either in the language department corresponding to their language of licensure or in world language teaching.

## Professional Education

Code	Title	Hours
All of these:		
EDTL:3002	Teaching and Learning Technologies (must be taken during student's first semester in the college)	2
EDTL:3091	Secondary Education Program Orientation and Classroom Management	3
EDTL:3095	Teaching Reading in Secondary Content Areas (must be taken during student's first semester in the college)	1,3
EDTL:4900	Foundations of Special Education	3

EPLS:3000	Foundations of Education	3
EPLS:4180	Human Relations for the Classroom Teacher	3
PSQF:6200	Educational Psychology	3

## World Language Teaching

Students complete these courses (at least 28 s.h.).

Code	Title	Hours
All of these:		
EDTL:4406	World Language Practicum I	3
EDTL:4407	World Language Practicum II	3
EDTL:4416	Learning to Teach Second Languages I	3
EDTL:4417	Learning to Teach Second Languages II	3
EDTL:6483	Multilingual Education and Applied Linguistics	3
The following courses are taken concurrently and constitute the student teaching semester:		
EDTL:4087	Seminar: Curriculum and Student Teaching	1, 3
EDTL:4091	Observation and Laboratory Practice in the Secondary School	6
EDTL:4092	Observation and Laboratory Practice in the Secondary School	6

## K-12 Licensure

The K-12 licensure option requires the following course.

Code	Title	Hours
EDTL:4089	Special Subject Area Student Teaching	1-4

## Comprehensive Examination

A comprehensive examination is required. The examination reflects a candidate's depth and breadth of knowledge in world language education, including but not limited to theory and practice as well as knowledge of and proficiency in the target language and/or literature of the candidate's choice. The candidate and the advisor discuss the exam's content and format eight months before the exam.

## TEP: Secondary Education

Graduate students may be admitted to a program leading to teacher licensure/certification as "certification only" candidates in the Graduate College. They are subject to all Graduate College policies; see the Manual of Rules and Regulations on the Graduate College website. Eligible graduate students also may complete initial teacher licensure/certification requirements by earning an M.A.T. in teaching and learning (world language education).

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have been granted a bachelor's degree with a major or a strong concentration in a second language and must have an undergraduate g.p.a. of at least 3.00. They also must meet all Teacher Education Program (TEP) application requirements.

# Teaching and Learning, M.S.

## Learning Outcomes

Students will:

- demonstrate understanding of and ability to analyze theoretical concepts and research in their field of study;
- express ideas effectively in written and spoken communication;
- connect research to practice and practical questions in their professional context;
- effectively apply their knowledge and skills to their professional context; and
- demonstrate curiosity, inquiry, and critical and data-based decision making.

### Science Education

The Master of Science in teaching and learning with a science education subprogram requires a minimum of 38 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed for teachers and supervisors (K-college) and professionals in related fields, such as medical education, college teaching, museum program management, and outreach programs. It is intended to provide experience in understanding teaching and learning and the research processes required to advance the field. Students complete coursework in four areas: science education, education, research, and science. Their individual programs of study are approved by the science education faculty.

The M.S. in teaching and learning with a science education subprogram requires the following coursework.

### Required Courses

Code	Title	Hours
All of these:		
EDTL:6757	Learning in the Science Classroom (no substitute for this course)	3
EDTL:6759	Advanced Pedagogy (no substitute for this course)	3
EDTL:7755	Independent Study in Science Education Research (taken two times for 3 s.h. each)	6
Two science content courses chosen in consultation with advisor		6
A minimum of 12 s.h. chosen from these:		
EDTL:6758	Writing in the Science Classroom	3
CSED:7338	Essentials of Qualitative Inquiry	3
PSQF:4143	Introduction to Statistical Methods	3
PSQF:6200	Educational Psychology	3
PSQF:6220	Quantitative Educational Research Methodologies	3

PSQF:6275	Constructivism and Design of Instruction	3
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One additional qualitative or quantitative research methods course chosen in consultation with advisor

May include one of these:

EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

## Thesis

Students must complete a thesis, for which they earn 2-4 s.h. of credit.

Code	Title	Hours
EDTL:6393	Master's Thesis	2-4

## Final Examination

A final oral examination is administered on campus in which candidates defend their thesis. This examination includes a critical inquiry into the purposes, methods, and results of the thesis research investigation.

The final examination is conducted by a committee of no fewer than three members of the graduate faculty. In some cases, the committee must include a member from outside science education; consult the department.

## Admission

Applicants must meet the admission requirements of the Graduate College. They should hold an undergraduate major in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis. The department recommends that applicants have teaching licensure/certification unless they are preparing for careers in allied health, museums, or community colleges.

### STEM Education

The Master of Science in teaching and learning with a STEM education subprogram requires 36 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program focuses on science, technology, engineering, and mathematics (STEM) education. The program includes coursework that may be used toward the K-12 STEM specialist endorsement. Degree requirements include online coursework to fit the schedule of a practicing teacher. The STEM education subprogram is not a licensure program.

The M.S. in teaching and learning with a STEM education subprogram requires the following coursework.

### Required Courses

#### STEM Pedagogy Courses

Code	Title	Hours
All of these:		
EDTL:6563	STEM Through Mathematical Modeling	3
EDTL:6761	STEM Research and Leadership Seminar	3
EDTL:6762	STEM Experiential Learning	3



EDTL:6764	STEM Extracurricular Experience and Capstone	6
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## College of Education Course

Code	Title	Hours
This course:		
EDTL:5095	Issues in U.S. Schools	3

## Science/Mathematics Courses

Code	Title	Hours
Two of these:		
EDTL:4565	Mathematics in Management and Social Sciences	3
EDTL:4768	Computer Science Methods	3
EDTL:6766	Physical Science Topics in STEM Education	3
EDTL:6767	Systems Thinking in Biology and Integrated STEM Education	3
This course:		
EDTL:6765	STEM Independent Research (taken two times for 3 s.h. each)	6

## Electives

Students select two elective courses (at least 6 s.h.) chosen in consultation with their advisor.

## K-12 STEM Specialist Endorsement

The University of Iowa does not offer a state-approved program for the K-12 STEM Specialist endorsement. In addition to the master's degree, teachers must have met the requirements for a standard Iowa teaching license with endorsement in mathematics, science, engineering, industrial technology, or agriculture. They must demonstrate completion of 12 s.h. of science and 12 s.h. of math content coursework (including computer science), which may include content coursework completed as part of this subprogram as well as other college-level courses. In addition, they must have completed 3 s.h. of engineering or technological design coursework not included in this subprogram; ENGR:1100 Introduction to Engineering Problem Solving and ENGR:1300 Introduction to Engineering Computing may be options for the requirement. Once the courses are completed, teachers may apply to the Board of Educational Examiners for transcript analysis and to add the endorsement. Students interested in pursuing the K-12 STEM Specialist Endorsement should notify their advisor upon admission to the program.

## Admission

Applicants must meet the admission requirements of the Graduate College. These include:

- a bachelor's degree from a regionally accredited American college or university or an equivalent degree from another country as determined by the Office of Graduate Admissions with an undergraduate major in a given science or math area (or combination of science areas), science education, math education, or in elementary education with a science or math emphasis;

- a minimum g.p.a. of 3.00 or the international equivalent as determined by the Office of Graduate Admissions; and
- international applicants whose first language is not English must score at least 81 (internet-based) with a minimum score of 600 on the Test of English as a Foreign Language (TOEFL) or a minimum International English Language Testing System (IELTS) score of 7.0 (with no subscore lower than 6.0).

Teaching licensure/certification is recommended for the M.S. degree and required if the candidate seeks the K-12 STEM specialist endorsement from the Board of Educational Examiners (BOEE).

# Teaching and Learning, Ph.D.

## Learning Outcomes

Students will:

- demonstrate understanding and application of research methods and methodological knowledge;
- demonstrate understanding of and ability to analyze theoretical concepts and research in their field of study;
- express ideas effectively in written and spoken communication;
- connect research to practice and practical questions in education; and
- plan, conduct, report on, and disseminate original research.

## Ph.D. Required Research Courses

Students admitted to doctoral programs must complete the program's research requirements.

## Required Core Courses

All Ph.D. students in the Department of Teaching and Learning must complete one or both of the following core courses, depending upon program requirements.

Code	Title	Hours
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

## Cognate Areas

The following list of cognates offered by program areas in the department is not exhaustive; students may select cognates from this list, or they may customize their own cognate areas in consultation with their advisors.

## Multilingual Education

Code	Title	Hours
This course:		
EDTL:6483	Multilingual Education and Applied Linguistics	3
Two of these, chosen in consultation with faculty:		
EDTL:6400	Fundamentals of Second Language Assessment	3
EDTL:6402	Second Language Program Management	3
EDTL:6403	Language Policy and Planning	3
EDTL:6409	Cultural Curriculum	3
EDTL:6480	Graduate Seminar in Multilingual Education	3
EDTL:6484	Reading in a Second Language	3
EDTL:6497	Principles of Course Design for Second Language Instruction	3

## Gifted Education

### Administrative Strand

Code	Title	Hours
Two of these, chosen in consultation with faculty:		
EPLS:4110	Administration and Policy in Gifted Education	2
EPLS:4111	Evaluation of Gifted Programs	1
EPLS:4113	Staff Development for Gifted Programs	1

### Programming Strand

Code	Title	Hours
Both of these:		
EDTL:4066	Curriculum Concepts in Gifted Education	3
EDTL:4199	Program Models in Gifted Education	3

### Psychology Strand

Code	Title	Hours
Two of these, chosen in consultation with faculty:		
CSED:4120	Psychology of Giftedness	3
CSED:4121	Identification of Students for Gifted Programs	3
CSED:4137	Introduction to Educating Gifted Students	3
CSED:5226	Assessment of Giftedness	3
CSED:5237	Seminar in Gifted Education	3

## Literacy, Culture, and Language Education

Code	Title	Hours
Both of these:		
EDTL:7008	Seminar: Research and Current Issues (topic chosen in consultation with advisor)	arr.
EDTL:7015	Ph.D. Seminar in Language, Literacy, and Culture (topic chosen in consultation with advisor)	arr.

## Mathematics Education

Code	Title	Hours
Both of these:		
EDTL:6536	Teaching of Geometry	2-3
EDTL:7535	Seminar: Research in Mathematics Education	arr.

## Science Education

Code	Title	Hours
Both of these:		
EDTL:6757	Learning in the Science Classroom	2-3
EDTL:6759	Advanced Pedagogy	3

## Special Education

Code	Title	Hours
All of these:		
EDTL:7945	Current Issues and Trends in Learning Disabilities	3
EDTL:7948	Contemporary Research in Behavioral Disorders	3
EDTL:7953	Seminar: Single Subject Design Research	3

## Literacy, Culture, and Language Education

The Doctor of Philosophy in teaching and learning with a literacy, culture, and language education (LCLE) subprogram requires a minimum of 73 s.h. of graduate credit. All students must maintain a program g.p.a. of at least 3.00. Students may be able to use some coursework completed for their master's degree toward the Ph.D.; most courses for the Ph.D. should be numbered 5000 or above.

This interdisciplinary program brings together scholarly traditions and contemporary theory in multilingual education and applied linguistics, literacy and cultural studies, and social studies education. The program provides students with the necessary content area knowledge and research skills for independent research, program administration, and varied leadership positions in LCLE education. In consultation with their advisor, students create a program of study that fits their interests and professional aspirations.

The Ph.D. in teaching and learning with a literacy, culture, and language education subprogram requires the following coursework.

## Required Courses

Code	Title	Hours
This course:		
EDTL:6015	Ph.D. Seminar: Literacy, Culture, and Language Education	3
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

## Disciplinary and Interdisciplinary Foundations

Students choose a disciplinary area in literacy education, multilingual education, or social studies education for their three foundational courses. They then select one or both of the other areas for their interdisciplinary foundation coursework.

Code	Title	Hours
All of these:		
At least three courses in a chosen area of concentration		9
At least two courses in other areas of concentration		6

## Research Methods

Code	Title	Hours
Both of these:		
EDTL:7070	Qualitative Research Methods in Teaching and Learning	3
EDTL:7405	Research Methods in Literacy, Culture, and Language Education	3
One of these:		
PSQF:6242	Selected Applications of Statistics	3
PSQF:6243	Intermediate Statistical Methods (for students who utilize quantitative methods in their dissertation)	3

And:

Two additional advanced research methods courses in quantitative, qualitative, or mixed methods in consultation with their advisor	6
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## Electives

Students choose 27 s.h. of elective coursework in consultation with their advisor. Courses may be taken in any department and can be partially or completely unified as a cognate area of study.

## Comprehensive Examination

Upon completion of their coursework, students take their comprehensive exam. This is an opportunity for students to show a comprehensive understanding of the scholarship in the field. Successful completion of the exam identifies candidates who are ready for dissertation work.

## Dissertation

After students pass their comprehensive exam, they consult with their advisor to choose a dissertation committee with at least five faculty members who approve the dissertation proposal. After a successful defense of their dissertation, students conduct dissertation research in the following course.

Code	Title	Hours
EDTL:7493	Ph.D. Thesis	10

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have earned a bachelor's degree with an undergraduate g.p.a. of at least 3.00 on a 4.00 scale and earned a master's degree or have completed significant graduate coursework. It is recommended applicants have at least two years of teaching experience in a related field within or outside of the United States.

Application materials should include a statement of purpose, official transcripts from all institutions attended, a sample of academic writing, and three current letters of recommendation. International applicants whose first language is not English, and do not meet the waiver requirements, must submit their Test of English as a Foreign Language (TOEFL) scores.

Application deadline for fall is January 5; the deadline for spring is October 1.

## Mathematics Education

The Doctor of Philosophy in teaching and learning with a mathematics education subprogram requires a minimum of 80-90 s.h. of graduate credit. Students must have a program g.p.a. of at least 3.00 or higher in all graduate work in mathematics, all University of Iowa graduate work in mathematics, all graduate work, and all University of Iowa graduate work.

The program prepares supervisors, teacher education personnel, community college personnel, and researchers in mathematics education. It is administered by the College of Education. Students must update graduate coursework completed more than 10 years before admission to the program.

The Ph.D. program in teaching and learning with a mathematics education subprogram requires the following coursework.

### Required Courses

Students must complete EALL:5150 Introduction to Educational Research during the first year of their Ph.D. program. They also must complete an additional minimum of 15 s.h. in qualitative and quantitative coursework, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed under Ph.D. Research Requirements on the college's Graduate Student Life website.

### Core Course

Code	Title	Hours
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

In addition, students must complete an approved cognate area; see "Additional Requirements" below.

Students must complete a minimum of 24 s.h. of graduate work in the Departments of Computer Science, Mathematics, and Statistics and Actuarial Science, as approved by their advisor. Electives are encouraged in the pure mathematics and applied mathematics sequences.

Students who completed their mathematics requirement at another institution must complete at least 6 s.h. of additional coursework in mathematics at the University of Iowa, chosen with advisor approval. They also must complete at least six courses in mathematics education, including EDTL:7535 Seminar: Research in Mathematics Education.

### Additional Requirements

Students concentrate in two additional comprehensive examination areas in either the mathematical sciences or education. A minimum of three courses usually are required for a comprehensive examination area, but candidates should consult with faculty members in the areas selected to determine which courses they should take in order to adequately prepare for the examinations.

Students must complete a total of at least 36 s.h. in College of Education courses; this includes the coursework listed above. They must complete an approved cognate area; a partial list

of potential cognate areas is available from the mathematics education program.

### Comprehensive Examination

Students take three written comprehensive examinations, one in mathematics education and two in other fields of education or mathematics; an oral examination follows the written examinations.

### Dissertation

Candidates complete a dissertation on a research problem in mathematics education. A prospectus of the proposed research must be presented to the dissertation committee before candidates undertake the study. Upon completion of the dissertation, candidates defend the dissertation in an oral examination. Students must earn dissertation credit in the following course.

Code	Title	Hours
EDTL:7493	Ph.D. Thesis	10

### Admission

Applicants must meet the admission requirements of the Graduate College. They must have an undergraduate major in mathematics or the equivalent, a current teaching license/certificate, and at least two years of teaching experience are strongly preferred. A faculty review committee makes admission decisions.

## Science Education

The Doctor of Philosophy in teaching and learning with a science education subprogram requires a minimum of 85 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program is designed for individuals who aspire to positions as college and university science educators; major supervisors in national, state, and local systems; teachers in small liberal arts colleges; instructors of general education science courses at major universities; research directors in science education; and professionals in medical and/or allied health education.

The Ph.D. in teaching and learning with a science education subprogram requires the following coursework.

### Required Courses

Students in science education complete a minimum of 15 s.h. in qualitative and quantitative coursework, with at least 9 s.h. from one area (qualitative or quantitative) and at least 6 s.h. from the other. Students select from courses listed under Ph.D. Research Requirements on the college's Graduate Student Life website. Course selections must be consistent with other requirements for the degree.

### Core Courses

All doctoral students in science education complete one or both of the following core courses. Students may not substitute other courses for these.

Code	Title	Hours
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3

In addition, all doctoral students in the Department of Teaching and Learning complete an approved cognate area; see "Cognate Areas" under Ph.D. Required Research Courses [p. 1530] in this section of the Catalog.

## Science Education

Code	Title	Hours
All of these (15 s.h.):		
EDTL:6757	Learning in the Science Classroom	3
EDTL:6758	Writing in the Science Classroom	3
EDTL:6759	Advanced Pedagogy	3
Graduate-level science education courses chosen in consultation with advisor		
		6

## Education

Code	Title	Hours
Three courses chosen in consultation with advisor		
		9

## Research in Science Education

Code	Title	Hours
Both of these (21 s.h.):		
EDTL:7750	Seminar: Science Education (taken three times for 1 s.h. each)	3
EDTL:7755	Independent Study in Science Education Research (taken six times for 3 s.h. each)	18

## Science Area

Students complete a family of courses (total of 12 s.h.) in a major science area.

## Dissertation

Code	Title	Hours
This course:		
EDTL:7493	Ph.D. Thesis	10

## Admission

Applicants must meet the admission requirements of the Graduate College. They should have completed a bachelor's degree in a science area (or combination of science areas), in science education, or in elementary education with a science emphasis; and have a cumulative g.p.a. of at least 3.00 on undergraduate and graduate work. Applicants must submit three letters of recommendation, a statement of purpose describing their reasons for pursuing graduate work and their goals for graduate study, and an example of their academic writing.

## Special Education

The Doctor of Philosophy in teaching and learning with a special education subprogram requires a minimum of 90 s.h. of graduate credit. Students must maintain a program g.p.a. of at least 3.00.

The program prepares students for teaching and research positions in higher education, and for curriculum, supervisory, and research positions in state and local education agencies.

The program permits students to study and practice extensively in their special education interest area and in an interest area outside of special education.

The Ph.D. curriculum includes an emphasis on research skills, all facets of special education, an approved cognate area, and at least one specialization area.

## Quantitative Research Requirements

Code	Title	Hours
Both of these:		
PSQF:4143	Introduction to Statistical Methods	3
PSQF:6243	Intermediate Statistical Methods	3
Two of these:		
EPLS:6206	Research Process and Design	3
PSQF:6220	Quantitative Educational Research Methodologies	3
PSQF:6244	Correlation and Regression	4
PSQF:6246	Design of Experiments	3
PSQF:6247	Nonparametric Statistical Methods	3
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3

## Qualitative Research Requirements

Code	Title	Hours
This course:		
EDTL:7953	Seminar: Single Subject Design Research	3
One of these:		
EDTL:7410	Mixed Methods Research	3
CSED:7338	Essentials of Qualitative Inquiry	3
EPLS:7373	Qualitative Research Design and Methods	3
PSQF:7331	Qualitative Educational Research Methods	arr.

## Core Course

Code	Title	Hours
One of these:		
EDTL:7004	Schooling in the United States	3
EDTL:7033	Seminar on Teacher Education	3
EALL:5150	Introduction to Educational Research	3

## Proseminar Courses

Code	Title	Hours
Both of these:		
EDTL:7943	Proseminar: Issues, Trends, and Research in Special Education	3
EDTL:7944	Proseminar: Issues, Trends, and Research in Special Education II	3

## Seminar Requirements

Code	Title	Hours
Both of these:		
EDTL:7945	Current Issues and Trends in Learning Disabilities	3
EDTL:7948	Contemporary Research in Behavioral Disorders	3

## Practicum Requirement

Code	Title	Hours
This course:		
EDTL:7380	Practicum in College Teaching (taken twice for 3 s.h. each)	6

## Cognate

Students complete a cognate or specialty area for at least 9 s.h. in consultation with their advisor.

## Competencies

Students work with their advisor to ensure they meet two core competencies: one in teaching and one in supervision.

## Comprehensive Examination

Students complete a three-part comprehensive examination that includes a qualifying exam I, a qualifying exam II, and a major area paper.

## Dissertation

Students complete a doctoral dissertation for at least 10 s.h.

Code	Title	Hours
This course:		
EDTL:7493	Ph.D. Thesis	arr.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must have a master's degree or equivalent in special education; those without an M.A. thesis must have completed an equivalent project. Applicants should have a graduate g.p.a. of at least 3.50 and a combined verbal and quantitative score of at least 300 on the Graduate Record Exam (GRE) General Test. Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants should have at least one year of full-time teaching experience with exceptional children; several years are preferred.

Application materials must include a completed Graduate College application form, copies of official transcripts for all college coursework, an official report of Graduate Record Exam (GRE) General Test scores, three current letters of

recommendation, and evidence of experience and/or teacher licensure/certification. An interview may be requested.

Final admission decisions are made by the special education graduate admissions committee.

# UI REACH

## Director

- William Loyd Jr.

**Faculty:** <https://education.uiowa.edu/directory>

**Website:** <https://education.uiowa.edu/reach>

## Program of Study

UI REACH (Realizing Educational and Career Hopes) is a transition certificate program for college students with disabilities, such as autism, intellectual disabilities, and learning disabilities. The program prepares young adults to become empowered and self-directed individuals who are included in communities that embrace people of all abilities. This is accomplished by cultivating individualized supports and opportunities that promote advocacy and success in everyday life.

The UI REACH experience integrates academic skill building, career development, campus involvement, and transition planning to create a dynamic collegiate experience. A few of the program offerings include:

- integrated, Big Ten University experience with on-campus residence hall living;
- person-centered planning to customize each student's college experience according to their interests and abilities;
- weekly advising with professional staff;
- specialized core curriculum and electives delivered by College of Education instructors;
- inclusive academic learning opportunities including traditional classes for credit or audit;
- employment preparation and career development;
- community-based internships and employment opportunities with local businesses;
- access to over 500 student organizations and numerous inclusive campus activities;
- on-call emergency 24-hour support;
- scholarships and other financial aid options;
- a four-year certificate with second- and third-year certificate options; and
- events around the country to reconnect for current students, alumni, and families.

For more information, visit UI REACH on the College of Education website.

## Courses

### UI REACH Courses

**REA:0010 Social Skills I** **2 s.h.**  
Basic interpersonal skills needed to succeed in academic, social, and employment environments; structured learning process for gaining discrete social skills necessary to initiate and maintain conversations in a variety of settings; awareness of feelings and cues in conversation to respond appropriately and have successful reciprocal interactions; lectures, modeling, role play, and practice in the community.

**REA:0020 Computers and Technology I** **2 s.h.**  
Training in computer literacy and practical skills for computer use in everyday life; computer parts and functions, the Windows operating system, computer applications; use of the personal computer to improve personal, academic and workplace productivity; group discussion, demonstrations, and multimedia experience support diverse learning styles.

**REA:0021 Computers and Technology II** **2 s.h.**  
Builds on REA:0020; fundamental computer competencies and strategies to simplify everyday life and enhance workplace performance; opportunity to improve practical skills for the workplace, communication with others, and daily life; tools for improving personal organization and communication and for meeting academic, entertainment, and workplace needs; group discussion, demonstration, independent exploration, and a multimedia experience support diverse learning styles.

**REA:0022 Assistive Technology Applications** **1 s.h.**  
How to access and employ current assistive technology applications to support lifelong learning, academic skill building, vocational experiences, and independent community living; how functional assistive technology and adaptive tools can maximize personal achievement and independence for individuals of varied abilities; students explore and operate assistive technology tools including, but not limited to, text readers, voice-to-text, cognitive aids, and navigation.

**REA:0030 Health and Wellness I - Exploration** **2 s.h.**  
Importance of health and wellness, personal relationships, sexuality and making healthy choices; overview of health and wellness topics college students face—nutrition, substance use, risky behaviors, personal relationships, sexual health, mental health.

**REA:0031 Health and Wellness II - Healthy Lifestyles** **2 s.h.**  
Health and wellness personalized for students; help in assessing individual health and wellness decisions and behaviors to improve current and long-term health and wellness; small group discussion, individual assessments, real-life exploration, interactions with health educators, one-on-one student support; second in a series.

**REA:0040 Personal Finance and Math I** **2 s.h.**  
Understanding of numbers, operations, and managing personal finances; computation strategies, problem-solving strategies, skills for good consumers; opportunity to practice math skills in the community and the workplace; first in a series.

**REA:0041 Personal Finance and Math II** **2 s.h.**  
Skills and knowledge needed for managing personal finances; banking, budgeting, insurance, how to be a good consumer; students plan for their financial future by studying paycheck information, actual income, and tax responsibility; research on independent living costs; second in a series.

**REA:0050 Reading Strategies** **2 s.h.**  
Building comprehension strategies and lifelong reading skills; using a novel to develop essential comprehension skills (e.g., summarizing, main ideas, prediction, inference, theme, sequencing); reading for enjoyment while sharpening skills that can be applied in broad reading applications.

**REA:0062 Social Skills II** **2 s.h.**  
Continuation of REA:0010; more advanced relationship skills that require self-regulation; self-awareness; applying skills for communicating under stress; structured learning process including repetitive practice and modeling as key components.

- REA:0070 Life Skills I - Transitions** 2 s.h.  
Components of successful independent and community living; personal safety issues, effective communication skills for interacting with peers and college personnel, how to access broad community resources for living, work, and leisure; students develop a plan for personal daily routines; classroom activities, practical experiences on campus and in the community.
- REA:0072 Life Skills II - On Your Own** 2 s.h.  
Goal setting and planning for independent living after college; how to use daily living skills from college in students' planned home communities; skills required for finding and managing a home or apartment, using community resources and agencies, and meeting basic needs; how to be interdependent and independent in the community.
- REA:0073 Life Skills III - Transition Planning** 2 s.h.  
Work on transition plan during spring semester of final year—goal setting and planning for independent living after college; how to use daily living skills from college in students' planned home communities; using community resources and agencies; meeting basic needs; how to be interdependent and independent in student's home community; identification of transition team members; plan and lead transition meeting.
- REA:0074 Household Management II** 2-4 s.h.  
Continuation of REA:0075; preparation for independent apartment living; experiential training, assessment to determine support needs; apartment living, personal care, value shopping and budgeting, preparing meals, successful community living.
- REA:0075 Household Management I** 1-4 s.h.  
Independent living skills introduced in the life skills and health and wellness courses; hands-on experience in room care, clothing care, food/kitchen safety, meal planning and nutrition, food preparation, simple recipes, grocery shopping, event planning.
- REA:0076 Community Leisure and Advocacy** 1 s.h.  
Utilizing community resources while promoting self-advocacy and leadership; student support for transitioning from a university setting to community living; exploration of community resources related to recreation, entertainment, and independent living using multiple media sources for information gathering; field trips to investigate local resources; research related resources within students' home communities. Requirements: enrollment in UI REACH program.
- REA:0078 Historical Documentary Making** 2 s.h.  
History of disabilities (learning and physical disabilities); ground work for making a historical documentary; desktop documentary software used by student teams to produce documentaries on history of disability rights movement. Requirements: enrollment in UI REACH program.
- REA:0079 Service Learning** 2 s.h.  
Classroom-based learning combined with community service; available resources and ways to better a community; assessment of community needs, research volunteer organizations, service-learning opportunities within the community.
- REA:0090 Current Events** 1-2 s.h.  
Forum to increase knowledge and ability to comment on current events; voting and political process, civic responsibilities in the local and federal elections process, how students can participate; use of various forms of media (i.e., print, broadcast, internet) to develop critical thinking skills related to awareness of current events and their impact; personal safety issues; effective communication skills for interacting with peers and college personnel.
- REA:0100 Career Exploration** 3 s.h.  
Opportunity to explore, enhance, or broaden work interests, skills, and potential career opportunities; interest inventories, review of vocational experiences, interactive employer presentations, informational interviews, job site experiences; focus on self-assessment of one's individual vocational strengths.
- REA:0101 Job Search Strategies** 2 s.h.  
Fundamental tools and techniques for getting a job; students create a résumé, including references and updated work history; interview techniques, information gathering, thank-you letters, work-related vocabulary, appropriate behaviors and attitudes for a successful job search; role playing, demonstrations, real-world practice.
- REA:0103 Job Search Strategies II** 1 s.h.  
Continuation of REA:0101; update résumés, references, and cover pages; appropriate behaviors and attitudes for successful job search; seek and apply for jobs with assistance from instructor.
- REA:0110 Entrepreneurism** 1 s.h.  
Characteristics, advantages, and disadvantages of self-employment; basic aspects of forming a business; marketing; acquiring start-up funding and other resources; financial obligations and monitoring of funds required for a successful business; writing a business plan.
- REA:0200 Business Support Seminar** 1 s.h.  
Aspects of careers in business support; office procedures, word processing skills, oral and written communication, records management, business terminology.
- REA:0202 Education Career Seminar** 1 s.h.  
Aspects of careers in education; additional training typically required for careers in education, child/student needs, lesson planning.
- REA:0203 Health Services Seminar** 1 s.h.  
Aspects of careers in health services; office procedures and equipment, customer service skills, terminology used in health care environments.
- REA:0204 Hospitality Seminar** 1 s.h.  
Aspects of careers in hospitality; customer service skills, phone and counter etiquette, vocabulary used in the hospitality industry.
- REA:0205 Human Services Seminar** 1 s.h.  
Aspects of careers in human services; types of human services environments, interpersonal relationships and boundaries, paperwork requirements, terminology commonly used in human services environments.
- REA:0207 Marketing/Sales Seminar** 1 s.h.  
Aspects of careers in marketing and sales; customer service skills, use of retail equipment, marketing techniques and the importance of product appearance, pricing and advertising, vocabulary used in a retail sales environment.



- REA:0208 Parks and Natural Resources Seminar** 1 s.h.  
Aspects of careers in parks and natural resources management; operation and maintenance of equipment, safety procedures, customer service skills, typical vocabulary for positions involving care and management of shrubs, trees, flowers, and turf.
- REA:0209 Skilled Trades Seminar** 1 s.h.  
Aspects of careers in the skilled trades; occupational skill standards in specific skilled trades, apprenticeships or advanced training required, safety in the workplace, vocabulary typical for specific skilled-trade work environments.
- REA:0210 Information/Technology Seminar** 1 s.h.  
Aspects of careers in information technology; occupational skill requirements and standards, knowledge of typical equipment employees must operate, safety in the workplace, typical vocabulary for information technology work environments.
- REA:0211 Culinary Arts Seminar** 1 s.h.  
Different types of careers in the food industry; workplace skills and tasks; continuing training and education options; equipment and food safety; basic preparation steps, food presentation, place settings; field trips. Requirements: enrollment in UI REACH program.
- REA:0213 Recreation Seminar** 1 s.h.  
Aspects of careers in recreation, training and education requirements, tasks at work, and job prospects.
- REA:0215 Advanced Customer Service** 1 s.h.  
Builds on previously learned customer service concepts with application to a wide range of careers; communication techniques through various modes, technology used in customer service, guest speakers, skill development, managing difficult customer situations, and other essential customer service skills.
- REA:0220 Digital Citizenship** 2 s.h.  
Making informed choices regarding media and technology in a digital age; exploration of media balance and well-being, online communication and relationships, privacy and security, and the impact of a digital footprint; responsible decision making and communication methods in an online world. Prerequisites: REA:0020.
- REA:0250 Academics and Life Skills Exploration I** 1-3 s.h.  
Expand basic academic and/or life skills with discovery, experiential learning, progress monitoring, and self-reflection; focus on strengthening foundational skills in practical academics and life skills; first of a two-part series.
- REA:0251 Academics and Life Skills Exploration II** 0-2 s.h.  
Builds on basic academic and/or life skills explored in REA:0250; UI REACH instructors and university faculty work together to enhance learning opportunities while providing explicit, interactive learning opportunities; progress monitoring, reflection, and focus on maintenance of basic academic and life skills; second of a two-part series.
- REA:0252 Academics and Life Skills Enrichment I** 1-3 s.h.  
Broaden and diversify academic and student life experiences; address specific interest areas of students; focus on communication, relationships, academics, and independent life; individualize, extend, and provide depth to student's current level of knowledge and skills.
- REA:0300 Internship I - Prep** arr.  
Introduction to functional skills, job expectations, environments of the workplace; students venture out into the community and see first-hand what a specific career or job entails; role of the influencer; small groups, job shadowing, tryouts—depending on individual needs and abilities; create a résumé; summer job searching skills; preparation for Internship II—applications, interviews, contacting employers.
- REA:0301 Internship II** arr.  
Internship experience leading to increased independence in the workplace (e.g., more independent operation of equipment, socialization, workplace safety, problem solving, conflict management); opportunity to acquire additional workplace skills in the student's career emphasis area; employers and mentors guide students in fulfilling their job responsibilities; students maintain a journal and discuss their experience with their advisor or instructor; second of three consecutive internships.
- REA:0302 Internship III** arr.  
Internship experience with opportunities to develop more advanced skills for independent communication, problem solving, and workplace performance in the student's career emphasis area; employers and mentors observe the student in the workplace; students maintain a journal and discuss their experience with their advisor or instructor; third of three consecutive internships.
- REA:0303 Internship IV** arr.  
Individualized community work experiences with periodic classroom seminars; building independent work skills, such as researching bus routes and emailing weekly journals; students, instructors, and employers evaluate student's work performance.
- REA:0304 Internship V** arr.  
Continuation of REA:0303; community work experiences with periodic classroom seminars; emphasis on work skills in student's career area of choice; soft skills needed to be an independent worker.
- REA:0305 Advanced Internship** arr.  
Development of advanced workplace skills in time management, communication, problem solving, and performance; one or more internships individualized to meet needs for further workplace soft skill development; observation in workplace by instructors, employers and mentors; journaling and discussion of experience with UI REACH staff; tracking time via method that works for individual needs; internship experiences and classroom seminars; emphasis on work skills in any career area and soft skills needed to be an independent worker. Requirements: UI REACH fourth-year enrollment.
- REA:0310 WorkKeys Lab** 1-2 s.h.  
Students build essential career-related skills using curriculum that is aligned with ACT WorkKeys National Career Readiness Certificate (NCRC) assessments; topics include reading for information and applied math skills. WorkKeys is a registered trademark of ACT, Inc.
- REA:0325 Computer and Technology Literacy I** 2 s.h.  
Self-paced course to improve personal, academic, and career computer literacy and skills; online learning modules and computer-based programs to increase computer skills; email and internet searching, online learning options, online banking and purchasing, Microsoft Office programs, and online career resources.

**REA:0501 Special Topics****arr.**

Topics include leisure resources, current events, science, family life, consumerism, community involvement, self-determination, self-advocacy, leadership, assistive technology, mentoring; course assignments, instruction, and student assessment in classroom and/or community settings; may be required or elective course.

# College of Engineering

## Dean

- Harriet Nembhard

## Associate Dean, Academic Programs

- Nicole M. Grosland

## Interim Associate Dean, Graduate Programs and Research

- H.S. Udaykumar

### Undergraduate degree: B.S.E.

**Undergraduate certificates:** artificial intelligence, modeling and simulation in engineering; naval science and technology; technological entrepreneurship

**Graduate degrees:** M.S.; Ph.D.

**Graduate certificates:** artificial intelligence, modeling and simulation in engineering; sustainable water development

**Website:** <https://engineering.uiowa.edu/>

Engineers play an important role in modern society. They design and develop new and improved materials, products, and processes ranging from nanoparticles to antibiotics to major bridges and dams. Engineers are in demand across a broad spectrum of industry, spanning traditional fields such as mechanical and electrical engineering to the emerging fields of artificial intelligence and medicine. Engineers not only satisfy society's demand for improved performance, reliability, and safety of products, they also supply solutions for unforeseen societal consequences that may arise as the result of new technologies.

The College of Engineering has six academic departments: the Roy J. Carver Department of Biomedical Engineering [p. 1557], and the Departments of Chemical and Biochemical Engineering [p. 1572], Civil and Environmental Engineering [p. 1593], Electrical and Computer Engineering [p. 1625], Industrial and Systems Engineering [p. 1642], and Mechanical Engineering [p. 1660].

Moreover, research and educational activities of the college are supported by four research centers and institutes: the Center for Bioinformatics and Computational Biology, the Iowa Institute for Biomedical Imaging, IIHR—Hydroscience & Engineering, and the Iowa Technology Institute.

## Programs

### Undergraduate Programs of Study

The College of Engineering offers the Bachelor of Science in Engineering [p. 1549] (B.S.E.) with majors in biomedical [p. 1557], chemical [p. 1572], civil [p. 1593], computer science and engineering [p. 1625], electrical [p. 1625], environmental [p. 1593], industrial [p. 1642], and mechanical [p. 1660] engineering. For information about each B.S.E. major, see the Catalog's College of Engineering department sections.

The college also offers combined undergraduate degree programs with the College of Liberal Arts and Sciences and the Tippie College of Business; a dual degree with the

University of Northern Iowa; a combined B.S.E./master's degree program in each engineering discipline; and combined B.S.E./master's degrees with the Department of Computer Science, the Department of Occupational and Environmental Health, and the School of Planning and Public Affairs (also see the graduate Certificate in Transportation Planning [p. 1802] in the Graduate College). For additional information, see "Combined and Dual Degrees" in the Bachelor of Science in Engineering, B.S.E. [p. 1551] section of the Catalog.

In addition, the College of Engineering offers the undergraduate Certificate in Artificial Intelligence, Modeling and Simulation in Engineering [p. 1547], a Certificate in Naval Science and Technology [p. 1681], and partners with the Tippie College of Business to offer a Certificate in Technological Entrepreneurship [p. 1686] for undergraduate engineering students.

### Graduate Programs of Study

The College of Engineering offers graduate degree programs, the Master of Science (M.S.) and Doctor of Philosophy (Ph.D.), in biomedical engineering [p. 1557], chemical and biochemical engineering [p. 1572], civil and environmental engineering [p. 1593], electrical and computer engineering [p. 1625], industrial engineering [p. 1642], and mechanical engineering [p. 1660]. See the College of Engineering Graduate Studies website for an overview, and the departmental sections in the Catalog for information about specific areas of research and study, admission and degree requirements, and financial support for the graduate programs. The College of Engineering also offers the graduate Certificate in Artificial Intelligence, Modeling and Simulation in Engineering [p. 1548], and a graduate Certificate in Sustainable Water Development [p. 1683].

### High School Program of Study

#### FIRST Tech Challenge

For Inspiration and Recognition of Science and Technology (FIRST) gives students the opportunity for real-world application of science, technology, engineering, and math (STEM) concepts. Students participate in an atmosphere that encourages team building, entrepreneurship, and sportsmanship. FIRST Tech Challenge (FTC) allows teams of students to be responsible for designing, building, and programming robots to compete in an alliance format against other teams. Teams are required to develop strategy and build robots based on sound engineering principles. Students learn about working in a team environment, effective communication skills, the ability to fail and succeed at the same time, and competing fairly while being supportive of their competition.

## Facilities and Resources

### College of Engineering Facilities

#### Seamans Center for the Engineering Arts and Sciences

The Seamans Center for the Engineering Arts and Sciences is home to the College of Engineering. In addition to faculty offices, classrooms, conference rooms, instructional laboratories, and faculty offices, the Seamans Center houses the Lichtenberger Engineering Library, the Hanson Center for Technical Communication, a machine shop, electronic shop, student work spaces, computational facilities, and

research laboratories. A number of classrooms and open spaces located throughout the building were designed to readily accommodate collaborative work.

## Engineering Student Services

The professional staff of Engineering Student Services administer student services for the College of Engineering, including advising, tutoring, student records, and global engineering. It also is the administrative home of Engineering Career Services and the Hanson Center for Technical Communication.

## Engineering Career Services

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

## Hanson Center for Communication

The Hanson Center for Communication is an endowed program that works closely with engineering faculty to create, manage, and grade writing assignments across the curriculum. In addition, the Hanson Center for Communication is home to an innovative writing center that conducts hundreds of one-on-one and team tutoring sessions each year. The center helps review lab reports, topical papers, and technical essays each semester.

Peer tutors are undergraduate students who have shown exceptional promise as communicators and provide individualized feedback throughout the writing process. In addressing global concerns (organization, clarity, and relevant analysis), they help their fellow students transform rough drafts into persuasive, logical documents.

## Global Engineering

Many of today's top employers are seeking engineering graduates with global experiences and competencies who can effectively interact with colleagues and customers around the world. Successful engineers are able to communicate across cultures, work on diverse teams, and productively deal with issues and conflicts arising from difference.

University of Iowa engineering students have a variety of opportunities to study, pursue internships, or conduct research abroad. Students can enroll in credit-bearing courses in English to fulfill engineering or general education requirements or earn credits toward a minor in another discipline or world language. In addition to completing coursework abroad, engineering students can pursue experiential opportunities abroad, including global internships, conducting independent research in other countries, and volunteering. For more information, see Global Engineering on the College of Engineering website. The College of Engineering and International Programs support these

endeavors by offering students a variety of scholarships and funding.

## Engineering Computer Services

Engineering Computer Services (ECS) provides spaces and technology administration for curricular, administrative, and research computing at the College of Engineering. The college has three drop-in computer labs with 225 high-end Linux and Windows computer workstations with graphics processing unit (GPU) support, a 24-seat computer classroom, a 45-seat machine learning and virtual reality-capable computer classroom, and a 400-seat virtual computer lab with GPU support that students can access from the internet. Numerous public domain and commercial engineering applications support the full range of engineering classes. Software is regularly upgraded, and hardware is refreshed at least every four years. The college's computer labs are open 24 hours a day, every day of the year.

## Engineering Electronics Shop

The Engineering Electronics Shop (EES) is a full-service electronics facility that supports sales and service for the College of Engineering and the University. EES provides design, construction, repair, calibration, and preventive maintenance services for teaching and research laboratories. The shop maintains more than 10,000 parts in stock, including electronic components, computer and office supplies, and lockers for rent. The shop has laser cutting/etching equipment, 3D printers, and a poster-plotting service.

## Engineering Machine Shop

The Engineering Machine Shop (EMS) is a full-service, light manufacturing facility that supports curricular, research, and operational needs of the College of Engineering and the University. EMS provides professional design and fabrication services and gives students, staff, and faculty controlled access to a student shop that contains a variety of manufacturing equipment. The shop has a high resolution 3D scanner, commercial 3D printers, a waterjet, a full wood shop, welding, and multi-axis CNC machines.

## Lichtenberger Engineering Library

The Lichtenberger Engineering Library is a branch of the University of Iowa Main Library and is a center of engineering college activity. Its collection includes books (including required course textbooks), tools, equipment, and electronic resources to assist at any stage of research on projects both big and small. Staff are trained to help locate information and provide training on a wide variety of skills, including patent searching, data management, tool usage, and more.

The Engineering Library, located next to the Student Commons in the Seamans Center, provides access to computer workstations, quiet study in the lower level, and group study space where students may reserve a private room for their work. The Engineering Library also houses the Creative Space, a space for students to imagine, tinker, design, and create with virtual reality, 3D scanners, and more.

## NEXUS

The NEXUS Program is an art and engineering program. NEXUS promotes collaboration efforts between the College of Engineering and the art community by getting people and ideas together. The goal is to involve students in science, technology, engineering, arts, and mathematics (STEAM) projects throughout the University and the surrounding

community. The program helps participants to think outside the box.

## College of Engineering Research Centers

### Center for Bioinformatics and Computational Biology

The Center for Bioinformatics and Computational Biology (CBCB) is a multidisciplinary research center dedicated to applying high performance networking and computing to basic life science and applied biomedical research. With faculty and students representing more than 20 traditional disciplines, the CBCB has contributed to the understanding of inherited human diseases, including blinding eye disease, cancer, deafness, diabetes, autism, schizophrenia, hypertension, obesity, and heart disease. For almost 20 years, the CBCB has been at the cutting edge of high throughput molecular discovery and interpretation in transcriptomics, genomics, and proteomics. At the confluence of these efforts lies the current wavefront of personalized genomic medicine, in which the CBCB plays a central role in partnership with labs, centers, and institutes across the University's Carver College of Medicine and basic science programs across campus. The CBCB also has been a center for industry start-ups and partnerships with numerous commercial enterprises. The center is jointly sponsored by the College of Engineering and the Carver College of Medicine.

### Iowa Institute for Biomedical Imaging

The Iowa Institute for Biomedical Imaging (IIBI) conducts research in the following areas: medical imaging (CT, MR, OCT, PET, SPECT, ultrasound, multimodality imaging), medical image analysis and computer-aided diagnosis; cardiovascular image analysis (angiography-intravascular ultrasound data fusion, MR image analysis of congenital heart disease, coronary CT image analysis, early detection of cardiovascular disease); pulmonary image analysis (CT and MR image analysis of the lung); cell image analysis (cell tracking, shape analysis); virtual surgery planning (augmented reality for surgical planning), cancer-related assessment of tumor progression/regression, staging, general machine learning; and disease/treatment outcome prediction. The institute is sponsored by the College of Engineering and the Carver College of Medicine.

### IIHR—Hydroscience & Engineering

IIHR—Hydroscience & Engineering is a world-renowned center with more than 100 years of education, research, and public service focusing on hydraulic engineering and fluid mechanics. Based in the C. Maxwell Stanley Hydraulics Laboratory, a five-story red brick building on the banks of the Iowa River, IIHR is a unit of the College of Engineering. IIHR students, faculty members, research engineers and scientists, and staff work together to understand and manage one of the world's greatest resources—water. Students from around the world benefit from IIHR's comprehensive multidisciplinary approach, which includes basic fluid mechanics, laboratory experimentation, and computational approaches.

IIHR research activities include fluid dynamics (turbulent flows, vortex dynamics, ship hydrodynamics, biological fluid flow, atmospheric boundary layer, experimental and computational fluid dynamics); environmental hydraulics (river mechanics, hydraulic structures, fish passage, sediment management, heat disposal in water bodies and power

productions, bioremediation of groundwater, computational hydraulics, water-quality monitoring); water and air resources (air pollution, hydroclimatology, hydrogeology, hydrology, hydrometeorology, remote sensing, water resources and basin-scale processes); environmental engineering and science (PCBs in the air and water, innovative ways of removing contaminants from the soil and water, ultra-fine particles of pollutants in the atmosphere, bioremediation strategies for persistent groundwater contaminants); and water sustainability (development of sound strategies and technological solutions to meet the challenges facing society's growing need for water resources). In 2009, the Iowa Flood Center was founded at IIHR as the only academic center devoted solely to flood-related research and education.

The University of Iowa's Water Sustainability Initiative (WSI) brought new interdisciplinary expertise to the institute in 2013 when WSI faculty members (based in the Colleges of Liberal Arts and Sciences, Engineering, and Public Health) affiliated with IIHR. The Iowa Geological Survey joined IIHR in 2014, bringing new expertise in Iowa's subsurface resources, groundwater modeling, innovative geophysical skills, and more.

Students gain hands-on experience through close cooperation with faculty and staff on research projects funded by industry, government, and other organizations.

### Iowa Technology Institute

The Iowa Technology Institute (ITI) conducts basic and applied research. The mission is to cultivate collaboration across disciplines, invent advanced technologies, and conduct trailblazing research in design, simulation, and experimentation that enables a safer and more productive future. ITI provides a unique environment for research and development for faculty, graduate and undergraduate students, research fellows, and professional scientists. ITI spans more than 20 laboratories and centers, led by the Operator Performance Laboratory, the Virtual Soldier Research program, and the Atmospheric and Environmental Research Lab.

Research at ITI focuses on advanced manufacturing and materials, human modeling and simulation, aerospace technology, biotechnology, environment and energy, and systems and sensors. Scientists conduct experiments in flight testing, human performance, robotics, biomedical and biochemical research, machine learning, smart sensors, remote sensing, renewable energy, and modeling of environmental change.

ITI has a satellite office in Orlando, Florida, and has major contracts with the U.S. military and industry partners.

### Courses

The engineering course requirements for engineering majors are outlined in the respective Catalog sections. Each undergraduate program builds upon a core program; see the Bachelor of Science in Engineering [p. 1549] in the Catalog. Not all engineering core courses listed below are required for each engineering major. Core program courses are intended for College of Engineering students. Undergraduate students in other disciplines who wish to register for core engineering courses should contact Engineering Student Services.

- Engineering Courses [p. 1542]
- Engineering and Information Technology Courses [p. 1543]

## Engineering Courses

### **ENGR:0000 Engineering Internships and Co-ops** 0 s.h.

For engineering students completing a semester-long internship experience while working 35-40 hours a week at a professional company.

### **ENGR:0001 Engineering Co-op** 0 s.h.

Multiple-semester cooperative education experience for students working 35-40 hours a week at a professional company.

### **ENGR:0002 Engineering Half-Time Internship** 0 s.h.

For engineering majors participating in the Cooperative Education and Internship Program and averaging 15-20 hours per week on assignment.

### **ENGR:0004 Engineering Academic Internship** arr.

Academic credit for engineering majors participating in the Cooperative Education and Internship Program. Requirements: for international students—F-1 or J-1 visa, engineering undergraduate standing, full-time internship offer letter in hand (at least 40 hours/week and one semester in length), internship approved by International Student and Scholar Services for F-1 Curricular Practical Training (CPT) or J-1 Academic Training (AT), concurrent registration in approved 3 s.h. distance education or evening course, and preapproval of internship by Engineering Career Services; non-international students may be eligible on case-by-case basis.

### **ENGR:0006 Engineering Global Internship/Co-op** 0 s.h.

For engineering majors participating in the Cooperative Education and Internship Program working on a global assignment.

### **ENGR:1000 Engineering Success for First-Year Students** 1 s.h.

Introduction to engineering student life; electronic resources; keys to and skills for success; coping with adversity; selecting a major; advising; curriculum choices and career objectives; ethics; communication; internships and co-ops; job search skills.

### **ENGR:1029 First-Year Seminar** arr.

Introduction to engineering fields of study; work closely with a faculty member or senior administrator; participation that eases the transition to college-level learning; cutting-edge research taking place in the College of Engineering.

### **ENGR:1100 Introduction to Engineering Problem Solving** 3 s.h.

Development and demonstration of specific problem solving skills; directed project or case study involving actual engineering problems and their solutions.

### **ENGR:1300 Introduction to Engineering Computing** 3 s.h.

Engineering problem solving using computers; introduction to digital computations, problem formulation using a procedural high-level language; structured, top-down program design methodology; debugging and testing; introduction to use of software libraries; examples from numerical analysis and contemporary applications in engineering. Corequisites: MATH:1550.

### **ENGR:1550 FIRST Tech Challenge - Introduction to Engineering Problem Solving** 3 s.h.

Introduction to engineering problem solving and design; projects introduce students to common elements of engineering problem solving and design (e.g., application of organizing principles to describe engineered systems, economic analysis upon which to base decisions, technical presentation and analysis of data), and provides an opportunity for students to apply common elements of problem solving in the solution of engineering problems in context of a structured problem solving and design process. Taught in high schools by state certified teachers.

### **ENGR:2110 Statics** 2-3 s.h.

Vector algebra, forces, couples, moments, resultants of force couple systems; friction, equilibrium analysis of particles and finite bodies, centroids; applications. Prerequisites: MATH:1550. Corequisites: MATH:1560 and PHYS:1611.

### **ENGR:2120 Electrical Circuits** 3 s.h.

Kirchhoff's laws and network theorems; analysis of DC circuits; first order transient response; sinusoidal steady-state analysis; elementary principles of circuit design; SPICE analysis of DC, AC, and transient circuits. Corequisites: MATH:2560.

### **ENGR:2130 Thermodynamics** 3 s.h.

Basic elements of classical thermodynamics including first and second laws, properties of pure materials, ideal gas law, reversibility and irreversibility, and Carnot cycle; control volume analysis of closed simple systems and open systems at steady state; engineering applications, including cycles. Prerequisites: PHYS:1611 and CHEM:1110. Corequisites: MATH:1560.

### **ENGR:2510 Fluid Mechanics** 4 s.h.

Fluid properties; hydrostatics; transfer of mass, momentum, and energy in control-volume and differential forms; dimensional analysis and similitude; laminar and turbulent flow in conduits; flow past bluff bodies and airfoils; engineering applications; experimental laboratories, computer simulation projects. Prerequisites: MATH:2560 and ENGR:2710. Corequisites: ENGR:2130.

### **ENGR:2710 Dynamics** 3 s.h.

Vector calculus, Newton's laws, 3D motion of particles and multiparticle systems, 2D motion of rigid bodies applications. Prerequisites: ENGR:2110 and MATH:1550.

### **ENGR:2720 Materials Science** 3 s.h.

Concepts and examples of selection and applications of materials used by engineers; mechanical, electrical, and thermal properties that govern a material's suitability for particular applications; lectures supplemented by laboratory experiments. Prerequisites: CHEM:1110. Corequisites: MATH:1550.

### **ENGR:2730 Computers in Engineering** 2-3 s.h.

Advanced programming; good software engineering techniques including pseudocode and documentation dynamic data structures, recursive programming, procedural and object-oriented computing, inheritance, and standard template library; C++. Prerequisites: ENGR:1300.

### **ENGR:2750 Mechanics of Deformable Bodies** 3 s.h.

Elementary theory of deformable bodies, stress, strain; axial, transverse, bending, torsion, combined and buckling loads; deflection of beam. Prerequisites: ENGR:2110. Corequisites: MATH:2560.

**ENGR:2995 Introduction to Artificial Intelligence and Machine Learning in Engineering** 3 s.h.

Introduction to artificial intelligence (AI), machine learning, data science, and data driven problem solving across all engineering disciplines; topics include supervised and unsupervised learning, clustering, heuristics, feature selection, ethics of AI—fairness and privacy issues, and performance evaluation; first in a series. Prerequisites: ENGR:1300. Corequisites: MATH:2550. Requirements: practical knowledge of programming, rudimentary understanding of probability concepts, and sophomore standing.

**ENGR:4000 Engineering Honors Seminar** 1 s.h.

Completion of an approved project under the supervision of a faculty member. Requirements: engineering honors and junior or higher standing.

**ENGR:4001 Leadership Seminar: Mediocrity is Not an Option** 1 s.h.

Skills needed to gain competitive edge in professional world with understanding that mediocrity is not an option; importance of developing a career plan, power of networking, significance of soft skills, value of mentoring; participation in series of discussions and activities; deeper insight of strengths and weaknesses, how to enhance skills that employers desire, and become effective leaders in workplace; presentation by retired chief operating officer of a leading aerospace company.

**ENGR:4003 Women in Science and Engineering Leadership Seminar** 1 s.h.

WiSE peer mentors develop practical mentoring and leadership skills while participating in a one-on-one relationship with a first-year UI student in a STEM major; peer mentors meet monthly with mentees, submit meeting reflection/evaluations, and attend three educational or social events hosted by WiSE or another University entity during the semester.

**ENGR:4005 Developing Cultural Intelligence for STEM Leadership** 1 s.h.

How cultural values impact technological innovation; knowledge and strategies to develop skills for leadership in the global marketplace; activities include the Cultural Intelligence (CQ) assessment and mapping of cultural values and case studies for innovation; students use CQ dimensions to develop a plan to deepen CQ skills; exploration of culturally intelligent collaboration and problem solving in science, technology, engineering, and mathematics (STEM) fields; how to represent these skills in professional settings. Requirements: upper-level undergraduate or graduate standing.

**ENGR:4010 Engineering Grand Challenges Program Fellow** 0 s.h.

The Engineering Grand Challenges Program is designed to prepare tomorrow's engineering leaders to solve the grand challenges facing society during the next century; through completion of components of the program, students have the opportunity to engage in research relating to their selected grand challenge, explore interdisciplinary coursework, gain an international perspective, engage in entrepreneurship, and give back to the community through service learning; for students who have been accepted as a fellow into the Engineering Grand Challenges Program and are working on completion of the program requirements. Requirements: acceptance to the Engineering Grand Challenges Program.

**ENGR:4011 Engineering Grand Challenges Program Scholar** 0 s.h.

The Engineering Grand Challenges Program is designed to prepare tomorrow's engineering leaders to solve the grand challenges facing society during the next century; through completion of components of the program, students have the opportunity to engage in research relating to their selected grand challenge, explore interdisciplinary coursework, gain an international perspective, engage in entrepreneurship, and give back to the community through service learning; for students who have been accepted as a scholar to the Engineering Grand Challenges Program and are working on completion of the program requirements. Requirements: acceptance to the Engineering Grand Challenges Program.

**ENGR:4012 Engineering Grand Challenges Program Final** 0 s.h.

The Engineering Grand Challenges Program is designed to prepare tomorrow's engineering leaders to solve the grand challenges facing society during the next century; through completion of components of the program, students have the opportunity to engage in research relating to their selected grand challenge, explore interdisciplinary coursework, gain an international perspective, engage in entrepreneurship, and give back to the community through service learning; for students who have been accepted to the Engineering Grand Challenges Program and are in the final semester of completing the program requirements. Requirements: acceptance to the Engineering Grand Challenges Program.

**ENGR:5270 Finding Truth in a Sea of Big Data (and Social Media)** 1 s.h.

How to detect and defuse misinformation from mainstream and social media; recognition of where misinformation occurs, what makes it misinformation, and provide statisticians or fellow scientists with a technical explanation of why a particular claim is nonsense; content is noncommittal of any political orientation since misinformation comes in all shapes and sizes from all corners of political spectrum. Requirements: engineering graduate standing.

**ENGR:7270 Engineering Ethics** 1 s.h.

Introduction to practical issues associated with being a responsible scientist; topics in responsible conduct of research in engineering and the sciences using case studies, presentations, and discussions with visiting speakers; conforms to mandates set by the Office of the Vice President for Research and the Graduate College to train graduate students and postdoctoral scholars/fellows in responsible conduct of research. Requirements: first-year graduate standing in College of Engineering.

**ENGR:7604 Engineering Ethics for Post Docs** 0 s.h.

Introduction to practical issues associated with being a responsible scientist; topics in responsible conduct of research in engineering and the sciences using case studies, presentations, and discussions with visiting speakers; conforms to mandates set by the Office of the Vice President for Research and the Graduate College to train graduate students and postdoctoral scholars/fellows in responsible conduct of research. Requirements: new postdoctoral research scholar/fellow in College of Engineering.

## Engineering and Information Technology Courses

**EIT:5120 Modern Automation and Control** 3 s.h.

Study of sensor, motors, control, process automation, and internet of things (IoT).

**EIT:5135 Modern Information Systems 3 s.h.**

Introduction to enterprise information systems; RESTful service model, cloud service models, data storage models, big data considerations, network basics, security and privacy considerations; blockchain technology and its applications.

**EIT:5150 Applied Artificial Intelligence 3 s.h.**

Artificial Intelligence (AI), search and logic, data science and analysis, advanced machine learning and deep learning, digital manufacturing and design, signal processing and fault diagnosis, AI robotics and computer vision, and applications in engineering.

**EIT:5155 Cyber-Physical Systems 3 s.h.**

Introduction to modern "smart" systems providing intelligent monitoring, control, and coordination of societal, environmental, and business infrastructure; layered architecture for, relevant applications of, and projects involving conceptual design of cyber-physical systems.

**EIT:5211 Machine Learning and Scientific Computing in Engineering 3 s.h.**

Numerical methods in scientific computing; root problems and optimization; linear algebraic equations; eigenvalue problems; numerical differentiation and integration; interpolation and curve fitting; initial value and boundary value problems; machine learning in regression, classification, and clustering problems; Python programming and scikit-learn packages.

**EIT:5216 Manufacturing Process and Modeling 3 s.h.**

Fundamental science, modeling, and simulation technologies in materials processing; essential knowledge in automation and control of manufacturing systems; material removal processes, forming, microfabrication, and nontraditional material processes; finite element modeling/simulation of material processes; automation and control of manufacturing systems and processes.

**EIT:5220 Advanced Control Engineering 3 s.h.**

State-space representation of linear systems, equilibrium points, linearization, controllability, observability, stability, state feedback control, linear observer design, and separation principle.

**EIT:5224 Mechanical Design and Realization 3 s.h.**

Solid modeling, assemblies, drawings, geometric dimensioning and tolerancing, and basic engineering design process; use of analysis tools (e.g., Finite Element Analysis), fatigue and durability, optimization software.

**EIT:5240 Kinematics of Modern Robotics 3 s.h.**

Robotics motion, configuration space, and path planning.

**EIT:5298 Mechanical Component Durability and Integrity Analysis 3 s.h.**

System and component design, stress analysis, static failure, fatigue, fracture mechanics, vibration, materials science, and product life cycle.

**EIT:5351 Cybersecurity 3 s.h.**

Taxonomy of security threats and attacks; chain-of-trust principle; authentication, access control, and security domains; perimeter security and defense in depth; cryptographic protocols; key management and distribution; security assessment, internet of things (IoT) security and privacy issues.

**EIT:5352 Modern Database Systems 3 s.h.**

Introduction to contemporary database architectures: relational, key-value, document store, and graph-based; relative strengths and weaknesses of database architectures; enterprise scalability issues; data aggregation and visualization; project work involving use of modern database systems (e.g., MySQL, Redis, MongoDB, Neo4j).

**EIT:5353 Big Data and Machine Learning 3 s.h.**

Storage, management, and analysis of very large data sets; distributed file systems and object stores; MapReduce framework for processing large data sets; machine learning techniques; classification and clustering; pattern recognition; projects involving big data and machine learning frameworks (e.g., Apache Hadoop).

**EIT:5380 Software Engineering Methods, Tools, and Frameworks 3 s.h.**

Modern agile software development practices for cloud and web-based applications using state-of-the-art software engineering languages, tools, and technologies; software as a service (SaaS) architecture; software testing; introduction to enterprise application development frameworks; team-based project.

**EIT:5381 Enterprise Software Engineering 3 s.h.**

Modern DevOps practices and toolchains for enterprise information systems; scalable architecture; cloud services (e.g., SaaS, PaaS, IaaS); load balancing/autoscaling; identity management and security; performance monitoring and tuning; continuous integration and hot deployment.

**EIT:5382 Human-Computer Interaction Design and User Experience 3 s.h.**

Principles and guidelines for design and evaluation of human-computer interactions (HCI); design methodologies (e.g., participatory design, low- and high-fidelity prototyping); user interface technologies (e.g., input and output devices, interaction styles); quantitative and qualitative evaluation of user interfaces (e.g., expert reviews, usability testing).



# Engineering and Information Technology, M.S.

The rapid expansion of computer, information, and advanced manufacturing technology throughout all segments of business and industry is creating challenges for companies that seek to keep pace with the latest technological and engineering advancements. The M.S. in engineering and information technology program is intended to provide a rigorous, yet broadly accessible platform for practicing B.S.-level engineers and bachelor's degree graduates from other related disciplines to obtain advanced training in contemporary engineering and information technology areas.

Rather than focusing in one area, the M.S. program provides a breadth of exposure to areas that are key to the design, implementation, and manufacturing of complex, smart systems. This exposure includes coursework in software engineering, networking, cloud computing, machine learning, robotics, advanced manufacturing, testing/quality assurance, and associated legal, regulatory, environmental, and ethical issues.

The M.S. in engineering and information technology is administered by the College of Engineering.

## Requirements

*Applications for the M.S. in engineering and information technology are not being accepted at this time.*

The Master of Science program in engineering and information technology requires 30 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00. Students are allowed up to 6 s.h. of approved transfer credit.

Students work with an academic advisor to formulate a plan of study. The degree requires 12 s.h. of core courses and 18 s.h. in a subprogram—information technology or mechanical engineering.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must have a bachelor's degree in engineering, computer science, or a related field and an undergraduate g.p.a. of at least 3.00. Those whose g.p.a. is slightly below 3.00 may be considered for admission. No Graduate Record Examination (GRE) General Test scores are required.

Those whose first or official language is not English must score as follows on the Test of English as a Foreign Language (TOEFL): a score of 550 or higher on the paper-based (PBT) version or a score of 81 or higher on the internet-based (iBT) version.

# Artificial Intelligence, Modeling and Simulation in Engineering

## Chair, Department of Mechanical Engineering

- Ching-Long Lin

**Undergraduate certificate:** artificial intelligence, modeling and simulation in engineering

**Graduate certificate:** artificial intelligence, modeling and simulation in engineering

**Faculty:** <https://engineering.uiowa.edu/people/me-people/me-faculty>

**Website:** <https://me.engineering.uiowa.edu/>

Artificial intelligence (AI) is a technology that mimics human intelligence to perform complex tasks. Machine learning is a subfield of AI that uses statistical methods to learn from data without being explicitly programmed. Deep learning is a main subset of machine learning that uses multi-layered neural networks to learn from data.

Modeling and simulation in engineering is a field that uses mathematical models as a basis for simulations to generate data analyzed for product and system design. Modeling and simulation is a knowledge-based approach that develops models to generate data, while machine learning is a data-based approach that learns from data to generate models.

The artificial intelligence, modeling and simulation (AIMS) program teaches students:

- the importance of uncertainty quantification in all methods;
- the various types of combinations—modeling and simulation-assisted machine learning, machine learning-assisted modeling and simulation, and hybrid approaches; and
- the notion of using hybrid models toward the design of intelligent complex machines.

The certificate is administered by the Department of Mechanical Engineering [p. 1660].

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Artificial Intelligence, Modeling and Simulation in Engineering [p. 1547]

### Graduate Program of Study Certificate

- Certificate in Artificial Intelligence, Modeling and Simulation in Engineering [p. 1548]

# Artificial Intelligence, Modeling and Simulation in Engineering, Certificate

## Requirements

The undergraduate Certificate in Artificial Intelligence, Modeling and Simulation in Engineering (AIMS) requires a minimum of 18 s.h. of credit. Students must earn a g.p.a. of at least 2.00 in coursework for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

Students are strongly encouraged to participate in at least one workshop related to Python, R, or high performance and parallel computing offered by the Information Technology Services Research Services (ITS-RS) department; see the Workshops web page on the High Performance Computing website. Students are also encouraged to participate in the HACKUIOWA hackathon organized by the UI Hydroinformatics Lab.

Mechanical engineering students may use the certificate as a tailored engineering focus area by adding an additional eligible course. In addition, mechanical engineering students may earn the Certificate in Artificial Intelligence, Modeling and Simulation in Engineering while they complete the mechanical engineering design, the manufacturing, or the robotics and autonomous systems focus area for their major.

The Certificate in Artificial Intelligence, Modeling and Simulation in Engineering requires the following coursework.

## Required Courses

Code	Title	Hours
Both of these:		
ME:4111	Scientific Computing and Machine Learning	3
ME:4150	Artificial Intelligence in Engineering	3
Three of these:		
ME:4110	Computer-Aided Engineering	3
ME:4112	Engineering Design Optimization	3
ME:4116	Manufacturing Processes Simulations and Automation	3
ME:4117	Finite Element Analysis	3
ME:4120	Advanced Linear Control Systems	3
ME:4175	Computational Naval Hydrodynamics	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5170	Data-Driven Analysis in Engineering Mechanics	3
ME:5300	Uncertainty Quantification and Design Optimization	3

## Capstone Course

Students must complete a capstone design project on an approved topic related to the certificate.

Code	Title	Hours
One of these:		
ME:4086	Mechanical Engineering Design Project	3
ME:4098	Individual Investigations: Mechanical Engineering	arr.

# Artificial Intelligence, Modeling and Simulation in Engineering, Graduate Certificate

## Requirements

The graduate Certificate in Artificial Intelligence, Modeling and Simulation in Engineering (AIMS) requires a minimum of 15 s.h. of credit. Students must earn a g.p.a. of at least 3.00 in coursework for the certificate. The certificate program is most appropriate for University of Iowa graduate students enrolled in the College of Engineering and open to graduate students from other disciplines.

Students are strongly encouraged to participate in at least one workshop related to Python, R, or high performance and parallel computing offered by the Information Technology Services Research Services (ITS-RS) department; see the Workshops web page on the High Performance Computing website. Students are also encouraged to participate in the HACKUIOWA hackathon organized by the UI Hydroinformatics Lab.

The Certificate in Artificial Intelligence, Modeling and Simulation in Engineering requires the following coursework.

## Required Courses

Students must complete at least two of the following courses but may choose to complete all three courses as part of the certificate.

Code	Title	Hours
At least two of these:		
ME:5170	Data-Driven Analysis in Engineering Mechanics	3
ME:5300	Uncertainty Quantification and Design Optimization	3
ME:6255	Multiscale Modeling	3

Students select courses from the following list to reach a total of 12 s.h. of credit when combined with two or all three of the courses listed above. Students may petition to substitute other relevant graduate-level courses for the courses below in consultation with the AIMS faculty advisor.

Code	Title	Hours
At least one of these:		
ME:4117	Finite Element Analysis	3
ME:4150	Artificial Intelligence in Engineering	3
ME:4175	Computational Naval Hydrodynamics	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:6240	Probabilistic Inference and Estimation for Mechanical Systems	3
ME:7256	Computational Solid Mechanics	3

ME:7257	Probabilistic Mechanics and Reliability	3
ME:7269	Computational Fluid Dynamics and Heat Transfer	3

## Elective Course

In addition to the following courses, students may count a graduate-level course from another College of Engineering department or an independent investigation opportunity not listed below in consultation with the AIMS faculty advisor.

Code	Title	Hours
One of these:		
ME:6198	Individual Investigations: Mechanical Engineering	arr.
A course with prefix ME numbered 4100 or above		
A course with prefix CHEM, MATH, or PHYS numbered 5000 or above		

# Bachelor of Science in Engineering

**Undergraduate major:** B.S.E.

**Website:** <https://engineering.uiowa.edu/>

The Bachelor of Science in Engineering (B.S.E.) degrees with majors in biomedical, chemical, civil, electrical, environmental, industrial, and mechanical engineering, as well as computer science and engineering, are accredited by the Engineering Accreditation Commission (EAC) of the Accreditation Board for Engineering and Technology (ABET). The environmental engineering program was reviewed by the EAC, while the computer science and engineering program was reviewed by the EAC and the Computing Accreditation Commission (CAC) of ABET.

Each program has its own set of articulated educational objectives, while all programs are designed to ensure that graduates possess the following at the time of graduation:

- an ability to identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- an ability to apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare, as well as global, cultural, social, environmental, and economic factors;
- an ability to communicate effectively with a range of audiences;
- an ability to recognize ethical and professional responsibilities in engineering situations and make informed judgments, which must consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- an ability to function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- an ability to develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and
- an ability to acquire and apply new knowledge as needed, using appropriate learning strategies.

Computer science and engineering majors will be able to do each of the following as they relate directly to computing:

- analyze a complex computing problem and apply principles of computing and other relevant disciplines to identify solutions;
- design, implement, and evaluate a computing-based solution to meet a given set of computing requirements in the context of the program's discipline;
- communicate effectively in a variety of professional contexts;
- recognize professional responsibilities and make informed judgments in computing practice based on legal and ethical principles;
- function effectively as a member or leader of a team engaged in activities appropriate to the program's discipline; and
- apply computer science theory and software development fundamentals to produce computing-based solutions.

Each program emphasizes a broad understanding of fundamental principles common to all engineering disciplines and provides students with the opportunity to specialize in a selected engineering discipline. All programs build on the University's research strengths. Program flexibility is provided by a curriculum in which each student develops engineering competency within a particular academic program and complements it with a tailored thematic option in support of chosen career objectives—for example, engineering practice, project management, research, and development.

This section of the Catalog provides information about requirements that all B.S.E. students must fulfill, regardless of their engineering major, as well as admission information.

Engineering students may earn more than one B.S.E. degree. They also may combine undergraduate degree programs to earn a B.S.E. and a degree in the College of Liberal Arts and Sciences or the Tippie College of Business, or a combined B.S.E./M.S. in urban and regional planning, or a combined B.S.E./M.S. in engineering; see "Combined and Dual Degrees" in the Bachelor of Science in Engineering, B.S.E. [p. 1551] section of the Catalog.

## Undergraduate Majors, Minors, and Certificates

### Majors

The College of Engineering has six departments and offers eight undergraduate B.S.E. majors. View the B.S.E. majors under each of the College of Engineering departments in the Catalog.

### Minors

The College of Engineering does not offer a minor. Engineering students may earn minors in a number of programs offered by other undergraduate colleges at the University of Iowa. For descriptions of minors and their requirements, view Find Your Program on the General Catalog website and select undergraduate minors.

### Certificates

The College of Engineering offers three undergraduate certificate programs. Engineering students also may earn certificates offered by colleges across the University. The College of Engineering partners with the Tippie College of Business to offer the Certificate in Technological Entrepreneurship [p. 1686], which is tailored specifically for engineering students who intend to start and operate their own business or who would like to understand and learn about managing innovation in business environments. The college also offers the Certificate in Artificial Intelligence, Modeling and Simulation in Engineering [p. 1546] and the Certificate in Naval Science and Technology [p. 1681]. Other certificates of particular interest to engineering students include the Certificate in International Business [p. 1286] (Tippie College of Business) and the Certificate in Sustainability [p. 2226] (University College). For descriptions of certificates and their requirements, view Find Your Program on the General Catalog website and select undergraduate certificates.

## Cooperative Education and Internship Program

The Engineering Cooperative Education and Internship Program supports students as they explore and develop their careers through periods of professional practice. These are

professional, engineering-related experiences in business, industry, education, or government that are recognized by the College of Engineering. Experiences range from 10-week summer internships to multiterm co-ops. Students find co-ops and internships in several ways, including career fairs, job search sites, applying directly through the company's website, networking, personal connections, and Handshake (the University of Iowa's primary online recruiting system).

All students in the College of Engineering are eligible to participate in the co-op and internship program upon completion of one full semester at the University. Students are encouraged to begin their search early so that they may acquire a co-op or internship experience starting the summer after their first or second year. Students have completed co-op and internship assignments at many companies around the country and world.

Internships and co-ops may be documented on the transcript when students follow the appropriate registration steps. For further details, see Engineering Career Services on the College of Engineering website.

## Engineering Grand Challenges Scholars Program

The Engineering Grand Challenges Scholars Program (GCSP) is designed to inspire students to develop innovative engineering solutions to the 14 Grand Challenges facing society in this century, as identified by the National Academy of Engineering (NAE). Students are required to complete five different components related to one of the 14 grand challenges prior to graduation.

- Research experience—project or independent research related to one of the 14 grand challenges.
- Interdisciplinary curriculum—preparing engineering students to work at the overlap with public policy, business, law, ethics, and human behavior, as well as medicine and the sciences.
- Entrepreneurship—preparing students to translate invention to innovation and to develop market ventures that scale to global solutions in the public interest.
- Global dimension—developing students' global perspective necessary to address challenges that are inherently global as well as to lead innovation in a global economy.
- Service learning—developing and deepening students' social consciousness and their motivation to bring their technical expertise to bear on societal problems.

The University of Iowa's Engineering Grand Challenge Scholars Program was the seventh in the United States and the first in the Big Ten to be approved by the national committee. More details about the program and requirements can be found on the College of Engineering Grand Challenges Scholars Program web page.

## Programs

### Undergraduate Program of Study Major

- Bachelor of Science in Engineering [p. 1551]

## Policies

Students can view academic policies on the College of Engineering Current Students web page.

## Admission

First-year students are eligible for direct admission into the College of Engineering if they meet the Iowa Board of Regents score of at least 265 on the Regent Admission Index (RAI), have a cumulative high school g.p.a. of at least 3.33, and meet the high school course requirements.

Engineering high school course requirements include:

- four years of English/language arts;
- four years of mathematics (including two years of algebra, one year of geometry, and one year of higher math such as precalculus or equivalent);
- two years of a single world language;
- three years of natural science, preferably with at least one year of chemistry and at least one year of physics; and
- two years of social studies.

Grades of A or B in all high school math and science courses are highly recommended.

Students who are unsure whether to pursue a degree in engineering or a degree in liberal arts and sciences are strongly encouraged to begin in engineering if they meet the admission requirements.

Students who fall short of the engineering admission requirements may enroll in the College of Liberal Arts and Sciences and be designated as Engineering Interest students. They may apply to transfer into the College of Engineering for the following semester once they have successfully completed MATH:1550 Engineering Mathematics I: Single Variable Calculus (or equivalent), and either CHEM:1110 Principles of Chemistry I or PHYS:1611 Introductory Physics I with grades of A or B.

More information about admission and the College of Engineering is available; see First-Year Students on the College of Engineering website.

## Transfer Applicants

Transfer applicants must have completed the same high school unit requirements as entering first-year students and must submit an official high school transcript as well as a transcript of college work undertaken at other institutions. To transfer to the College of Engineering, students must have demonstrated success in math, science, and engineering courses, ideally earning all As and Bs with no grade lower than a C in those foundation subjects. Transfer students must have completed MATH:1550 Engineering Mathematics I: Single Variable Calculus (or equivalent), and either CHEM:1110 Principles of Chemistry I or PHYS:1611 Introductory Physics I (the first semester of chemistry designed for majors or the first semester of calculus-based physics) or their equivalents. Grades earned in additional math, science, and engineering courses, and overall grade-point average also are considered in transfer applications.

Information about admission requirements for transfer students is available on the college's website.

# Bachelor of Science in Engineering, B.S.E.

## Requirements

The Bachelor of Science in Engineering (B.S.E.) requires a minimum of 128 s.h. of credit. Students must be enrolled in the UI College of Engineering for the last 30 s.h. of work toward the degree, or 45 of the last 60 s.h., or a total of 90 s.h. They must have a g.p.a. of at least 2.00 on all college work used to satisfy degree requirements as well as on all coursework attempted at the University of Iowa.

Engineering students earn the B.S.E. degree in one of eight undergraduate programs of study (majors): biomedical engineering [p. 1557], chemical engineering [p. 1572], civil engineering [p. 1593], computer science and engineering [p. 1625], electrical engineering [p. 1625], environmental engineering [p. 1593], industrial engineering [p. 1642], or mechanical engineering [p. 1660].

The collegiate curriculum requires all students to complete a minimum of 24 s.h. of mathematics and basic sciences; 7 s.h. of core engineering; and 19 s.h. of general education courses (including RHET:1030 Rhetoric and 15 s.h. of additional electives). Collegiate courses are typically completed early in a student's undergraduate program, thereby allowing students to change programs during the first semesters without a loss in course credit.

These foundational courses serve as prerequisites or corequisites for more advanced coursework in the major. Each major has several focus areas consisting of required and elective courses that provide students the flexibility to tailor their studies to their career interests. Each major culminates in a capstone senior design project.

## Collegiate Curriculum Requirements

All students in the College of Engineering are required to complete the following courses as part of their collegiate curriculum.

Code	Title	Hours
	Mathematics and Basic Sciences	24
	Engineering Core	7
	General Education	19
<b>Total Hours</b>		<b>50</b>

### Mathematics and Basic Sciences

Students complete a minimum of 24 s.h. in mathematics and basic sciences. Courses with the option of a laboratory component must be taken with the lab. Students should refer to the individual departmental section in the Catalog for information about fulfilling the statistics requirement.

Code	Title	Hours
CHEM:1110	Principles of Chemistry I (with lab)	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1560	Engineering Mathematics II: Multivariable Calculus	4

MATH:2550	Engineering Mathematics III: Matrix Algebra	2
MATH:2560	Engineering Mathematics IV: Differential Equations	3
PHYS:1611	Introductory Physics I (with lab)	4
Statistics course (options depend on major)		3

## Engineering Core

The engineering core consists of two engineering courses and an engineering success seminar required by all undergraduate programs in the College of Engineering.

Code	Title	Hours
ENGR:1000	Engineering Success for First-Year Students	1
ENGR:1100	Introduction to Engineering Problem Solving	3
ENGR:1300	Introduction to Engineering Computing	3

## General Education

Students are required to complete 19 sh. of general education courses; for more information, see General Education Component [p. 1552] in this section of the Catalog.

## First- and Second-Semester Plan of Study

The majority of the collegiate curriculum can be completed in the first two semesters.

### First Semester

Code	Title	Hours
All of these:		
ENGR:1000	Engineering Success for First-Year Students (all majors)	1
ENGR:1100	Introduction to Engineering Problem Solving (all majors)	3
CHEM:1110	Principles of Chemistry I (all majors)	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus (all majors)	4
RHET:1030	Rhetoric (all majors)	4
<b>Total Hours</b>		<b>16</b>

### Second Semester

Code	Title	Hours
All of these:		
ENGR:1300	Introduction to Engineering Computing (all majors)	3
MATH:1560	Engineering Mathematics II: Multivariable Calculus (all majors)	4
MATH:2550	Engineering Mathematics III: Matrix Algebra (all majors)	2
PHYS:1611	Introductory Physics I	4
General education or major requirement course		3-4
<b>Total Hours</b>		<b>16-17</b>

## Major Courses and Focus Areas

The curriculum for each B.S.E. major is described in each of the departmental sections of the Catalog. Each program has a number of focus areas that are designed to help students achieve exposure to and depth of study in an area that is complimentary to their major. The focus areas enable students to gain technical skills consistent with their career goals. Moreover, these electives may contribute to earning a minor and/or certificate.

### General Education Component

The General Education Component promotes understanding of and appreciation for arts, community, culture, and learning through coursework.

Students who enter the College of Engineering with a B.A. or B.S. degree are considered to have satisfied the General Education Component.

Students who enroll in a combined degree program in the College of Engineering and with the College of Liberal Arts and Sciences or with the Tippie College of Business are considered to have satisfied the College of Engineering's General Education Component once they have completed all requirements for the liberal arts and sciences degree or the business degree.

### General Education Areas

Students are required to complete 19 sh. of the General Education Component as outlined below. Some focus areas in certain majors may recommend or require specific courses to fulfill the General Education Component. Credit may be earned by examination; consult the College of Engineering.

- Rhetoric [p. 1552] (4 s.h.)
- Engineering Be Creative [p. 1552] (3 s.h.)
- Diversity, Equity, and Inclusion [p. 1553] (3 s.h.)
- Approved Course Subjects [p. 1553] (9 s.h.)

### Rhetoric

Code	Title	Hours
This course:		
RHET:1030	Rhetoric	4

Transfer students should refer to the Rhetoric section of the GE CLAS Core [p. 20] (College of Liberal Arts and Sciences) in the Catalog for information about how transfer credit may affect the Rhetoric requirement.

### Engineering Be Creative

Students must complete at least 3 s.h. selected from the courses listed below. Note that not all courses are offered every semester. Some courses will have sections designated for students with a major in the College of Engineering.

If a course has prerequisites listed, students wishing to take the course for the Engineering Be Creative requirement will need to request that prerequisites be waived by completing the Request Prerequisite Special Permission form on MyUI. This form should be completed several weeks prior to registration. Contact the College of Engineering for more information.

The following courses satisfy the Engineering Be Creative requirement.

Code	Title	Hours
ANIM:2125	Introduction to Animation	3
ARTS:1060	Elements of Digital Photography	3
ARTS:1510	Basic Drawing	3
ARTS:1520	Design Fundamentals	3
ARTS:2350	Bicycle Design: Hand Drawing Bicycles	4
CERM:2010	Ceramics I: Handbuilding	3
CINE:1100	The Art of Smartphone Filmmaking	3
CINE:1150	Introduction to Screenwriting for Nonmajors	3
CINE:1834/ THTR:1834	Modes of Film and Video Production	4
CNW:1620	Introduction to Creative Nonfiction	3
CNW:2680	The Art and Craft of Creative Nonfiction	3
CNW:2700	The Art and Craft of Personal Writing	3
CNW:2720	The Art and Craft of Writing About Culture	3
CNW:2730	The Art and Craft of Science Writing	3
CNW:2740	The Art and Craft of Writing about the Environment	3
CNW:2770	The Art and Craft of Writing for New Media	3
CNW:2780	The Art and Craft of Writing About Sports	3
CNW:2790	The Art and Craft of Humor Writing	3
CNW:2830	The Art and Craft of Immersion Journalism	3
CNW:2840	The Art and Craft of Travel Writing	3
CNW:2850	The Art and Craft of Writing About Politics	3
CNW:2910	Writing for Applications and Awards	3
CNW:3632/ WRIT:3632	Prose Style	3
CNW:3640	Writing for Business	3
CW:2100	Creative Writing	3
CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3
CW:3003	Writing and Reading Science Fiction	3
CW:3107/ INTD:3107	Creative Writing for the Health Professions	3
CW:3215/ INTD:3300	Creative Writing and Popular Culture	3
CW:3218/ INTD:3200	Creative Writing for New Media	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3
CW:4751	Creative Writing for the Musician	3



CW:4760/ WRIT:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3	THTR:3210/ DPA:3210	Makeup Design for the Stage	3
DANC:1055	Creativity in Motion	3	THTR:3230/ ARTS:3230	Scene Design I	3
DANC:1150/ LAS:1150	Brazilian Culture and Carnival	3	THTR:3240	Costume Design I	3
DANC:2060/ DPA:2060	Dance and Society in Global Contexts	3	THTR:3250	Lighting Design I	3
DANC:2090	Lighting Design for Engineers and Dancers	3	THTR:3260	Sound Design for the Theatre	3
DSGN:2500	Graphic Design I	3	THTR:3270	Entertainment Design	3
EDTL:4355/ CNW:4355	Approaches to Teaching Writing	3	THTR:3876/ CINE:3876/ DANC:3876/ DIGA:3876/ INTM:3876	Video for Performance	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3	THTR:4270/ ARTS:4270	Scenic Art	3
MUS:1007	Garage Band: The Basics	2	UICB:2110/ BKAT:2110	Introduction to Book Arts	3
MUS:1012	Creativity in Music	3	UICB:3280/ BKAT:3280	Elements of Book Art	3
MUS:2800/ ARTS:2800/ CINE:2800/CS:2800/ DANC:2800/ DIGA:2800/ THTR:2800	Digital Arts: An Introduction	3	UICB:3380/ BKAT:3380	Letterpress	3
MUS:3285/ DIGA:3285	New Musical Instruments: From Design to Performance	3	UICB:4100/ BKAT:4100	Paperworks	3
PHTO:2600	Photography I	3	UICB:4340/ ARTS:4340	Digital Design for Artists' Books	3
PNTG:2410	Painting I	3	UICB:4415/ ARTS:4415	Calligraphy I: Foundational Hands	3
PRNT:2610	Introduction to Printmaking	3	WRIT:3005/ CW:3005/ INTD:3005	Professional and Creative Business Communication	3
RHET:3250	Persuasive Writing for Science and Health Care Professionals	3			
RHET:3260	Persuasive Speaking for Science and Health Care Professionals	3			
SCLP:2810	Undergraduate Sculpture I	3			
SCLP:3840/ DIGA:3840	Robotic Art Studio	4			
SCLP:4835/ DIGA:4835	Electronic Objects and Spaces	4			
SCLP:4840/ DIGA:4840	Air, Actuators, and Motors	4			
TDSN:2210	Introduction to 3D Design	3			
THTR:1140	Basic Acting	3			
THTR:2215	Theatre Technology	3			
THTR:2220	Production Lab	1-3			
THTR:2301	Playwriting I	3			
THTR:2610/ RHET:2610	Acting for Success	3			
THTR:2620	Improvisation for Engineers, Scientists, and the Curious	3			
THTR:2880/ DANC:2880/ DIGA:2880	Installations and Interactive Performance	3			
THTR:2890/ DANC:2890/ DIGA:2890/ INTM:2890	Producing and Directing Digital Video	3			
THTR:3202	Graphic Design for the Entertainment Industry	2-3			
THTR:3208	Mask and Puppet Crafts	3			

## Diversity, Equity, and Inclusion

Students complete at least 3 s.h. from the GE CLAS Core areas of Diversity and Inclusion or Values and Culture.

The College of Engineering will accept transfer credit for the Diversity, Equity, and Inclusion requirement. Students enrolled in other University of Iowa undergraduate degree programs should be aware that transfer credit may not be accepted for similar requirements in other colleges.

## Approved Course Subjects

Students complete 9 s.h. of coursework from any of the course subjects below.

### College of Law

Students may choose from University of Iowa Center for Human Rights [p. 1827] courses (prefix HRTS); view the courses and descriptions in the corresponding College of Law section of the Catalog.

### College of Liberal Arts and Sciences

Students may choose from courses in the following areas:

African American studies [p. 32] (prefix AFAM);  
aging and longevity studies [p. 44] (prefix ASP);  
American Sign Language [p. 50] (prefix ASL or ASLE);  
American studies [p. 54] (prefix AMST);  
anthropology [p. 75] (prefix ANTH);  
Arabic [p. 515] (prefix ARAB);  
art and art history [p. 104] (prefix ANIM, ARTE, ARTH, ARTS, BKAT, DSGN, DRAW, INTM, MTLs, PHTO, PNTG, PRNT, SCLP, or TDSN) with the exception of ceramics;

Asian and Slavic languages and literatures [p. 161] (prefix ASIA, CHIN, JPNS, KORE, or RUSS) with the exception of South Asian studies;  
 cinematic arts [p. ] (prefix CINE);  
 classics [p. 253] (prefix CLSA, CLSG, or CLSL);  
 communication sciences and disorders [p. 283] (prefix CSD);  
 communication studies [p. 299] (prefix COMM);  
 creative nonfiction writing [p. 421] (prefix CNW);  
 creative writing [p. 421] (prefix CW);  
 criminology, law and justice [p. 1070] (prefix CRIM);  
 critical cultural competence [p. 355] (prefix CCCC);  
 dance [p. 357] (prefix DANC);  
 disability studies [p. 389] (prefix DST);  
 Division of Performing Arts [p. 393] (prefix DPA);  
 English [p. 421] (prefix ENGL);  
 French [p. 515] (prefix FREN);  
 gender, women's, and sexuality studies [p. 536] (prefix GWSS) with the exception of social justice courses;  
 geography [p. 566] (prefix GEOG);  
 German [p. 602] (prefix GRMN);  
 global health studies [p. 612] (prefix GHS);  
 history [p. 690] (prefix HIST);  
 international studies [p. 749] (prefix IS);  
 Italian [p. 515] (prefix ITAL);  
 journalism and mass communication [p. 770] (prefix JMC);  
 Latin American studies [p. 795] (prefix LAS);  
 linguistics [p. 805] (prefix LING);  
 medieval studies [p. 850] (prefix MDVL);  
 museum studies [p. 854] (prefix MUSM);  
 music [p. 863] (prefix MUS);  
 Native American and Indigenous studies [p. 910] (prefix NAIS);  
 philosophy [p. 920] (prefix PHIL);  
 political science [p. 966] (prefix POLI);  
 Portuguese [p. 1104] (prefix PORT);  
 psychology [p. 987] (prefix PSY);  
 religious studies [p. 1014] (prefix RELS);  
 rhetoric [p. 1036] (prefix RHET) numbered 2000 or above;  
 social work [p. 1049] (prefix SSW);  
 sociology [p. 1070] (prefix SOC);  
 Spanish [p. 1104] (prefix SPAN);  
 sport and recreation management [p. 633] (prefix SRM);  
 sport studies [p. 54] (prefix SPST);  
 Swahili [p. 515] (prefix SWAH);  
 theatre arts [p. 1160] (prefix THTR);  
 therapeutic recreation [p. 633] (prefix TR);  
 world languages, literatures and cultures [p. 395] (prefix CL or WLLC); and  
 writing [p. 820] (prefix WRIT).

View the courses and descriptions in the corresponding College of Liberal Arts and Sciences section of the Catalog.

## Graduate College

Students may choose from courses in urban and regional planning [p. 1775] (prefix URP) in the School of Planning and Public Affairs; view the courses and descriptions in the corresponding Graduate College section of the Catalog.

## Tippie College of Business

Students may choose from courses in economics [p. 1249] (prefix ECON), entrepreneurship [p. 1267] (prefix ENTR), management and entrepreneurship [p. 1295] (prefix MGMT), and marketing [p. 1306] (prefix MKTG); view the courses and descriptions in the corresponding Tippie College of Business section of the Catalog.

## University College

Students may choose from courses in aerospace studies [p. 2155] (prefix AERO), leadership studies [p. 2187] (prefix LS), and military science [p. 2196] (prefix MILS); view the courses and descriptions in the corresponding University College section of the Catalog.

## Combined and Dual Degrees

### B.S.E. and Undergraduate Degrees

#### B.S.E./B.B.A.

The College of Engineering and the Tippie College of Business offer a combined degree program in which students earn two University of Iowa bachelor's degrees: a Bachelor of Business Administration (B.B.A.) from the Tippie College of Business and a Bachelor of Science in Engineering (B.S.E.) from the College of Engineering.

Students in the combined program must complete all requirements for both degrees, including all general education requirements. They must enroll in appropriate mathematics and engineering courses early in their course of study in order to complete the program in a timely way. Because courses in natural sciences, mathematics, humanities, and social sciences count toward the B.B.A. and the B.S.E., students may count a single course toward both degrees.

Students usually meet the degree requirements of both colleges in about five years; the time required depends on a student's choice of major study areas. Students should consult their advisors about whether the second-grade-only option is available to them. They are assigned two advisors, one in the Tippie College of Business Undergraduate Program Office and the other in their College of Engineering major department.

To enter the combined degree program, students must have approval from both colleges and must be admitted to both colleges. Interested students should contact the Student Development Center. For information about the B.B.A., including requirements for the degree, see the Bachelor of Business Administration, B.B.A. [p. 1217] (Tippie College of Business) in the Catalog.

### B.S.E./Liberal Arts and Sciences Degree

Students may earn two University of Iowa bachelor's degrees in a combined program in the College of Engineering and the College of Liberal Arts and Sciences. Successful candidates are awarded a B.S.E. (Bachelor of Science in Engineering) by the College of Engineering and a B.A. (Bachelor of Arts), B.S. (Bachelor of Science), B.F.A. (Bachelor of Fine Arts), or B.M. (Bachelor of Music) by the College of Liberal Arts and Sciences.

Students in combined degree programs must complete all requirements for both degrees, including the College of Liberal Arts and Sciences GE CLAS Core [p. 20] and the College of Engineering General Education Component.

Students in the combined program usually are able to meet the degree requirements of both colleges in about five academic years. The exact length of time necessary to complete the program is determined by the major areas of study selected in each college. Students who enter the combined degree program are assigned two faculty advisors,

one in their major department in the College of Engineering and the other in their major department in the College of Liberal Arts and Sciences.

To enter the combined degree program, students must be admitted to both the College of Engineering and the College of Liberal Arts and Sciences and must have College of Engineering approval to enter the combined degree program. Combined degree program applicants must meet the high school course or unit requirements for admission to each of the two colleges.

It is crucial that students enroll in the proper mathematics and engineering courses early in their course of study to expedite the completion of the program. The specific engineering courses taken by each student vary according to one's engineering major. Since courses in natural sciences, mathematics, humanities, and social sciences are accepted for credit by both colleges, students may be able to count a particular course toward both degrees.

Contact the Student Development Center for information about specific requirements. To learn about liberal arts and sciences majors, visit College of Liberal Arts and Sciences [p. 17] in the Catalog and select majors of interest in the departments.

## **B.S./B.S.E. Dual Degree with Northern Iowa**

The 3+2 dual degree program leads to a B.S. in applied physics from the University of Northern Iowa (UNI) and a B.S.E. from the University of Iowa. It requires approximately three years of study at UNI followed by approximately two years of study at Iowa. There is no guarantee that students can complete the 3+2 degree in five years.

Students interested in the program are guaranteed admission to the University of Iowa portion of the program if they have a g.p.a. of at least 3.00 (B average) in all coursework and in the chemistry, mathematics, and physics courses required by the University of Northern Iowa physics department.

During the first three years of the program, students complete at least 90 s.h. of coursework at the University of Northern Iowa. They must successfully complete courses in each of the following areas: chemistry, mathematics through differential equations, physics to satisfy the applied physics major requirements, and courses to satisfy the general education requirements. Credit for courses passed with a grade of C or higher is transferred to the University of Iowa as credit for equivalent coursework.

At the University of Iowa, students complete the B.S.E. requirements that were current at the time of their admission to the UI College of Engineering. Coursework completed at the University of Iowa is transferred to the University of Northern Iowa and applied toward the requirements for that institution's B.S. in applied physics.

When transferring to Iowa from UNI, students must submit applications for admission, housing, and financial aid to the University of Iowa by the University's established deadlines.

## **B.S.E. and Graduate Degrees**

### **B.S.E./M.S. Programs in Engineering**

Engineering students may be eligible to enroll in one of the College of Engineering's combined B.S.E./M.S. programs, which allow students to begin working toward a master's degree in engineering while they are completing their

bachelor's degree. The combined programs, which are offered by each of the college's departments, permit students to count certain courses toward both degrees, completing both programs in less time than they would need to complete them separately. See "Combined Programs" in each department's B.S.E. sections of the Catalog.

### **B.S.E. in Biomedical Engineering (Biomechanics and Biomaterials Track)/M.S. in Occupational and Environmental Health (Industrial Hygiene Subprogram)**

B.S.E. students majoring in biomedical engineering in the biomechanics and biomaterials track who are interested in earning a Master of Science in occupational and environmental health with an industrial hygiene subprogram may apply to the combined B.S.E./M.S. program offered by the College of Engineering and the College of Public Health. The combined program permits students to count a limited amount of credit toward the requirements of both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. See the M.S. in occupational and Environmental Health Undergraduate to Graduate (U2G) information on the Department of Occupational and Environmental Health (College of Public Health) website.

### **B.S.E. in Civil Engineering/M.S. in Urban and Regional Planning**

The College of Engineering and the School of Planning and Public Affairs offer the combined Bachelor of Science in Engineering in civil engineering/Master of Science in urban and regional planning. The program, which is completed in five years, is designed for students who wish to pursue a public or private sector career in planning, a field that encompasses the development of alternatives to improve the quality of life in cities and regions.

For additional information on the B.S.E. in civil engineering [p. 1602], see that section of the Catalog. For more information about the graduate degree, see the M.S. in urban and regional planning [p. 1787] (Graduate College) in the Catalog. Contact Engineering Student Services for information about applying to the combined program.

### **B.S.E. in Computer Science and Engineering/M.C.S.**

The College of Engineering and the Department of Computer Science (College of Liberal Arts and Sciences) offer a combined B.S.E. in computer science and engineering/Master of Computer Science for computer science and engineering undergraduate students.

The combined degree program allows students to count a limited amount of credit toward both degrees. For more information, see the Master of Computer Science, M.C.S. [p. 347] in the Catalog.

## **Honors**

### **Honors in Engineering**

Outstanding undergraduate students who demonstrate exceptional accomplishment through research, directed independent study, teaching internships, or other approved nondegree enrichment activities may graduate with honors in

engineering. They must maintain a University of Iowa g.p.a. of at least 3.33, complete an honors project with a faculty member, and participate in a college-wide honors seminar with faculty members and other honors students. Successful completion of the honors requirements leads to a B.S.E. with honors, which is noted on the student's transcript. See Engineering Honors Program on the College of Engineering website for details.

## University of Iowa Honors Program

In addition to honors in engineering, undergraduate students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

### Career Advancement

Engineering is a well-respected profession that is used as a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

# Roy J. Carver Department of Biomedical Engineering

## Chair

- Joseph M. Reinhardt

**Undergraduate major:** biomedical engineering (B.S.E.)

**Graduate degrees:** M.S. in biomedical engineering; Ph.D. in biomedical engineering

**Faculty:** <https://engineering.uiowa.edu/people/bme-people>

**Website:** <https://bme.engineering.uiowa.edu/>

The past half century has seen tremendous growth of technological activity in biology and medicine. As engineers increasingly have become involved with projects in the life and health sciences, biomedical engineering has emerged to bridge the gap between these sciences and engineering.

The Roy J. Carver Department of Biomedical Engineering fosters interdisciplinary activities across departments and colleges and maintains strong ties with the Carver College of Medicine and the Colleges of Dentistry, Nursing, and Public Health. The department strives to provide a well-rounded and superior engineering education that attracts outstanding students at both the undergraduate and graduate levels; to conduct high-quality research that enables faculty members and students to keep pace with and initiate new developments; and to serve government, industry, and institutions worldwide by making the department's facilities and faculty expertise accessible.

Department faculty members have teaching and research expertise in areas related to cardiovascular and fluid biomechanics, musculoskeletal biomechanics, biomaterials and tissue engineering, bioinstrumentation, biosystems, biomedical imaging, biological signal analysis, bioinformatics and computational biology, respiratory and pulmonary engineering, and other allied fields. Several faculty members have joint appointments with the Carver College of Medicine, the College of Dentistry, or the College of Public Health. Biomedical engineering undergraduates and graduate students collaborate with faculty members and their colleagues on research problems in the life and health sciences.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Biomedical Engineering (Bachelor of Science in Engineering) [p. 1564]

### Graduate Programs of Study

#### Majors

- Master of Science in Biomedical Engineering [p. 1568]
- Doctor of Philosophy in Biomedical Engineering [p. 1570]

## Facilities

### Undergraduate Teaching Laboratories

Seven dedicated undergraduate teaching laboratories are associated with the required and elective courses in biomedical engineering: the Bioimaging and Bioinformatics Laboratory; the Biomechanics and Biomaterials Laboratory; the Carver Biomechanics and Mechanobiology Laboratory; the Carver Cellular Engineering Laboratory; the Carver Medical Device Design Laboratory; the Senior Design Laboratory; and the Systems, Instrumentation, and Data Acquisition Laboratory.

#### Bioimaging and Bioinformatics Laboratory

The Bioimaging and Bioinformatics Laboratory provides computer and experimental equipment to allow students to become familiar with biomedical imaging hardware and software for biomedical image analysis. The laboratory has four lab benches with computers for teamwork, two desktop ultrasound machines, and two desktop magnetic resonance imaging devices. In addition, the lab has 12 sets of in-house-built optics laboratory kits that use light sources and semitranslucent objects to simulate basic x-ray physics. Students are introduced to concepts such as image magnification as it relates to source-object distance (SOD)/ source-image distance (SID), depth-dependent magnification, ideal point source versus parallel beam source effects, and projection image formation with lack of depth information artifacts. An instructor workstation and computer projector are available for presentations and software demonstrations. The lab is used primarily for the core course BME:2210 Bioimaging and Bioinformatics, the elective course BME:5210 Medical Imaging Physics, and for senior design projects.

#### Biomechanics and Biomaterials Laboratory

The Biomechanics and Biomaterials Laboratory is equipped to perform experiments relating to the cardiovascular and human musculoskeletal systems as well as the various properties of biomaterials. The laboratory houses a table-top material testing machine; two cone-and-plate viscometers; compact stress-strain devices for characterizing cardiovascular tissues; goniometers; human structures biomechanical modeling sets and associated sensors; digital still, video, and motion-capture cameras for kinematic analysis; a ski binding tester; a drop tower for impact testing; digital calipers; various skeletal/bone models; an assortment of hand tools; and dissecting tools. The lab is used for the course BME:2500 Biomaterials and Biomechanics, elective courses in cardiovascular and musculoskeletal biomechanics, and senior design projects.

#### Carver Biomechanics and Mechanobiology Laboratory

The Carver Biomechanics and Mechanobiology Laboratory (CBML) is a shared resource in the Roy J. Carver Department of Biomedical Engineering with a mission to enhance teaching, training, and research in the field of biomechanics and mechanobiology. Biomechanics and mechanobiology involve the study of how cells, fluids, tissues, and organs respond to physical forces. The lab contributes to the understanding of

cardiovascular disease, cancer metastasis, wound healing, medical device function, and stem cell therapies.

The lab houses a planar biaxial stress-strain test apparatus, a pulse duplicator apparatus for characterizing blood flow through mechanical and tissue heart valves, a micron-resolution particle image velocimetry (micro-PIV) system for quantifying flow and particle dynamics at the microscale, a stent crimper for characterizing vascular stent designs, a multimode plate reader for quantifying cell activity and extracellular matrix (ECM) remodeling, a lyophilizer for quantifying elastin and collagen content in soft tissue samples, a micromanipulator for performing micropipette aspiration studies, and a controlled microscope room for imaging live cells over long durations. The lab is used for courses in cardiovascular biomechanics and cellular engineering, other elective courses, and senior design projects.

### **Carver Cellular Engineering Laboratory**

This laboratory trains students in cell culture and biochemical analysis techniques as a foundation for future work in quantitative cell-based studies. Students learn basic cell culture techniques, protein and nucleic acid analysis, as well as techniques for studying the effects of engineered materials on cellular systems.

Major equipment in the lab includes laminar flow hoods, cell culture incubators, centrifuges, spectrophotometers, an ultracold freezer, protein and nucleic acid electrophoresis equipment, thermal cyclers, microscopes, an automated microplate reader, and various support apparatus used in cell-based studies. This teaching lab is used for the courses, BME:2400 Cell Biology for Engineers and BME:5421 Cell Material Interactions.

### **Carver Medical Device Design Laboratory**

The Carver Medical Device Design Laboratory provides a space for students to gather to collaborate on the design of medical implants, fixtures for testing such implants, and software for modeling, analyzing, and optimizing the function of these devices. Space and equipment are provided for progressing from a back-of-the napkin sketch to a finalized computer-aided design (CAD) model and through multiple iterations of physical prototypes.

A variety of tools and equipment are available such as a micro 24 laser system, a benchtop milling machine, a bandsaw and lathe, a soldering station, an expanded plasma cleaner, a micro pulse arc welder, and five computer workstations. The lab was established to serve students with an interest in medical device design and in required and elective courses in the areas of biomaterials, biomechanics (cardiovascular and musculoskeletal), and the senior design sequence.

### **Senior Design Laboratory**

The Senior Design Laboratory provides a collaborative atmosphere for student groups as they create working prototypes. It has computer workstations, project workspace, and storage space for the development of senior design projects. In addition, a variety of tools and equipment are available in the lab, including electronics measurement devices, soldering tools, Dremel tools, miscellaneous sample medical equipment, and other resources for students. It is used by students taking BME:4910 Biomedical Engineering Senior Design I and BME:4920 Biomedical Engineering Senior Design II.

### **Systems, Instrumentation, and Data Acquisition Laboratory**

The Systems, Instrumentation, and Data Acquisition Laboratory is equipped to measure biomedical variables of clinical and physiological interest, to design and build electronic instrumentation, and to conduct modeling experiments in physiology. The lab is designed to give practice in designing and building electronic circuits to measure, acquire, and analyze signals; and acquire and analyze images. It is used for the elective courses, BME:2200 Systems, Instrumentation, and Data Acquisition and BME:4710 Medical Device Design Studio, for biomeasurements and biological systems analysis, and senior design projects.

### **Research Facilities and Laboratories**

#### **Bioinformatics and Computational Biology Laboratory**

The Center for Bioinformatics and Computational Biology is wired for high-speed networking (100-megabit and gigabit ethernet, hardwired and wireless). It includes two dedicated Linux clusters, 126 computing systems, 178 CPUs, more than 20 terabytes of RAM, and 250 terabytes of disk space. Computer resources include a dedicated experimental, reconfigurable computer cluster of 18 Linux systems (36 CPUs) connected with a dedicated, switched, copper Gigabit Ethernet intranet and a second dedicated computer server cluster of 16 Linux systems (32 CPUs) connected with a dedicated, switched, fiber-optic Gigabit Ethernet intranet. An additional 78 computers are used as compute servers, web servers, database servers, file servers, workstations, laptops, and for other developmental and experimental needs.

#### **Biomechanics of Soft Tissues Laboratory**

The Biomechanics of Soft Tissues Laboratory (BioMOST) houses ViVitro Pulse duplicating left-heart simulating flow loop system, mechanical extension testers, durability testers for accelerated testing of valves, flow loop with programmable pump, resistors and compliance chambers, optical micrometer, a furnace for nitinol shape memory alloy stent fabrication, and the Vascular Simulations Replicator (a portable realistic angio-suite friendly blood flow simulator). The lab also houses high-end image and data processing workstations.

#### **Carver Laboratory for Regenerative Engineering and Translational Science**

The Carver Laboratory for Regenerative Engineering and Translational Science is a state-of-the-art multi-investigator wet laboratory devoted to cell and tissue-based research. The laboratory is a transformational space that enables the biomedical engineering faculty and students (graduate and undergraduate research assistants) to interact with one another by bringing together investigators with similar yet varying fields of study, all with an emphasis on cellular and tissue engineering. The laboratory has a direct impact on training graduate students and contributes to numerous research projects across campus. The laboratory has been designed to be responsive to current and future needs; to encourage interaction among engineers, scientists, and physicians from various disciplines; to help recruit and retain

qualified faculty and students; and to facilitate partnerships and development.

The laboratory is equipped with major equipment to synthesize and characterize biomaterials, including a chemical fume hood, rotary evaporator, freeze-dryer, rheometer, and several light-based curing systems. To enable growth, maintenance, and characterization of mammalian cells, the lab also houses biosafety cabinets, incubators, a transfection system, automated cell counter, low-volume spectrophotometer, microplate reader, thermal cyclers, quantitative polymerase chain reaction (PCR) instruments, electrophoresis units, and a gel imaging system. The dedicated microscope room includes an atomic force microscope and several fluorescent microscopes, which are equipped with confocal and live cell imaging capabilities.

## Collaborative Computational Laboratory

The Collaborative Computational Laboratory is a shared research computing resource. Research focus areas include computational fluid dynamics, medical image analysis, magnetic resonance imaging, machine learning, and artificial intelligence. Desktop computers, compute servers, and access to the campus research data storage and high performance computing cluster are available through the lab.

## Computational Biomolecular Engineering Laboratory

The Computational Biomolecular Engineering Laboratory, located in the Bowen Science Building, is a collaboration between the Roy J. Carver Department of Biomedical Engineering and the Department of Biochemistry and Molecular Biology. It includes eight workstations used to simulate biomolecular phenotypes in the context of understanding the genetics of hearing loss, rare renal diseases, and vision loss. Heavy use is made of the University of Iowa Argon compute cluster, including dedicated availability of 30 compute nodes, 50 Nvidia graphics processing units (GPUs), and 100 terabytes of backed-up storage. The lab distributes a high performance physics-based molecular simulation code called Force Field X (FFX) that is being used to produce a family of protein structures for genes associated with hearing loss, available in the Deafness Variation Database. The software also is being used to predict how pharmaceuticals crystalize (i.e., into drug tablets) and to understand their thermodynamic properties (e.g., solubility).

## Large Scale Digital Cell Analysis Laboratory

The Large Scale Digital Cell Analysis System (LSDCAS) is an automated microscopy system designed to perform non-perturbing live cell imaging. LSDCAS has been used in studies designed to determine mechanisms of cell death following treatment with anti-cancer therapies. Current studies involve the adaptation of the LSDCAS technology toward the development of automatic single-cell analysis techniques to be used in drug discovery. LSDCAS consists of two computer-controlled inverted Hoffman modulation contrast microscopes outfitted with environmental control chambers, motorized stages, shutters, focusing systems, and high-resolution digital camera systems.

LSDCAS is housed in a dedicated microscopy room that provides the dark environment necessary for systems that operate around the clock automatically recording cell growth and other phenomena. LSDCAS data is stored and analyzed

using a data center consisting of an 8 processor Linux server with 16 gigabytes of RAM, a 30 terabyte hardware RAID storage system, and a 30 terabyte robotic tape backup system. Web application software and many other programs provide robust analysis capabilities for the large variety of data produced by the system. The LSDCAS code base contains over one hundred thousand lines of program code developed over the past two decades to provide automatic single cell analysis capabilities of general interest in cell biology. In addition, the lab has equipment and technologies generally used in cell and molecular biology, including protein and nucleic acid gel electrophoresis analysis systems, real-time reverse transcription polymerase chain reaction (RT-PCR) systems, cell culture incubators, a laminar flow cell culture biosafety cabinet, a chemical fume hood, -80°C freezer, other refrigerators and freezers, an ice machine, water purification system, autoclave, and many other tools, reagents, and devices.

## Orthopedic Biomechanics Laboratory

The Orthopedic Biomechanics Laboratory occupies 20 rooms on the ground floor of Westlawn. It is configured primarily for macroscopic-level physical testing of musculoskeletal constructs (e.g., bones, articular joints, orthopedic implants) and for corresponding computational modeling. The physical testing area includes a multipurpose wet lab, a multipurpose dry lab, a surgical preparation room, a mechanical testing room, a machine shop, and a specimen storage area. The computational modeling area is arranged around eight separate workstation seats in two adjoining partially partitioned areas. Adjacent to these core operational areas are offices for faculty, research staff, students, and fellows; a secretarial/reception area; a conference room; and a library.

## Regenerative Engineering Laboratory

The Regenerative Engineering Laboratory inhabits over 1,000 square feet of the Pappajohn Biomedical Discovery Building. The lab is fully equipped to support research at the interface of materials, engineering, and cell biology. The Biosafety Level 2 (BSL-2) cell culture room in the lab has two Panasonic cell culture incubators, two Thermo Scientific biological safety cabinets, a fluorescent microscope, 37°C bead bath, and centrifuges. A separate four-color fluorescence microscope also is available. The fully automated Leica DMI6000 captures four-color fluorescence images at up to 63x magnification. A built-in z-motor and post-acquisition analysis software allows for the capture and analysis of three-dimensional z-stacks.

The chemistry part of the lab is equipped for biodegradable particle synthesis and analysis. In addition to a fume hood, sink, and laboratory counters, the lab has an analytical grade Mettler Toledo XS64 balance, water bath sonicator, homogenizer, syringe pumps, and a LabConco -86°C Cascade Lyophilizer. To support long term storage of the reagents required for the molecular biology and chemistry portions of the lab, a variety of cold storage options are available including 4°C, -20°C, -80°C, and -130°C.

## Spine Biomechanics Research Laboratory

The Spine Biomechanics Research Laboratory is equipped for interdisciplinary research. The lab's MTS Bionix servohydraulic testing equipment (with extended columns) permits application of uniaxial tension or compression together with axial torsion under displacement or load control. The lab also has a fully automated three-dimensional motion measuring system. These devices are used to test mechanical

properties of biomechanical joints and tissues, and for biomechanical evaluation of the performance of surgical treatment modalities. Other equipment includes digital cameras, surgical tools, and sensors (i.e., linear variable differential transformers, six-degrees-of-freedom load cell, pressure transducers, digital inclinometers).

A biaxial biomechanical culture system is available for application of controlled compression and/or shear forces onto the intervertebral disc during culture in order to investigate the disc's biological responses to mechanical loads. This culture system is used in conjunction with an incubator in which cells and tissues can be cultured. Basic equipment for histology and immunohistochemical analyses includes a microtome, ovens, a microscope, and glassware for chemical processes.

## Courses

### Biomedical Engineering Courses

For current and planned course offerings, visit MyUI on the University of Iowa website.

These advanced courses are offered infrequently depending on the research focus of currently enrolled graduate students: BME:6110 Mechanics of Cells and Cellular Systems, BME:6415 Advanced Biomechanics and Modeling of Soft Tissues, and BME:6610 Spine Mechanics.

#### **BME:0000 Biomedical Engineering Internship/Co-op** 0 s.h.

Biomedical engineering students participating in the Cooperative Education Program register for this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

#### **BME:1010 First-Year Forum** 1 s.h.

Presentations by faculty, graduate students, collaborators from the Carver College of Medicine, and Colleges of Dentistry and Law; may include visits to laboratories and industries.

#### **BME:2010 Professional Seminar: Biomedical Engineering** 1 s.h.

Professional aspects of biomedical engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Requirements: sophomore or higher standing.

#### **BME:2200 Systems, Instrumentation, and Data Acquisition** 4 s.h.

Introduction to engineering art and science of modeling, acquisition, and analysis of data collected from living systems; modeling of physiological and biological systems; concepts of analog circuit design, with emphasis on circuits for collecting data for biomedical applications using operational amplifiers, active filters, conversion, and interface to microcomputers; patient safety; clinical circuits; analysis of data using time domain and Fourier domain techniques and models; time domain sampling, and Nyquist sampling theorem. Prerequisites: ENGR:2120. Corequisites: HHP:3500, and BIOS:4120 or STAT:3510.

#### **BME:2210 Bioimaging and Bioinformatics** 4 s.h.

Introduction to bioinformatics and biomedical imaging; computer algorithms, machine learning, databases and SQL, the web and web servers, ethics, computer security, genome technology, public warehouses of biological data; medical imaging hardware and software for acquisition and analysis of medical images, especially those collected from X-ray, CT, MR, and ultrasound systems; medical imaging system physics, including interaction of energy with tissue, concepts of image spatial and temporal resolution; applications of filtering, enhancement, and image processing for analysis of medical images. Prerequisites: ENGR:1300 and BIOL:1411. Corequisites: BIOS:4120 or STAT:3510.

#### **BME:2400 Cell Biology for Engineers** 3 s.h.

Introduction to fundamental concepts in quantitative cell biology from an engineering perspective. Prerequisites: BIOL:1411. Corequisites: BIOS:4120 or STAT:3510.

#### **BME:2500 Biomaterials and Biomechanics** 4 s.h.

Introduction to mechanics and materials in biological systems; principles of mechanics (stress, strain, motion, fluid flow) presented and used to characterize behavior of biological entities (tendon/ligament, bone and cartilage, blood, blood vessels, heart); principles of material science; role of biomaterials (metals, polymers, ceramics) in medical devices. Prerequisites: ENGR:2110. Corequisites: HHP:3500, and BIOS:4120 or STAT:3510.

#### **BME:2710 Engineering Drawing, Design, and Solid Modeling** 3 s.h.

Introduction to methods and principles used by engineers to define and describe geometry and topology of engineered components; use of Parametric Technology's Creo Pro (formerly ProEngineer) 3D computer-aided design software; emphasis on elements of design; basic commands used in parametric design to develop spatial visualization skills and the ability to create and understand 3D solid parametric design for assembly and 3D drawing documentation; creation of 3D assemblies and detailed drawings from art of design to part utilization of solid modeling techniques.

#### **BME:3010 Leadership and Resourcefulness** 1 s.h.

Development of leadership skills and resourcefulness for real-world professional work and life. Requirements: completion of BME:1010 and two semesters of BME:2010.

#### **BME:3710 Medical Device Design: The Fundamentals** 3 s.h.

Introduction to medical device design process; project-based; development of prototyping and fabrication skills needed for engineering design projects, safety, communication, and teamwork; focus on physical rehabilitation science and assistive technologies; preparation for senior design course sequence. Prerequisites: BME:2500 and BME:2710. Requirements: junior standing.

#### **BME:3998 Individual Investigations: Biomedical Engineering** arr.

Individual projects for biomedical engineering undergraduate students, such as laboratory study, engineering design projects, analysis and simulation of an engineering system, computer software development, research.



- BME:4310 Computational Biochemistry** 3 s.h.  
Introduction to biomolecular modeling and computer simulation techniques; biomolecular structure and molecular driving forces; principles of structural optimization and conformational sampling; applications to biomolecular phenotypes; scripting and molecular visualization in PyMol, setting up and running molecular dynamics simulations using VMD and NAMD, performing refinement of X-ray diffraction data sets using Phenix, and executing Poisson-Boltzmann electrostatic calculations using APBS. Prerequisites: (MATH:1560 or MATH:1860) and CHEM:1120. Recommendations: BMB:3110 or BMB:3120. Same as BMB:4310.
- BME:4314 Introduction to Synthetic Biology in the Lab** 4 s.h.  
Introduction to theory and practice of large-scale design goals of synthetic biology in which various types of DNA instructions, known from decades of research and discovery on specific biological systems, are taken out of context and used to execute various novel tasks designed to solve real-world problems; basic laboratory instruction in standardized construction techniques for stringing together off-the-shelf DNA components that are then introduced into organisms capable of executing the instructional set; controlled experiments to investigate the degree of variability exhibited by engineered genetic constructs. Prerequisites: BIOL:1411. Same as BIOL:4314.
- BME:4710 Medical Device Design Studio** 3 s.h.  
Intermediate medical device design geared towards electro-mechanical design and techniques; builds on foundational knowledge acquired in BME:3710 and BME:2200; focus on advanced prototyping skills including solid modeling, proper electrical component selection, integrating electrical components into hardware design, and testing electro-mechanical device against industry standards. Prerequisites: BME:2200 and BME:2500 and BME:2710 and BME:3710.
- BME:4910 Biomedical Engineering Senior Design I** 4 s.h.  
Individual or group work on a creative design project involving current problems in biomedical engineering; interdisciplinary projects involving biomedical engineering and health sciences faculty members; first semester of a year-long senior capstone design project. Prerequisites: BIOS:4120 or STAT:3510. Requirements: senior standing.
- BME:4920 Biomedical Engineering Senior Design II** 4 s.h.  
Second semester of a year-long senior capstone design project begun in BME:4910. Prerequisites: BME:4910.
- BME:5010 Seminar in Biomedical Engineering** 0 s.h.  
Presentation of recent advances in biomedical engineering. Requirements: graduate standing.
- BME:5101 Biomaterials and Implant Design** 3 s.h.  
Introduction to material and mechanical considerations underlying a broad range of medical implants; emphasis on understanding factors involved in orthopedic device design; major classes of biomaterials; considerations that underlie implant design, use, failure; contemporary areas of biomaterials and implant development. Prerequisites: ENGR:2750 and BME:2500.
- BME:5200 Biomedical Signal Processing** 3 s.h.  
Application of signal processing methods (e.g., Fourier, Laplace, z-transforms) to biomedical problems, such as analysis of cardiac signals, circadian rhythm, the breathing cycle; computer simulation lab. Same as IGPI:5212.
- BME:5210 Medical Imaging Physics** 3 s.h.  
Physics and data acquisition techniques of major medical imaging modalities (X-ray, CT, MR, ultrasound, PET, SPECT); physical interactions of energy with living tissue; principles and methods for acquiring imaging data and subsequent image construction; how individual modalities influence image quality; MATLAB programming required. Second in a medical imaging sequence. Prerequisites: BME:2200 and BME:2210. Same as ECE:5470, IGPI:5206.
- BME:5251 Advanced Biosystems** 3 s.h.  
Biological systems unique to systems analysis; operation under nonequilibrium conditions; tools for systems analysis developed from models of systems at equilibrium (i.e., mechanical systems); fundamental difference between biological and mechanical systems that impact systems analysis; expand knowledge of linear systems and begin work with nonlinear systems; various modeling and analysis approaches useful in biomedical and biomedical engineering research. Prerequisites: BME:2200. Same as IGPI:5251.
- BME:5335 Computational Bioinformatics** 3 s.h.  
Introduction to computational methods used in genomics, genome analysis, biological sequence analysis, sequence database search, expression analysis, and biological network analysis; in-depth coverage of principal genome science challenges and contemporary solutions. Prerequisites: (BIOS:4120 or STAT:2020 or STAT:3510) and (CS:5110 or ENGR:1300).
- BME:5340 Contemporary Topics in Biomedical Engineering** 3 s.h.  
New and emerging areas of biomedical engineering and related fields; specific content varies.
- BME:5421 Cell Material Interactions** 3 s.h.  
Current thought and techniques in the engineering and assessment of biomaterials. Prerequisites: BME:2400.
- BME:5430 Biotransport** 3 s.h.  
Energy, mass, and momentum transport in living systems; processes essential for understanding how physiological systems function from molecular level through scale of tissues and organs; fluid mechanics and physiological flows, mass transport, biochemical kinetics and reactions, bioheat transfer; conservation laws; various biological applications. Prerequisites: BME:2500.
- BME:5435 Systems Biology for Biomedical Engineering** 3 s.h.  
Although systems biology is comprised of both experimental and computational aspects, focus is on computational aspects; introduction to deterministic models of biochemical reaction networks; development and application of mathematical models of reaction networks using systems of nonlinear ordinary differential equations; numerical techniques employed to study system stability and perform simulations in realistic biological contexts. Prerequisites: BME:2400 and BME:2200.
- BME:5441 Numerical and Statistical Methods for Bioengineering** 3 s.h.  
Mathematics and computation as indispensable tools needed to model and explain complex phenomena relevant to biomedical engineering problems; introduction to concepts from linear algebra, differential equations, probability and statistics, nonlinear model regression, optimization, numerical integration, and other numerical methods, all using Matlab. Prerequisites: MATH:2560 and MATH:2550.

**BME:5445 Stem Cells in Regenerative Engineering 3 s.h.**

Discovery and history of stem cells, how they are defined and grouped, and various techniques for their isolation, creation, culture, and characterization; focus on current state of stem cells in medical research and treatment of human disease, as well as future outlook of their use; particular emphasis placed on practical knowledge that students may find useful as they pursue careers in cellular and tissue engineering. Prerequisites: BME:2400 or BIOL:2723.

**BME:5451 Research Methods in Cellular Engineering 3 s.h.**

Statistical approaches and principles of assays routinely used in cell engineering; design of experiments and statistical approaches commonly used to analyze biological data including t-tests and one- and two-way ANOVAs, taking into consideration the constraints of cellular engineering research; students design, execute, and analyze data collected from actual experiments; review of recently published literature and analysis of public data sets to understand how each assay and test contributes to understanding of cellular phenotype. Prerequisites: BIOL:1411 and (STAT:3510 or BIOS:4120).

**BME:5460 Principles of Microfluidics 3 s.h.**

Microfluidics (i.e., lab-on-a-chip) has become a powerful tool for biomedical research; examination of history, theory, design, fabrication, and function of microfluidic systems; state-of-the-art technologies and real-life biomedical applications; microfluidic-related career opportunities in academia and industry; hands-on fabrication and operation of microfluidic devices. Prerequisites: BME:2500.

**BME:5510 Cardiovascular Engineering 3 s.h.**

Mechanics—forces and motion—at the heart of the cardiovascular system; fluid and solid mechanics inherent to the motion of the heart, valves, arteries, and veins, and how they facilitate the flow of blood; how to use mechanics to understand and diagnose the severity of cardiovascular disease states and to design implants and devices. Prerequisites: BME:2500.

**BME:5525 Cardiopulmonary Design and Modeling 3 s.h.**

Cardiac and pulmonary systems central to all aspects of human health and diseases that affect these systems can have deadly consequences; physiologic fluid mechanics critical to tissue/organ function, transport, homeostasis, and disease progression; diseases that afflict cardiopulmonary system; focus on role of fluid mechanics in how diseases develop, progress, and are treated; use of computational modeling tools to simulate disease conditions and understand challenges of designing devices and interventions. Prerequisites: ENGR:2510 and BME:2500.

**BME:5530 Design of Circulatory Implants and Artificial Organs 3 s.h.**

Exploration of current innovations and new technologies; examination of various devices currently on the market from a standpoint of design variables and objectives (i.e., stents, heart valves, dialyzers, VADs, artificial organs); biomedical engineers' vital role in design and improvement of these implants. Prerequisites: BME:2500 and BME:5510.

**BME:5540 Quantitative Studies of Respiratory and Cardiovascular Systems 3 s.h.**

Quantitative physiological aspects of respiratory and cardiovascular systems; classical models of these systems are considered including lumped element models, branching tree structures, and distributed parameter models to predict wave propagation in compliant walled tubes filled with compressible or incompressible fluids; development of extensive computer models to simulate the behavior of these systems in frequency- and time-domains, under various conditions of health and disease. Prerequisites: BME:2200 and HHP:3500.

**BME:5610 Musculoskeletal Biomechanics 3 s.h.**

Principles of solid mechanics applied to analytical, experimental investigation of biological systems; emphasis on applications in kinesiology of human musculoskeletal system. Prerequisites: BME:2500 and ENGR:2750.

**BME:5620 Introduction to Applied Biomedical Finite Element Modeling 3 s.h.**

Introduction to finite element modeling as applied to biomechanics-related applications. Prerequisites: ENGR:2750 and BME:2500.

**BME:5630 Kinetics of Musculoskeletal Systems 3 s.h.**

Principles of kinematics; kinetics applied to analytical and experimental investigation of musculoskeletal systems; mathematical foundations for kinematic and kinetic analyses; examples of mathematical modeling of human movements. Prerequisites: ENGR:2710.

**BME:5640 Ergonomics of Occupational Injuries 3 s.h.**

Epidemiology, surveillance systems, ergonomics, biomechanics, physiology, psychology, legal aspects, and cost control. Prerequisites: BME:2500. Corequisites: ENGR:2750.

**BME:5715 Advanced Medical Device Design Studio 3 s.h.**

Continuation of BME:3710 and BME:4710; biomedical engineering project based; focus on advanced prototyping and manufacturing techniques of mechanical and electromechanical medical devices; implementation of design controls and testing to medical industry standards for quality and safety; development of project management skills and communication within a team; final course in medical device design sequence. Prerequisites: BME:2200 and BME:2500 and BME:2710 and BME:3710 and BME:4710.

**BME:5720 Optimization of Structural Systems 3 s.h.**

Advanced topics; optimization of structural topology, shape, and material; finite dimensional dynamic response optimization, sensitivity analysis, distributed parameter systems; projects. Same as CEE:5236.

**BME:5998 Individual Investigations: Biomedical Engineering arr.**

Individual projects for biomedical engineering graduate students, such as laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

**BME:5999 Research: Biomedical Engineering M.S. Thesis arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of the requirements for the M.S. with thesis in biomedical engineering. Requirements: graduate standing.

**BME:6110 Mechanics of Cells and Cellular Systems** **3 s.h.**

Mechanics of cells; focus on cellular mechanical properties, responses to mechanical stimuli, cellular forces and measurement, and computational tools; cellular environment considered with implication to disease pathologies and medical device design considerations.

**BME:6225 Communicating Science** **3 s.h.**

Writing and speaking about biomedical engineering and science research; key principles of writing with clarity and cohesion; practice applying these principles on a piece of research writing students are currently working on; review of best practices for presenting research to peers and at conferences; students share their work with peers through writing and presentations.

**BME:6230 Principles of Magnetic Resonance Imaging** **3 s.h.**

MRI is a powerful and versatile imaging modality capable of providing a wide variety of contrast mechanisms and visualizing soft tissues in detail; principles of MRI from a signal processing perspective; MATLAB programming, literature readings, final project, visits to MRI research scanner facility, guest lectures from leading MRI experts; MRI concepts, interpretation of commonly used pulse sequences in clinical MRI, and emerging trends in MRI. Prerequisites: BME:5210 or BME:5200 or ECE:5460. Recommendations: familiarity with digital signal processing.

**BME:6415 Advanced Biomechanics and Modeling of Soft Tissues** **3 s.h.**

Application of continuum mechanics and modeling to study of biological tissues and biomaterials.

**BME:6610 Spine Mechanics** **3 s.h.**

Biomechanics applied to mechanics of the human spine; clinical aspects; state-of-the-art in spine research; basic engineering principles for biomechanical analysis. Prerequisites: BME:5610.

**BME:6630 Human Response to Vibration** **3 s.h.**

Exploration of the human body, a complex mechanism exposed to mechanical shock and vibration from many sources, under many conditions; interactions and applicable exposure standards, effects of whole-body and hand-arm vibration. Requirements: graduate standing in College of Engineering or College of Public Health.

**BME:7999 Research: Biomedical Engineering Ph.D. Dissertation** **arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. with thesis in biomedical engineering.

# Biomedical Engineering, B.S.E.

The major in biomedical engineering builds on the foundation provided by the B.S.E. core requirements, preparing students for the challenges and opportunities associated with careers in the profession.

## Focus Areas

All B.S.E. students complete a focus area within their chosen major. Students majoring in biomedical engineering select one of four preapproved focus areas: bioimaging, biomechanics and biomaterials, cellular engineering, or computational bioengineering. Each focus area may be designated pre-medicine by completing a specific set of electives.

### Bioimaging

Bioimaging represents the acquisition, processing, and visualization of structural or functional images of living systems. Medical imaging and image processing are integral to the extraction of anatomical and biological information from the systems level down to the molecular level with the goal of clinically seeking to reveal, diagnose, or examine diseases, as well as to the study of normal anatomy and physiology.

### Biomechanics and Biomaterials

Biomechanics is the study of structure and function. It is the application of principles from classical mechanics to problems in biological systems. This focus area emphasizes cardiovascular and/or musculoskeletal biomechanics. The study of biomaterials plays an important role in the design of implants and surgical instrumentation for both cardiovascular and musculoskeletal applications.

### Cellular Engineering

Cellular engineering involves the application of engineering principles to problems in cellular and molecular biology, particularly as they relate to human health. The goal of this focus area is to equip students with the quantitative tools necessary to understand, manipulate, and control cellular and subcellular processes for a range of biomedical applications, including those related to stem cells, tissue engineering, and regenerative medicine.

### Computational Bioengineering

Computational bioengineering is an interdisciplinary field that develops methods and software tools for modeling and understanding biological data and systems that are typically represented by large amounts of data. Computational bioengineering is a combination of computer science, statistics, informatics, and engineering to analyze and interpret biological and genomic data. It is used for the identification of candidate genes to better understand the genetic basis of disease, unique adaptations, and differences between populations.

## Educational Objectives

The department provides undergraduate students with a contemporary education in a multidisciplinary field of engineering. Its objective is to produce graduates who:

- advance the biomedical field through the responsible analysis and design of devices, systems, processes, and policies that improve human health;
- pursue a wide range of career options, including those in industry, academia, and medicine; and
- collaborate on multidisciplinary teams and become leaders in their chosen field.

## Requirements

The Bachelor of Science in Engineering with a major in biomedical engineering requires a minimum of 131 s.h. of credit; students within this major typically complete 133-134 s.h. Students must have a g.p.a. of at least 2.00 in all college work used to satisfy degree requirements as well as on all coursework attempted at the University of Iowa.

All B.S.E. students are required to take the same collegiate curriculum. For information about these collegiate requirements, see the Bachelor of Science in Engineering, B.S.E. [p. 1551] in the Catalog. Students completing the major in biomedical engineering fulfill the collegiate statistics requirement by completing BIOS:4120 Introduction to Biostatistics or STAT:3510 Biostatistics.

The program has been designed carefully to enable students to satisfy the entrance requirements of the Graduate [p. 1687] College. Students whose choice of electives includes a three-course sequence in organic chemistry, an additional biology course, and a biochemistry course may satisfy entrance requirements of the Carver College of Medicine [p. 1830], the College of Dentistry [p. 1331], or the allied health sciences.

The major in biomedical engineering requires the following coursework.

Code	Title	Hours
	Collegiate Curriculum	50
	Major Requirements	48
	Focus Area	33-34
<b>Total Hours</b>		<b>131-132</b>

## Major Requirements

Major requirements include a set of common courses (38 s.h.), two departmental seminars (2 s.h.), and two capstone design courses (8 s.h.).

Students in the bioimaging or computational bioengineering focus areas may choose between ENGR:2130 Thermodynamics or ENGR:2995 Introduction to Artificial Intelligence and Machine Learning in Engineering.

Code	Title	Hours
All of these:		
BME:2200	Systems, Instrumentation, and Data Acquisition (with lab)	4
BME:2210	Bioimaging and Bioinformatics (with lab)	4
BME:2400	Cell Biology for Engineers (with lab)	3
BME:2500	Biomaterials and Biomechanics (with lab)	4
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
ENGR:2110	Statics	2

ENGR:2120	Electrical Circuits	3
ENGR:2130	Thermodynamics	3
HHP:3500	Human Physiology	3
PHYS:1612	Introductory Physics II (with lab)	4

## Departmental Seminars

Code	Title	Hours
Both of these:		
BME:1010	First-Year Forum	1
BME:2010	Professional Seminar: Biomedical Engineering	1

## Capstone Design Courses

Code	Title	Hours
Both of these:		
BME:4910	Biomedical Engineering Senior Design I	4
BME:4920	Biomedical Engineering Senior Design II	4

## Focus Area

Students must select focus area courses according to guidelines established by the Roy J. Carver Department of Biomedical Engineering. Biomedical engineering students choose one of four preapproved focus areas: bioimaging [p. 1565], biomechanics and biomaterials [p. 1565], cellular engineering [p. 1566], or computational bioengineering [p. 1566]. For details about focus areas and their requirements, visit Focus Areas on the department's website.

Each focus area has a group of four required courses (12-13 s.h.) and a list of suggested electives (21 s.h.).

## Pre-Medicine Focus Area Electives

Any focus area may be designated pre-medicine by taking the following focus area electives.

Code	Title	Hours
All of these:		
BMB:3110	Biochemistry	3
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
CHEM:2220	Organic Chemistry II	3
CHEM:2410	Organic Chemistry Laboratory	3

**Total Hours** **16**

## Bioimaging

### Required Courses

Code	Title	Hours
All of these:		
BME:5210/ ECE:5470/IGPI:5206	Medical Imaging Physics	3
ECE:3330/IGPI:3330	Introduction to Software Design	3
ECE:5480/IGPI:5480	Digital Image Processing	3
ENGR:2730	Computers in Engineering	3

## Bioimaging Electives

Code	Title	Hours
Two of these:		
BME:5200/ IGPI:5212	Biomedical Signal Processing	3
BME:5251/ IGPI:5251	Advanced Biosystems	3
ECE:5330/IGPI:5331	Graph Algorithms and Combinatorial Optimization	3
ECE:5450/IGPI:5450	Machine Learning	3
ECE:5490	Multi-Dimensional Image Analysis Tools and Techniques	3

## Additional Electives

Code	Title	Hours
At least 15 s.h. from these:		
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
ECE:5460/IGPI:5460	Digital Signal Processing	3
MATH:3800/ CS:3700	Introduction to Numerical Methods	3
Additional courses from the "Bioimaging Electives" list above		3
Courses from the "Pre-Medicine Focus Area Electives" list		3-4
Additional courses with advisor approval		3

## Biomechanics and Biomaterials

### Required Courses

Code	Title	Hours
All of these:		
ENGR:2510	Fluid Mechanics	4
ENGR:2710	Dynamics	3
ENGR:2720	Materials Science	3
ENGR:2750	Mechanics of Deformable Bodies	3

## Biomechanics and Biomaterials Electives

Code	Title	Hours
Two of these:		
BME:2710	Engineering Drawing, Design, and Solid Modeling	3
BME:5101	Biomaterials and Implant Design	3
BME:5510	Cardiovascular Engineering	3
BME:5525	Cardiopulmonary Design and Modeling	3
BME:5610	Musculoskeletal Biomechanics	3

## Additional Electives

Code	Title	Hours
At least 15 s.h. from these:		
BME:3710	Medical Device Design: The Fundamentals	3
BME:4710	Medical Device Design Studio	3

BME:5340	Contemporary Topics in Biomedical Engineering	3
BME:5421	Cell Material Interactions	3
BME:5430	Biotransport	3
BME:5460	Principles of Microfluidics	3
BME:5540	Quantitative Studies of Respiratory and Cardiovascular Systems	3
BME:5620	Introduction to Applied Biomedical Finite Element Modeling	3
BME:5630	Kinetics of Musculoskeletal Systems	3
BME:5715	Advanced Medical Device Design Studio	3
HHP:1100	Human Anatomy	3
HHP:4130	Skeletal Muscle Physiology	3
HHP:4460	Cardiovascular Physiology	3
ISE:2360 or ME:2300	Design for Manufacturing Manufacturing Processes	3
ME:4110/CEE:4515	Computer-Aided Engineering	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5150/CEE:5540	Intermediate Mechanics of Deformable Bodies	3
ME:5160/CEE:5369	Intermediate Mechanics of Fluids	3
ME:5167/CEE:5137	Composite Materials	3
	Additional courses from the "Biomechanics and Biomaterials Electives" list above	3
	Courses from the "Pre-Medicine Focus Area Electives" list	3-4
	May include one of these:	
CEE:4533/IGPI:4115	Finite Element I	3
ME:4117	Finite Element Analysis	3

## Cellular Engineering

### Required Courses

Code	Title	Hours
All of these:		
BME:5421	Cell Material Interactions	3
BME:5430	Biotransport	3
BME:5435	Systems Biology for Biomedical Engineering	3
ENGR:2750	Mechanics of Deformable Bodies	3

### Cellular Engineering Electives

Code	Title	Hours
Two of these:		
BME:4310/ BMB:4310	Computational Biochemistry	3
BME:5441	Numerical and Statistical Methods for Bioengineering	3
BME:5445	Stem Cells in Regenerative Engineering	3
BME:5451	Research Methods in Cellular Engineering	3
ECE:5480/IGPI:5480	Digital Image Processing	3

## Additional Electives

Code	Title	Hours
At least 15 s.h. from these:		
BME:5460	Principles of Microfluidics	3
BME:5525	Cardiopulmonary Design and Modeling	3
BIOL:2512	Fundamental Genetics	4
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3
ENGR:2510	Fluid Mechanics	4
ENGR:2710	Dynamics	3
ENGR:2720	Materials Science	3
ENGR:2730	Computers in Engineering	2-3
ME:5179/CEE:5179	Continuum Mechanics	arr.
	Additional courses from the "Cellular Engineering Electives" list above	3
	Courses from the "Pre-Medicine Focus Area Electives" list	3-4

## Computational Bioengineering

### Required Courses

Code	Title	Hours
All of these:		
BME:4310/ BMB:4310	Computational Biochemistry	3
BME:5335	Computational Bioinformatics	3
ECE:3330/IGPI:3330	Introduction to Software Design	3
ENGR:2730	Computers in Engineering	3

### Computational Bioengineering Electives

Code	Title	Hours
Two of these:		
ECE:5330/IGPI:5331	Graph Algorithms and Combinatorial Optimization	3
ECE:5450/IGPI:5450	Machine Learning	3
ECE:5820/CS:5820	Software Engineering Languages and Tools	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering (may not count as an elective if taken in place of ENGR:2130 to fulfill major requirements)	3

## Additional Electives

Code	Title	Hours
At least 15 s.h. from these:		
ANTH:2320/ GHS:2320	Origins of Human Infectious Disease	3
BIOL:2512	Fundamental Genetics	4
BIOL:3314/ IGPI:3314	Genomics	3
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	2,4

CHEM:5431	Statistical Thermodynamics I	3
CHEM:5436/ IGPI:5436	Electronic Structure and Informatics in Chemistry	3
CS:3330	Algorithms	3
CS:5350	Design and Analysis of Algorithms	3
ECE:5800/CS:5800	Fundamentals of Software Engineering	3
Additional courses from the "Computational Bioengineering Electives" list above		3
Courses from the "Pre-Medicine Focus Area Electives" list		3-4

## Combined Programs

### B.S.E./M.S. in Biomedical Engineering

The College of Engineering offers a combined Bachelor of Science in Engineering/Master of Science for biomedical engineering undergraduate students who intend to earn a M.S. in biomedical engineering. Students admitted to this program are allowed to apply three engineering courses (9 s.h.) towards both the B.S.E. and M.S. degree requirements, take an additional 3 s.h. of graduate coursework before completing their B.S.E., and attend and participate in the departmental graduate seminar. Students may begin to work on their coursework or master's thesis starting as early as the summer following the junior year of undergraduate studies.

Students applying to the B.S.E./M.S. program in biomedical engineering must meet the following criteria at the time of application:

- a minimum of 80 s.h. completed towards their B.S.E. degree,
- a cumulative g.p.a. of 3.50 or higher, and
- identification of a thesis or project mentor.

### B.S.E./M.P.H. (Occupational and Environmental Health Subprogram)

The combined B.S.E. in biomedical engineering/M.P.H. with the occupational and environmental health subprogram enables undergraduate students majoring in biomedical engineering to begin work toward the M.P.H. degree while completing their bachelor's degree. Students may count 15 s.h. of credit toward both the B.S.E. and the M.P.H. degree requirements. See the Master of Public Health, M.P.H. [p. 2078] (occupational and environmental health subprogram) in the Catalog.

### B.S.E./M.S. in Electrical and Computer Engineering

B.S.E. students majoring in biomedical engineering who are interested in earning a Master of Science in electrical and computer engineering may apply to the combined B.S.E./M.S. program offered by the College of Engineering. The combined program permits students to count a limited amount of credit toward the requirements of both degrees. See the M.S. in electrical and computer engineering [p. 1638] in the Catalog.

### B.S.E. (Biomechanics and Biomaterials Track)/M.S. in Occupational and Environmental Health (Industrial Hygiene Subprogram)

B.S.E. students majoring in biomedical engineering in the biomechanics and biomaterials track who are interested in earning a Master of Science in occupational and environmental health with an industrial hygiene subprogram may apply to the combined B.S.E./M.S. program offered by the College of Engineering and the College of Public Health. The combined program permits students to count a limited amount of credit toward the requirements of both degrees, enabling them to begin the study of public health before they complete the bachelor's degree. See the M.S. in occupational and environmental health Undergraduate to Graduate (U2G) information on the Department of Occupational and Environmental Health (College of Public Health) website.

## Career Advancement

B.S.E. graduates with a major in biomedical engineering may pursue career opportunities in biomedical industries, such as design and development of biomedical instrumentation, diagnostic aids, life support systems, prosthetic and orthotic devices, and man-machine systems; or they may pursue traditional career opportunities in industry, such as those rooted in mechanical or electrical engineering disciplines. Other career options are available in government (Food and Drug Administration, Environmental Protection Agency, National Institutes of Health, Veterans Affairs). Some biomedical engineering graduates elect to continue formal education in engineering, medicine, or law. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

# Biomedical Engineering, M.S.

Graduate study in biomedical engineering prepares students to use contemporary methods at an advanced level during a professional career in engineering design, development, and research.

Each student's course of study is based on individual background, career objectives, and sound academic practice. An individual program for each student may be developed from courses offered by the Roy J. Carver Department of Biomedical Engineering and other departments, especially mechanical engineering, electrical engineering, physiology, mathematics, and biological sciences. Students who want a more general program may combine emphases, while those who want some specialization in a particular field can achieve their goals through the combination of departmental courses and appropriate electives from other departments in the College of Engineering and the University.

## Learning Outcomes

By completing the graduate curriculum in biomedical engineering, students will be able to:

- demonstrate broad knowledge of the field of biomedical engineering and deep knowledge in their specific area of study;
- communicate complex technical ideas concisely and effectively to both general and specialized audiences through verbal, visual, and written formats;
- formulate research questions, pose testable hypotheses, employ methods that enhance reproducibility of research, and apply critical thinking skills to produce solutions to complex engineering problems that intersect with biology and human health; and
- operate with professionalism and under standards of ethical conduct.

## Requirements

The Master of Science program in biomedical engineering requires a minimum of 30 s.h. of graduate credit, with or without thesis. Students who choose the nonthesis program must earn at least 6 s.h. of credit in courses numbered 5000 or above. Those who choose the thesis program may count no more than 6 s.h. of thesis research and writing credit toward the degree. Students must maintain a cumulative g.p.a. of at least 2.75 in all work for the degree. The M.S. may be a terminal degree or a step toward the Ph.D.

A tentative plan of study for each student is determined through consultation with an advisor. An M.S. committee of at least three graduate faculty members, including at least two on the biomedical engineering faculty, is appointed by the dean of the Graduate College. A student's plan of study is reviewed by the committee before the student has completed 18 s.h. of coursework. The plan of study then is submitted for review to the department chair. All students must successfully complete the final examination administered by their committee.

All M.S. students (thesis or nonthesis) must successfully complete the Graduate Core Courses as part of their graduate curriculum. Students are expected to complete them during their first year of study. Additionally, students are required to

complete 18 s.h. of graduate-level coursework in the College of Engineering over the course of their studies. B.S.E./M.S. fast track students may include courses taken during year four and/or year five.

## Graduate Core Courses

Code	Title	Hours
ENGR:7270	Engineering Ethics	1
HHP:3500	Human Physiology	3
ME:5113	Mathematical Methods in Engineering (or equivalent graduate mathematics course; approval of academic advisor required before registering)	3

Depending upon a student's performance in Graduate Core Courses and the nature of their research project, the student's examining committee may specify additional coursework to be completed to satisfy the Graduate Core Courses requirement.

Graduate Core Courses may be substituted by other equivalent courses at the discretion of the student's examining committee. Equivalent coursework taken as part of a student's undergraduate or graduate studies prior to starting the M.S. program at the University of Iowa may satisfy one or more of the Graduate Core Courses requirements. Students who wish to request a substitution or a waiver of HHP:3500 Human Physiology must submit a core course substitution or waiver form. Forms may be obtained from the graduate program coordinator.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants who have earned a baccalaureate or postbaccalaureate degree in engineering or in the mathematical or physical sciences with a g.p.a. of at least 3.00 are eligible to be considered for admission to the Master of Science program.

Reference letters, research interests, previous graduate grade-point average, and other factors may be considered in admission decisions.

## Financial Support

Research assistant positions are available on a variety of research projects, and a limited number of teaching assistant positions may be available. Selection of recipients is usually based on scholastic achievement and research interest. These awards may be made on a semester, academic year, or calendar year basis. Awards and reappointments are competitive and are based on a student's potential contribution to the teaching and research goals of the department. Students who fulfill their research assistant responsibilities and continue to make satisfactory progress toward their degree objective receive preference in new awards.

## Career Advancement

Biomedical engineers with M.S. degrees can pursue career opportunities in the health care industry in the fields of



biomedical devices, diagnostic equipment, and software. Graduates have started careers in research, design, development, sales, and entrepreneurship, and advance to administrative and leadership positions in their organizations. Graduates also have careers with health care providers such as in hospitals, or used their biomedical engineering expertise to advance careers in medicine and law. Faculty mentors assigned to graduate students aid in their professional development. Students are exposed to opportunities through seminar speakers who have relevant expertise that are invited to campus.

The Graduate College offers numerous career advancement opportunities and professional development programs for graduate students. Ongoing program offerings, news, and announcements can be found under Grad Success Center on the Graduate College website.

# Biomedical Engineering, Ph.D.

Graduate study in biomedical engineering prepares students to use contemporary methods at an advanced level during a professional career in engineering design, development, and research.

Each student's course of study is based on individual background, career objectives, and sound academic practice. An individual program for each student may be developed from courses offered by the Roy J. Carver Department of Biomedical Engineering and other departments, particularly mechanical engineering, electrical engineering, physiology, mathematics, and biological sciences. Faculty members in the department have teaching and research expertise in cardiovascular and fluid biomechanics, musculoskeletal biomechanics, biomaterials and tissue engineering, bioinstrumentation, biosystems, biomedical imaging, biological signal analysis, bioinformatics and computational biology, and other allied fields.

Ph.D. programs may center on any one of the previously described areas through the choice of appropriate coursework and research topic.

## Learning Outcomes

By completing the graduate curriculum in biomedical engineering, students will be able to:

- demonstrate broad knowledge of the field of biomedical engineering and deep knowledge in their specific area of study;
- communicate complex technical ideas concisely and effectively to both general and specialized audiences through verbal, visual, and written formats;
- formulate research questions, pose testable hypotheses, employ methods that enhance reproducibility of research, and apply critical thinking skills to produce solutions to complex engineering problems that intersect with biology and human health; and
- operate with professionalism and under standards of ethical conduct.

## Requirements

The Doctor of Philosophy program in biomedical engineering requires a minimum of 72 s.h. of graduate work, including acceptable transfer credit. At least 42 s.h. must be earned in formal coursework taken after the B.S.E. is awarded, and at least 12 s.h. must be earned for research and the thesis. Students who enter with an M.S. may count a maximum of 30 s.h. of approved transfer credit toward the Ph.D., but they must earn 39 s.h. of graduate credit at the University of Iowa, including at least 12 s.h. for research and the thesis. Based on a student's research progress, examination results, or other measures, the graduate committee may require additional formal coursework to strengthen perceived areas of weakness.

All Ph.D. students must successfully complete the Graduate Core Courses as part of their graduate curriculum. Students are expected to complete them during their first year of study. Additionally, students must complete 18 s.h. of graduate-level coursework in the College of Engineering over the course of their studies. Medical scientist training program students are

required to complete 12 s.h. of graduate-level coursework in the College of Engineering.

## Graduate Core Courses

Code	Title	Hours
ENGR:7270	Engineering Ethics	1
HHP:3500	Human Physiology	3
ME:5113	Mathematical Methods in Engineering (or equivalent graduate mathematics course; approval of academic advisor required before registering)	3

Depending upon a student's performance in Graduate Core Courses and the nature of their research project, the student's examining committee may specify additional coursework to be completed to satisfy the Graduate Core Courses requirement.

Graduate Core Courses may be substituted by other equivalent courses at the discretion of the student's examining committee. Equivalent coursework taken as part of a student's undergraduate or graduate studies prior to starting the biomedical engineering graduate program at the University of Iowa may satisfy one or more of the Graduate Core Courses requirements. Students who wish to request a substitution or a waiver of HHP:3500 Human Physiology must submit a core course substitution or waiver form. Forms may be obtained from the graduate program coordinator.

Admission to the Ph.D. program is conditional until students successfully complete a qualifying examination. The biomedical engineering faculty administers the exam and decides whether a student's performance on it is adequate for admission to the Ph.D. program.

Admission to Ph.D. candidacy requires a g.p.a. of at least 3.00 on all graduate work at the University of Iowa. Upon completion of the coursework specified in the plan of study and with the required grade-point average and the advisor's recommendation, students are admitted to the comprehensive examination by their committee.

Having satisfactorily completed these examinations, students usually have only to complete and defend their dissertation at the final examination. Requirements for the Ph.D. generally can be completed in about three years beyond the master's degree.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biomedical engineering in a combined degree program offered by the Carver College of Medicine and the College of Engineering. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Reference letters, research interests, previous graduate grade-point average, and other factors may be considered in admission decisions.

Admission to the Doctor of Philosophy in biomedical engineering is conditional until students successfully complete a qualifying examination.

## Financial Support

Research assistant positions are available on a variety of research projects, and a limited number of teaching assistant positions may be available. Selection of recipients is usually based on scholastic achievement and research interest. These awards may be made on a semester, academic year, or calendar year basis. Awards and reappointments are competitive and are based on a student's potential contribution to the teaching and research goals of the department. Students who fulfill their research assistant responsibilities and continue to make satisfactory progress toward their degree objective receive preference in new awards.

## Career Advancement

Biomedical engineers with Ph.D. degrees can pursue career opportunities in the health care industry in the fields of biomedical devices, diagnostic equipment, and software. Graduates have started careers in research, design, development, sales, and entrepreneurship, and advance to administrative and leadership positions in their organizations. Graduates also have careers with health care providers such as in hospitals, or used their biomedical engineering expertise to advance careers in medicine and law. Graduates also have careers in academia or at research institutions where they advance understanding of human health. Faculty mentors assigned to graduate students aid in their professional development. Students are exposed to opportunities through seminar speakers who have relevant expertise that are invited to campus.

The Graduate College offers numerous career advancement opportunities and professional development programs for graduate students. Ongoing program offerings, news, and announcements can be found under Grad Success Center on the Graduate College website.

# Chemical and Biochemical Engineering

## Interim Chair

- Jun Wang

**Undergraduate major:** chemical engineering (B.S.E.)

**Graduate degrees:** M.S. in chemical and biochemical engineering; Ph.D. in chemical and biochemical engineering

**Faculty:** <https://engineering.uiowa.edu/people/cbe-people>

**Website:** <https://cbe.engineering.uiowa.edu/>

Chemical and biochemical engineers combine engineering principles with knowledge of mathematics and specific sciences—chemistry, the biological sciences, and physics—to develop and operate processes that convert raw materials into products that benefit society. For example, biochemical engineers might develop and operate processes to convert switchgrass into biofuels or to mass produce an antibiotic.

Chemical and biochemical engineers engage in a wide variety of activities that benefit the global community. Fuel cells, solar energy, and biorenewable fuels (e.g., biodiesel or ethanol) fall within the realm of chemical engineering.

Chemical engineering distinguishes itself from other engineering professions with its reliance on chemical reactions and physicochemical transformations to produce a wide variety of important materials and products. Biochemical engineers are involved in a wide variety of industrial biocatalytic, fermentation, and cell culture processes that generate products ranging from the high fructose corn syrup in soft drinks to recombinant human insulin.

As part of their training, chemical and biochemical engineers learn ethical design and a respect for the larger issues in any design, such as community health, employee safety, and the global implications of the design. The University of Iowa's curriculum emphasizes chemical process safety and environmentally conscious chemical engineering design.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Chemical Engineering (Bachelor of Science in Engineering) [p. 1578]

### Graduate Programs of Study

#### Majors

- Master of Science in Chemical and Biochemical Engineering [p. 1587]
- Doctor of Philosophy in Chemical and Biochemical Engineering [p. 1590]

## Facilities

### Undergraduate Core

#### Materials Science Laboratory

The Materials Science Laboratory is equipped with optical microscopes and facilities for metallographic preparation. Mechanical tensile testing instruments, heat treatment and

sintering furnaces, and hardness testing machines also are available. Teaching aids include metallography specimen kits and crystallography packages.

### Required Undergraduate Laboratories

#### Chemical Engineering Laboratory

The Chemical Engineering Laboratory provides instruction for undergraduate students in CBE:3150 Thermodynamics/Transport Laboratory and CBE:3155 Chemical Reaction Engineering/Separations Laboratory. It is equipped for experimentation in thermodynamics, fluid flow, heat transfer, mass transfer, chemical reaction engineering, and separations. The lab includes pilot plant equipment, such as a distillation column, wiped film evaporator, shell-and-tube heat exchanger, and jacketed kettle. Other equipment includes a double-pipe heat exchanger, membrane gas separator, fluid friction apparatus, and heat conduction apparatus. Analytical equipment includes a densitometer, polarimeters, and refractometers.

The lab is continuously updated to reflect advances at the forefront of chemical engineering technology. Additionally, a wide array of small equipment is available to support laboratory projects and demonstrations in chemical engineering courses and for use by students performing independent investigations.

#### Chemical Process Safety Laboratory

The Chemical Process Safety Laboratory is an integral part of CBE:3125 Chemical Process Safety. It is equipped with two MiniFlash automatic flash point testers (closed cap), an advanced reactive system screening tool (ARSST), a minimum ignition energy (MIE) apparatus, a flammability chamber, a modified Hartmann tube, a Hartmann bomb, a liquid conductivity apparatus, a powder changeability apparatus, a powder volume resistivity apparatus, a Van de Graaff generator, two high impedance electrometers, a field meter, a Faraday cage, and relief sizing software. This equipment is used in a series of experiments to demonstrate the principles of flammability, reactivity, explosions, relief valve sizing, and electrostatics relevant to industry.

#### Biochemical Engineering Laboratory

The Biochemical Engineering Laboratory is an integral part of CBE:3205 Introduction to Biochemical Engineering. It is equipped with two controlled New Brunswick BioFlo/CelliGen 115 bioreactors, electrophoresis apparatus, and a thermocycler. This equipment is used for recombinant DNA experiments and to study the growth and metabolism of microorganisms.

#### Process Control Laboratory

The Process Control Laboratory is a modern, computer-based instructional laboratory that is integral to CBE:4105 Process Dynamics and Control in Design. The lab consists of computer control of a shell-and-tube heat exchanger and a level-and-flow control process rig with state-of-the-art industrial control interfaces.

The Computer Control Laboratory offers an ensemble of learning experiences with the same equipment. Additional laboratories provide instruction in the use of process simulators that provide analogies and better insight into the control process. Topics include determination of the gain and time constants for single-capacitance systems;

determination of gain, time constant, and damping factor of second-order processes; determination of open-loop and closed-loop response to step-and-ramp changes in input for single-capacitance and multicapacitance processes; approximations of multicapacitance systems as first- and second-order processes with dead time; analysis of instrumentation characteristics and transfer functions; tuning and optimization of feedback control parameters (P, PI, PID); system identification through frequency response methods; and determination of system stability.

Experimental arrangements in the lab are simple enough in design to be easily understood, yet complicated enough to help students appreciate system characteristics inherent in industrial processes (e.g., large time lags, error in parameter estimation).

## Graduate Facilities and Laboratories

The department offers a wide variety of facilities to support and develop research activities.

### Air Pollution Computational, Field, and Laboratory Studies

The department maintains extensive facilities for computational, field, and laboratory studies of air pollution, carbon cycle gases, aerosols, and nanoparticles at the Center for Global and Regional Environmental Research (CGRER). The center occupies 5,000 square feet of lab and office space on the fourth floor of the Iowa Advanced Technology Laboratories.

CGRER houses one R2 ImmersaDesk Portable Large Scale Visualization System and is linked on campus to two more R2 ImmersaDesk units.

The center's computer laboratory for environmental and spatial data analysis provides numerous Windows and UNIX workstations, sophisticated software packages, and workstations and a file server necessary to run intensive visualization programs. The network backbone is University supported with high-speed wireless throughout. A variety of digital environmental databases and an extensive library of documentation and related references are available. There are 4 Beowulf Linux clusters on site and Linux clusters of 4, 16, 18, and 20 nodes for large computations and data assimilation. CGRER retains 15 TB of redundant storage and 50 TB of total storage; local storage space is scalable and expandable. A variety of software packages and programming languages are available for data analysis and display, including ArcInfo, ArcView, NCAR Graphics, MATLAB, S-PLUS, and Vis5D, as well as geographical information software. The Esri software suite is part of a University-wide site license.

Laboratory and field equipment includes aerosol samplers, including scanning mobility particle sizers for aerosols from 3 nanometer to 1 micron with time resolution to 30 seconds; aerosol particle sizers for aerodynamic measurements of in situ particles with time resolution to 1 second; and varied condensation particle counters for measuring total particle counts. Several hygroscopic tandem differential mobility analyzers are used, as well as varied aerosol generation devices and unique aerosol inlets for relative humidity (RH) and temperature modification and control. Cloud droplet number can be measured in the lab or in the field using a Droplet Measurement Technologies cloud condensation nuclei detector. Advanced computer control of instruments is available through LabVIEW.

Selected instruments are field deployable in a custom air-conditioned trailer. Through collaboration with the IIHR—Hydroscience & Engineering, access to micrometeorology sensors, 1D and 2D elastic and Raman lidar, and gas sensors is available, including multichannel ammonia monitors.

## Biochemical Engineering

Biochemical engineering laboratories provide facilities for preparation of biological media and cultivation of organisms as well as for separation and analysis of biomolecules. This equipment includes biological incubators and floor incubator shakers, agitated and airlift bioreactors, light microscopes, autoclaves, Vi-Cell cell counter, thermocycler for polymerase chain reaction (PCR) amplification of DNA, high- and low-speed centrifuges, UV-Vis spectrophotometers, a lyophilizer, biological safety cabinets, and an anaerobic glove box. Phase-contrast and epifluorescence microscopes, gel electrophoresis systems, gas chromatography units with flame ionization and electron capture detectors, and several high performance liquid chromatography systems with refractive index and photodiode array detectors are available for characterization of microorganisms and constituent biomolecules.

Through collaborative research agreements, graduate students also have access to specialized facilities for electron microscopy, large-scale fermentation, protein structure, recombinant DNA research, and tissue culture/hybridoma; the Flow Cytometry Facility; and the High Resolution Mass Spectrometry Facility.

## Biomedical Engineering

The biomedical engineering laboratories house particle technology equipment including microemulsion equipment for drug encapsulation, sonicators, benchtop scale spray dryers, laser diffraction particle sizer, zetapotentiometer; DNA preparation equipment, gel electrophoresis apparatus; interfacial stress rheometer, surface tensiometer, UV-Vis/fluorescent plate reader, high performance liquid chromatograph, luminometer, lyophilizer, custom-built simulated cough machine, microscopes, incubators, wet chemistry equipment, rotary shakers, incubated plate shakers, autoclave, centrifuges, and laboratory computers. Cell culture and bacterial culture facilities are housed adjacent to the laboratories.

Graduate students also have access to core research facilities including the Central Microscopy Research Facility, Flow Cytometry Facility, Iowa Institute of Human Genetics, Electron Spin Resonance Facility, Nuclear Magnetic Resonance Facility, High Resolution Mass Spectrometry Facility, and the Center for Gene Therapy.

## Computer Facilities

The departmental computer facilities contain a variety of graphics workstations, printers, and microcomputers. The department is supported by the college's Engineering Technology Center, which maintains a large network of high performance UNIX and Windows XP workstations along with extensive commercial and public domain software. The department also has access to the University's central research facility in high-speed vector computation. This facility has SGI Power Challenge mini-supercomputers and provides nodes for external links for access to supercomputers.

## Fundamentals and Applications of Photopolymerization

The Photopolymerizations Center was established to advance fundamental understanding of the kinetics and mechanisms of photopolymerizations. To this end, the center provides unique opportunities for collaborations by industrial and academic investigators to explore photopolymerization processes and develop novel applications based on photopolymerizations.

The center provides equipment and instrumentation for the characterization of photopolymerization systems on the molecular, microscopic, and macroscopic levels. Center researchers pursue understanding of fundamental photophysical and photochemical processes involved in the photoinitiation reaction, characterization of high-speed propagation and termination kinetics that lead to the polymer structure, and evaluation of material properties through the course of the photopolymerization reaction. Both radical and cationic photopolymerizations are studied with state-of-the-art experimental techniques to elucidate the complex chemical and physical mechanisms that control the initiation, propagation, and termination of the active centers.

### Courses

## Chemical and Biochemical Engineering Courses

### **CBE:0000 Chemical Engineering Internship/Co-op 0 s.h.**

Chemical engineering students participating in the Cooperative Education Program register for this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

### **CBE:1000 CBE Departmental Seminar 1 s.h.**

Introduction to the profession and the department; presentations by guest speakers, visits to laboratories and industries.

### **CBE:1180 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

### **CBE:2030 Energy and Society 3 s.h.**

History of energy development and use throughout the world; how energy has affected the development of human societies; societal impact of engineering advances; current state of energy consumption worldwide, including distribution of energy sources, global variations in consumption, advantages and disadvantages of current energy sources; role of fossil fuel consumption in global climate change, potential scenarios for the future of energy.

### **CBE:2040 Environment, Energy, and Climate Change 3 s.h.**

Traditional concerns (e.g., pollution and conservation of energy resources) with clear, scientific explanations; Earth's dynamic processes and response to natural and human-induced stresses; link between energy and climate; reasons why we need to support reducing emissions and build a clean and sustainable environment.

### **CBE:2050 Severe and Unusual Weather 3 s.h.**

Basic weather concepts behind severe weather phenomena and essential safety information; how weather events cause billions of dollars in damage and thousands of casualties; winter storms can impact half of the nation, paralyzing the transportation network with icy roads and wind driven snow; tornadoes can strike within minutes tearing apart homes; hurricanes can destroy entire communities with strong winds, heavy rain, and deadly storm surge; how understanding severe weather and knowing what to do before, during, and after an event can significantly reduce injury, deaths, and property damage. Same as CEE:2050.

### **CBE:2105 Process Calculations 3 s.h.**

Fundamental principles of chemical process analysis, including material and energy balances for single-unit and multiple-unit processes, analysis of reactive and nonreactive systems, introduction to equations of state, thermodynamics of multiphase systems. Prerequisites: MATH:1550.

### **CBE:2110 Computational Tools for Chemical Engineers 2 s.h.**

Numerical methods for solving systems of linear and nonlinear equations, nonlinear regression, multivariable calculus, and ordinary differential equations using chemical engineering examples. Prerequisites: MATH:1550. Corequisites: MATH:1560.

### **CBE:3000 Professional Seminar: Chemical Engineering 1 s.h.**

Professional aspects of chemical engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Prerequisites: CBE:2105. Requirements: sophomore standing.

### **CBE:3020 Applied Statistics for Chemical and Natural Resources Engineering 3 s.h.**

Statistical and computational (Python programming) analysis of weather and climate data, univariate and multivariate statistics, hypothesis testing, statistical forecasting, forecast verification, time-series analysis, trend analysis, and principal component analysis.

### **CBE:3105 Chemical Engineering Thermodynamics 3 s.h.**

Applications of thermodynamic principles to chemical and physical processes; prediction of material properties; phase and chemical equilibria applied to mixtures and reacting systems. Prerequisites: ENGR:2130. Corequisites: CBE:2105.

### **CBE:3109 Fluid Flow 2 s.h.**

Fundamentals of fluid flow, including fluid statics, fluid rheology, laminar and turbulent flow in pipes, external flow, flow through packed beds, fluidized beds, pumps and compressors, boundary layer theory, potential flow, dimensional analysis, and Navier Stokes Equations. Corequisites: CBE:2105.

### **CBE:3113 Heat and Mass Transfer 3 s.h.**

Fundamentals of heat and mass transfer including heat exchanger design; conductive, convective, and radiative heat transfer; mechanisms of diffusional and convective mass transfer. Prerequisites: MATH:2560 and CBE:2105. Recommendations: CBE:3109.

### **CBE:3117 Separations 3 s.h.**

Solution of industrial problems including design of distillation, extraction, absorption, adsorption, drying, membrane processes, and mechanical separations. Prerequisites: CBE:2105 and CBE:3105. Corequisites: CBE:3113.

**CBE:3120 Chemical Reaction Engineering 3 s.h.**

Application of chemical reaction kinetics to design of chemical reactors: batch reactors, mixed flow reactors, plug flow reactors; reversible and irreversible single reactions; parallel, series, and mixed reactions; temperature and pressure effects on reactor design; heterogeneous catalysis; transport in porous catalysts. Prerequisites: MATH:2560. Corequisites: CBE:3105. Recommendations: CBE:3113.

**CBE:3125 Chemical Process Safety 3 s.h.**

Application of transport phenomena, thermodynamics, chemical kinetics to study of safety, health, loss prevention; government regulations, toxicology/industrial hygiene, relief sizing, runaway reactions, toxic release and dispersion models, source models, fires and explosions, risk assessment, hazard identification, case studies and accident investigation, incorporation of safety into design; laboratory experiments. Prerequisites: CBE:3105 and CBE:3109. Corequisites: CBE:3113.

**CBE:3150 Thermodynamics/Transport Laboratory 3 s.h.**

Error analysis, propagation of errors, experimental design, data collection techniques, report writing, oral presentations, laboratory safety; laboratory investigations of thermodynamics, fluid flow, heat transfer, fluid rheology. Prerequisites: CBE:3105 and CBE:3113. Recommendations: statistics course.

**CBE:3155 Chemical Reaction Engineering/Separations Laboratory 3 s.h.**

Experimental design, data collection techniques, report writing, oral presentations; laboratory investigations of chemical reaction engineering and separations; experiments with plug flow and batch reactors, distillation, evaporation, membrane separation. Prerequisites: CBE:3117. Corequisites: CBE:3120. Recommendations: STAT:2020.

**CBE:3205 Introduction to Biochemical Engineering 3 s.h.**

Biochemistry, cellular biology, recombinant DNA and hybridoma technologies; emphasis on engineering aspects of biotechnology, including enzyme kinetics, cell growth kinetics, transport phenomena in bioreactors, bioreactor design, bioseparations, formulation and sterilization of growth media, commercial applications of biotechnology. Prerequisites: CBE:2105. Corequisites: CBE:3109. Recommendations: CBE:3120.

**CBE:3415 Statistical and Computational Analysis of Weather and Climate Data 3 s.h.**

Statistical and computational (Python programming) analysis of weather and climate data, univariate and multivariate statistics, hypothesis testing, statistical forecasting, forecast verification, time-series analysis, principal component analysis, trend analysis, and cluster analysis. Requirements: senior or graduate standing.

**CBE:3998 Individual Investigations: Chemical Engineering arr.**

Individual projects for chemical engineering undergraduate students, such as laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.

**CBE:4105 Process Dynamics and Control in Design 3 s.h.**

Theory and application of process dynamics to the design of chemical process control systems; mathematical models of unit operations, transfer functions, feedback and feed-forward control, stability, instrumentation, digital control systems; computer methods, including simulation and commercial software use; laboratory focus on process analysis and design. Prerequisites: MATH:2560 and CBE:2105 and CBE:3109. Corequisites: CBE:3120.

**CBE:4109 Chemical Engineering Process Design I 2 s.h.**

Engineering economics of process evaluation, including time value of money and bases for cost estimation; preliminary design of chemical process plants using computer-aided engineering. Prerequisites: CBE:3109 and CBE:3113 and CBE:3117. Corequisites: CBE:3120 and CBE:3125.

**CBE:4110 Chemical Engineering Process Design II 3 s.h.**

Capstone chemical engineering course; design and optimization of chemical process plants; application of process calculations, thermodynamics, kinetics, process synthesis, energy efficiency in separations, heat-exchanger network synthesis, physical property estimation, safety, computer-aided design, unit operations theory, process control, and economics. Prerequisites: CBE:4109. Recommendations: CBE:4105 and CBE:3205.

**CBE:4125 Advanced Chemical Process Safety 3 s.h.**

Chemical process safety including qualitative and quantitative hazard analysis, risk and consequence analysis, human factors and operator error, incident investigation, management of change procedures, interlocks and safety instrumented systems, layer of protection analysis, dust hazard analysis, and process safety management; project based on laboratory experiments. Prerequisites: CBE:3125.

**CBE:4156 Scanning Electron Microscopy and X-Ray Microanalysis arr.**

Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as ACB:4156, EES:4156.

**CBE:4195 Senior Enriching Activities Seminar 0 s.h.**

Aspects of chemical engineering education, including multidisciplinary team skills, understanding the impact of engineering practice locally and globally. Corequisites: CBE:4110. Requirements: completion of enriching activity.

**CBE:4410 Sustainable Systems 3 s.h.**

New and emerging concepts in sustainable systems design and assessment. Same as CEE:4107.

**CBE:4420 Environmental Chemistry 3 s.h.**

Principles of general, physical, organic chemistry applied in water and air systems; emphasis on qualitative and quantitative understanding of chemical kinetics and equilibrium; acid-base reactions, complex formation, precipitation, dissolution, and oxidation-reduction reactions; organic nomenclature. Prerequisites: CHEM:1120. Same as CEE:4150.

**CBE:4459 Air Pollution Control Technology 3 s.h.**

Sources, environmental and health impacts, regulations, modeling of air pollution; processes and alternative strategies for control; global climate considerations. Same as CEE:4159, IGPI:4159.

**CBE:5000 Seminar in Chemical and Biochemical Engineering 1 s.h.**

Presentation and discussion of recent advances and research in chemical and biochemical engineering by guest lecturers, faculty, students. Requirements: graduate standing.

- CBE:5100 Graduate Professional Development Seminar** 1 s.h.  
Seminar participants work with a faculty member to select and attend eight hours of approved seminars and professional development trainings at the University of Iowa; final meeting of participants is held to share notable seminars; typical seminar series include College of Engineering lectures, departmental and research center graduate seminars, chemical and biochemical engineering professional seminar series, and Center for Teaching and Learning offerings. Requirements: master's standing in chemical and biochemical engineering.
- CBE:5104 Introduction to Literature Review and Technical Writing** 3 s.h.  
Review of technical literature, how to contribute to it; produce and present orally a peer-reviewed-journal-quality review article; brainstorming, group writing, research ethics, plagiarism. Recommendations: nonthesis track graduate standing.
- CBE:5105 Introduction to Literature Review and Proposal Writing** 3 s.h.  
Tools for reviewing literature, skills for critical reading of publications, training in successful proposal writing; experience drafting a proposal that can be used as a starting point for the Ph.D. comprehensive.
- CBE:5110 Intermediate Thermodynamics** 3 s.h.  
Fundamental principles of thermodynamics as applied to phase equilibrium; properties of fluids, first and second law, variable composition systems, behavior of real fluids, mathematical techniques for solution thermodynamics. Requirements: CBE:3105 or ME:3040 or graduate standing. Same as ME:5210.
- CBE:5115 Transport Phenomena I** 3 s.h.  
Unified treatment of momentum, mass, energy transport in chemical engineering problems; use of vector and tensor notations in expressing equations of continuity, motion, energy.
- CBE:5120 Data Science in Chemical and Engineering Systems** 3 s.h.  
Theory and application of numerical methods and data driven algorithms towards understanding chemical processes; scientific computing in Python programming language; numerical solutions to differential equations; nonlinear and constrained optimization; data preprocessing and visualization; dimensionality reduction and clustering; supervised machine learning.
- CBE:5140 Mathematical Methods in Engineering** 3 s.h.  
Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: MATH:2550 and MATH:2560. Same as CEE:5513, ME:5113.
- CBE:5199 Contemporary Topics: Chemical and Biochemical Engineering** arr.  
Research techniques for graduate students in chemical and biochemical engineering.
- CBE:5210 Bioseparations** 3 s.h.  
Unit operations used to isolate and purify biologically derived chemicals, including flocculation, filtration, centrifugation, extraction, adsorption, chromatography, precipitation, crystallization, electrophoresis and cell disruption for intracellular product recovery.
- CBE:5300 Drug Delivery Devices** 3 s.h.  
Why drug delivery devices are needed and how they are regulated; review of several clinical device categories (inhalation, transdermal, implantable) and preclinical technologies on the horizon.
- CBE:5310 Polymer Science and Technology** 3 s.h.  
Uses and properties of industrially important polymeric materials; polymer chemistry, polymer structure, characterization, and polymer processing. Prerequisites: CHEM:2210 or CHEM:2230.
- CBE:5315 Polymer Chemistry** 3 s.h.  
Monomer reactivity and polymerization reactions; step, radical, ionic, and ring-opening polymerizations. Prerequisites: CHEM:2220.
- CBE:5390 Photopolymerization Topics** 1 s.h.  
Seminars presented by faculty members, research assistants, students.
- CBE:5405 Green Chemical and Energy Technologies** 3 s.h.  
Strategies for pollution prevention for chemical processes studied at macroscale (industrial sector), mesoscale (unit operations), and microscale (molecular level); case studies. Prerequisites: CBE:2105.
- CBE:5410 Electrochemical Engineering** 3 s.h.  
Fundamentals of electrochemical engineering; various applications; focus on processes and systems that transform chemical energy into electrical energy (e.g., batteries, fuel cells) and vice versa (e.g., electrolyzers, oxygen generators for medical applications); electrochemical engineering in an increasingly important role in energy, chemical, environmental, and biomedical sectors.
- CBE:5412 Atmospheric Modeling** 3 s.h.  
Model equations and approaches for atmospheric dynamics and chemistry; numerical methods for radiative, chemical, and aerosol rates; parameterization of subgrid-scale processes; model evaluation and inverse modeling.
- CBE:5415 Satellite Image Processing and Remote Sensing of Atmosphere** 3 s.h.  
Introduction to principles of atmospheric radiation and techniques for satellite image processing; hands-on experience with data calibration, image registration and enhancement, noise filtering and (supervised and unsupervised) multi-spectral classification of satellite imageries; various satellite sensors used for monitoring of different atmospheric processes and constituents. Same as IGPI:5415.
- CBE:5417 Physical Meteorology and Atmospheric Radiative Transfer** 3 s.h.  
Physical processes for weather and climate including radiative transfer, cloud and precipitation formation, and atmospheric electricity; theory of scattering by atmospheric particles (e.g., clouds, aerosols, molecules), atmospheric radiative transfer equations, and numerical techniques and tools to solve these equations. Requirements: senior or graduate standing. Same as IGPI:5417.
- CBE:5425 Atmospheric Chemistry and Physics** 3 s.h.  
Principal chemical and physical processes affecting atmospheric trace gas and pollutant cycles; emphasis on atmospheric photochemistry, aerosol science, major sources, and removal processes. Corequisites: CBE:3120. Same as CEE:5115.



**CBE:5740 Engineering Principles of Drug Delivery 3 s.h.**  
Fundamental concepts in drug delivery from an engineering perspective: delivery mechanisms; materials and formulations for drug delivery; drug modifications (prodrugs, PEGylation); engineering principles of controlled release and targeted delivery (nanoparticles, microparticles, polymer and lipid based systems); quantitative understanding of drug transport; significance of biodistributions and pharmacokinetic models; toxicity issues; immune responses.

**CBE:5875 Perspectives in Biocatalysis 1-3 s.h.**  
Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BMB:5875, CEE:5875, CHEM:5875, MICR:5875, PHAR:5875.

**CBE:5998 Individual Investigations: Chemical and Biochemical Engineering arr.**  
Individual projects for chemical and biochemical engineering graduate students; may include laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

**CBE:5999 M.S. Thesis Research: Chemical and Biochemical Engineering arr.**  
Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in chemical and biochemical engineering. Requirements: graduate standing.

**CBE:6145 Diffusive Transport 3 s.h.**  
Diffusive transport of heat, mass, and momentum; phenomenological laws and analogies; analytical and numerical solution techniques; inverse heat conduction; multiphase and multicomponent systems. Prerequisites: ME:5145. Same as ME:6245.

**CBE:6415 Advanced Satellite and Remote Sensing of Atmosphere 3 s.h.**  
Cloud masking and retrieval of cloud properties from satellites, aerosol detection and retrievals, Earth radiation energy budget, land and/or ocean remote sensing, microwave remote sensing, wind retrieval, multi-sensor intercomparison and validation, optimization and inversion theory; hands-on projects.

**CBE:6435 Advanced Atmospheric Radiative Transfer 3 s.h.**  
Theory of scattering by atmospheric particles (e.g., clouds, aerosols, molecules), atmospheric radiative transfer equations, and techniques to solve these equations for solar and terrestrial radiation; numerical experiments with Mie scattering, T-matrix calculation, and radiative transfer models.

**CBE:7999 Research: Chemical and Biochemical Engineering Ph.D. Dissertation arr.**  
Experimental and/or analytical investigation of an approved topic for Ph.D. in chemical and biochemical engineering.

# Chemical Engineering, B.S.E.

The major in chemical engineering provides a broad education at the leading edge of technology. It emphasizes fundamental concepts, problem solving, laboratory techniques, and communication skills. The biological sciences join physics, chemistry, and mathematics as foundation disciplines for chemical engineering.

The sophomore, junior, and senior years emphasize chemical engineering courses such as process calculations, fluid flow, chemical engineering thermodynamics, heat and mass transfer, separations, chemical reaction engineering, chemical process safety, chemical engineering laboratories, biochemical engineering, process dynamics and control, and process design. Experience in instrumentation, analysis, and design is obtained through an integrated laboratory program. Routine use is made of computer-based data analysis, simulation, and design.

## Focus Areas

Chemical engineering students may gain depth of knowledge related to a career path through their selection of science, engineering, and general education courses. Several preapproved focus areas may help students define potential careers; the focus area enables students to gain depth of knowledge in a career path. Students meet with their chemical engineering academic advisor to discuss career options and develop a plan for choosing electives based on their career interests. The department offers preapproved focus areas in biochemical engineering; business; chemical process engineering; computation, data science, and machine learning; energy and environment; entrepreneurship; oil and gas engineering; pharmaceuticals; polymers; pre-medicine; safety and health; and sustainability. Students may prefer to develop an individualized focus area, which is subject to approval by the department's curriculum committee.

## Biochemical Engineering

This focus area allows students to choose from a selection of courses that combine concepts of biology, biochemistry, and engineering. Biochemical engineers combine knowledge of these three areas to manufacture products of biological nature, including fermentation products and pharmaceuticals. Students often go on to work in the biotechnology and pharmaceutical industries as production leaders or researchers.

## Business

This focus area consists of eight courses from the Tippie College of Business. Students gain foundational business knowledge on topics including finance, economics, accounting, marketing, law, and management. Past students have applied their integrated business and technical knowledge to many different settings ranging from manufacturing plants to consulting and to corporate offices.

## Chemical Process Engineering

Process engineering is the design, optimization, and operation of systems that transform raw materials into valuable products. Process engineers are involved with products, including foods and beverages, electronic materials, metals, plastics, fuels, building materials, and pharmaceuticals.

Since chemical process engineering spans many aspects of engineering, business, applied math, and science, students can choose from a broad selection of engineering, math, and science courses. This focus area provides ample room for customization and opportunities to tailor to individualized interests. Students who do not declare a specific focus area are automatically placed in chemical process engineering.

## Computation, Data Science, and Machine Learning

This focus area is for students who intend to blend advanced computation and programming with their chemical engineering degree. This area is customizable based on student interest areas, and can accommodate introductory training in cyber-physical systems, remote sensing, advanced simulation, supply chain management, in silico chemistry and biology, bioinformatics, software design, next-generation controls, machine learning, and artificial intelligence.

## Energy and Environment

Students who are passionate about the environment should consider this focus area. Courses prepare students to solve environmental challenges and to revolutionize energy systems. Topics include air pollution, climate change, clean and renewable energy, environmental regulations, and sustainable systems.

## Entrepreneurship

This focus area allows students to focus on the process of succeeding in the world of startups, innovation, business ownership, and new products. The area is well suited for students who intend to start and operate their own business. It also serves students interested in gaining a better understanding of managing innovation in an existing business environment. The wide range of electives permit students to tailor business courses best suited to their individual interests.

## Oil and Gas Engineering

Meant for students interested in pursuing careers in oil and gas engineering, this focus area explores foundational elements of chemistry, geology, petrochemical refining, and environmental science. The course plan offers several recommendations put in place by experienced advisors with petrochemical backgrounds. Often viewed as the birth of chemical engineering, the petroleum industry provides a host of challenging and lucrative opportunities for chemical engineers. This path provides a unique and focused introduction to the field.

## Pharmaceuticals

Chemical and biochemical engineering is central to the design, formulation, and manufacturing of pharmaceutical products. Students who are passionate about medical applications can align their chemical engineering skills toward a career in pharmaceuticals by choosing this focus area. The curriculum features biology, drug delivery, and the mechanisms and chemistry of drug interactions. Course options span many departments besides chemical and biochemical engineering, including biomedical engineering, biochemistry and molecular biology, pharmacy, and pharmacology.

## Polymers

This focus area enables students to study the development of chemical compounds by polymerization, including combining small molecules into engineered networks to produce valuable

plastics and other advanced materials. The program is well suited for students who intend to use their knowledge to design new materials; it also serves students interested in gaining a better understanding of the links between molecular scale structure and macroscopic scale properties.

## Pre-Medicine

Concepts of chemical engineering are naturally applicable to the processes in living organisms. This focus area enables students to apply these concepts to gain a deeper understanding of the atoms and molecules that comprise living organisms, and the pathways through which they operate. This program is for students who intend to use their knowledge to gain acceptance to post-graduate education in the medical field.

## Safety and Health

This focus area prepares students to prevent incidents and accidents in chemical and pharmaceutical manufacturing, particularly those resulting from the unintentional release of hazardous materials and energy into the environment; and provide a safe and healthy workplace by preventing injuries and hazards in the workplace environment.

## Sustainability

This focus area covers the most important and current topics in environmental science, societal impacts, energy usage, and natural systems. Courses prepare students to understand and discuss these topics as they relate to chemical engineering.

## Educational Objectives

The chemical engineering program produces graduates with a strong foundation of scientific and technical knowledge who are equipped with problem solving, teamwork, and communication skills that will serve them throughout their careers consistent with the following educational objectives. Within a few years following graduation, graduates will:

- attain careers as practicing chemical engineers in fields such as biotechnology, chemicals, computation, energy, environmental engineering, food processing, microelectronics, pharmaceuticals, or polymers/advanced materials;
- pursue advanced studies in disciplines such as business, chemical engineering, dentistry, environmental engineering, law, medicine, or pharmaceuticals; or
- assume professional leadership roles.

The following methods and strategies are used in the chemical engineering undergraduate program to achieve these program educational objectives:

- foster a unique and personalized undergraduate experience by leveraging the advantages of a small college atmosphere within a comprehensive liberal arts and research university;
- provide a diverse, inclusive, and equitable environment for all students;
- enrich the undergraduate experience through cultural diversity, international opportunities, and/or experiential learning;
- provide a solid foundation and understanding of the fundamental principles of mathematics, science, and engineering;
- provide students with experience in learning and applying tools, and analyzing and interpreting data, to solve

theoretical and open-ended chemical engineering problems;

- provide students with opportunities to participate in collaborative teams;
- develop students' written and oral communication skills to a wide range of audiences;
- provide students with opportunities to design and conduct chemical engineering experiments and to design systems, components, and chemical processes to meet specific needs and constraints;
- provide a contemporary grounding in ethical and professional responsibility, including global, economic, environmental, safety, and societal impacts of engineering decisions; and
- instill the desire and the understanding of the need for lifelong learning.

## Requirements

The Bachelor of Science in Engineering with a major in chemical engineering requires a minimum of 134 s.h. of credit, including one 0 s.h. seminar. Students must have a g.p.a. of at least 2.00 in all college work used to satisfy degree requirements as well as in all coursework attempted at the University of Iowa.

All B.S.E. students are required to take the same collegiate curriculum. For information about these collegiate requirements, see the Bachelor of Science in Engineering, B.S.E. [p. 1551] in the Catalog. Students completing the major in chemical engineering fulfill the collegiate statistics requirement by completing CBE:3020 Applied Statistics for Chemical and Natural Resources Engineering, STAT:2020 Probability and Statistics for the Engineering and Physical Sciences, or STAT:3510 Biostatistics. Some focus areas may suggest or require specific courses to fulfill the General Education Component of the collegiate curriculum; see "Focus Area" below.

Students are required to participate in at least one enriching activity, which may include a research experience, a cooperative education or internship experience, study abroad, completion of the Certificate in Technological Entrepreneurship [p. 1686], or other approved experiences.

The major in chemical engineering requires the following coursework.

Code	Title	Hours
	Collegiate Curriculum	50
	Major Requirements (includes one 0 s.h. seminar)	69
	Focus Area	15
	<b>Total Hours</b>	<b>134</b>

## Major Requirements

Major requirements include a set of common courses (53 s.h.), an advanced chemistry or biochemistry course (3 s.h.), an advanced science course (3-4 s.h.), six departmental seminars (5 s.h., including one 0 s.h. course), and two capstone design courses (5 s.h.).

## Common Courses

Code	Title	Hours
All of these:		
CBE:2105	Process Calculations	3

CBE:2110	Computational Tools for Chemical Engineers	2
CBE:3105	Chemical Engineering Thermodynamics	3
CBE:3109	Fluid Flow	2
CBE:3113	Heat and Mass Transfer	3
CBE:3117	Separations	3
CBE:3120	Chemical Reaction Engineering	3
CBE:3125	Chemical Process Safety	3
CBE:3150	Thermodynamics/Transport Laboratory	3
CBE:3155	Chemical Reaction Engineering/Separations Laboratory	3
CBE:3205	Introduction to Biochemical Engineering	3
CBE:4105	Process Dynamics and Control in Design	3
CHEM:1120	Principles of Chemistry II	4
CHEM:2210 or CHEM:2230	Organic Chemistry I Organic Chemistry I for Majors	3
CHEM:2220 or CHEM:2240	Organic Chemistry II Organic Chemistry II for Majors	3
CHEM:2410 or CHEM:2420	Organic Chemistry Laboratory Organic Chemistry Laboratory for Majors	3
ENGR:2130	Thermodynamics	3
ENGR:2720	Materials Science	3

## Advanced Chemistry or Biochemistry Course

Some focus areas may suggest or require a specific course; see "Focus Area" below. Students select a course considered advanced for the minor in chemistry [p. 233] (College of Liberal Arts and Sciences) or one of the following courses in the Department of Biochemistry and Molecular Biology (Carver College of Medicine).

Code	Title	Hours
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3

Acceptable courses from the Department of Chemistry (College of Liberal Arts and Sciences) include but are not limited to the following.

Code	Title	Hours
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:4430	Principles of Physical Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3

## Advanced Science Course

Students select an advanced science-based course either within or outside of the College of Engineering. Appropriate subject areas could include biochemistry and molecular biology (prefix BMB), biology (prefix BIOL), chemistry (prefix

CHEM), microbiology and immunology (prefix MICR), and physics (PHYS). Some focus areas may suggest or require a specific course; see "Focus Area" below. Students may consult an advisor or visit Chemical Engineering Curriculum on the Department of Chemical and Biochemical Engineering website for more information.

Acceptable courses include but are not limited to the following. Consult an academic advisor for approval to take a course not on this list.

Code	Title	Hours
CBE:4420	Environmental Chemistry	3
CBE:5315	Polymer Chemistry	3
CBE:5425	Atmospheric Chemistry and Physics	3
BIOL:4213	Bioinformatics	4
BME:2400	Cell Biology for Engineers	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
EES:4520	Isotope Geochemistry	3
PHYS:3741	Introduction to Quantum Mechanics I	3
	Advanced chemistry and biochemistry courses in the areas listed above	3

The following courses do not fulfill this requirement.

Code	Title	Hours
CBE:5210	Bioseparations	3
CBE:5310	Polymer Science and Technology	3
CBE:5405	Green Chemical and Energy Technologies	3
CBE:5410	Electrochemical Engineering	3
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
PHYS:1612	Introductory Physics II	3-4
	Courses used to satisfy the engineering electives requirements for a focus area	

## Departmental Seminars

Code	Title	Hours
	All of these:	
CBE:1000	CBE Departmental Seminar	1
CBE:3000	Professional Seminar: Chemical Engineering (taken four times for 1 s.h. each)	4
CBE:4195	Senior Enriching Activities Seminar	0

## Capstone Design Courses

Code	Title	Hours
	Both of these:	
CBE:4109	Chemical Engineering Process Design I	2
CBE:4110	Chemical Engineering Process Design II	3

## Focus Area

Students must select focus area courses according to guidelines established by the Department of Chemical and

Biochemical Engineering. The department offers preapproved focus areas in biochemical engineering [p. 1581]; business [p. 1581]; chemical process engineering [p. 1581]; computation, data science, and machine learning [p. 1582]; energy and environment [p. 1582]; entrepreneurship [p. 1583]; oil and gas engineering [p. 1583]; pharmaceuticals [p. 1584]; polymers [p. 1584]; pre-medicine [p. 1585]; safety and health [p. 1585]; and sustainability [p. 1585].

Students may prefer to develop an individualized focus area, which is subject to approval by the department's curriculum committee. See Chemical Engineering Curriculum on the Department of Chemical and Biochemical Engineering website for detailed descriptions of preapproved focus areas, guidelines for tailored focus areas, and typical four-year study plans based on focus areas.

Focus areas in chemical engineering consist of content area courses (12 s.h.) and an elective course (3 s.h.); carefully selected courses may contribute to earning a minor and/or certificate. Some focus areas also may suggest or require specific courses to fulfill the General Education Component of the collegiate curriculum, the chemical engineering major's advanced chemistry or biochemistry requirement, and/or the major's advanced science requirement.

Students who do not declare a specific focus area are automatically placed in chemical process engineering.

## Biochemical Engineering

Students in the biochemical engineering focus area are encouraged to complete BMB:3110 Biochemistry to satisfy the chemical engineering major's advanced chemistry/biochemistry or advanced science requirement.

### Required Biochemical Course

Code	Title	Hours
This course:		
CBE:5210	Bioseparations	3

### Biochemical Electives

Code	Title	Hours
9 s.h. from these:		
CBE:3998	Individual Investigations: Chemical Engineering	arr.
CBE:5875/ BMB:5875/ CEE:5875/ CHEM:5875/ MICR:5875/ PHAR:5875	Perspectives in Biocatalysis	1-3
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3
BMB:3140	Experimental Biochemistry	2
BME:2400	Cell Biology for Engineers	3
BME:5430	Biotransport	3
CHEM:4850/ PHAR:4850	Upstream Biotechnology Processes	2
MICR:2157	General Microbiology	3

Code	Title	Hours
MICR:2158	General Microbiology Laboratory	2

In addition to the courses listed above, students may select courses with prefix BIOL, BMB, CHEM, or MICR numbered 3000 or above. Advisor approval is required for courses that center on experiential learning, such as research (e.g., MICR:4161 Undergraduate Research in Microbiology), science communication (e.g., CHEM:4000 Scientists and Writers), service learning (e.g., BIOL:4806 Service Learning in Biology), or teaching internships/practica (e.g., BMB:3800 Biochemistry Teaching Practicum).

### Additional Elective

Students may select an additional focus area content course or consult academic advisors for other acceptable courses.

## Business

The business focus area requires the following courses to fulfill the collegiate curriculum General Education Component approved course subjects requirement.

Code	Title	Hours
All of these:		
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
MKTG:3000	Introduction to Marketing Strategy	3

### Required Business Course

Code	Title	Hours
One of these:		
FIN:3000	Introductory Financial Management	3
ISE:2500	Engineering Economy	3

### Business Electives

Code	Title	Hours
Three of these:		
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3

### Additional Elective

Students may select an additional focus area content course in consultation with academic advisors. Consider requirements for the degree, minors, or certificates when selecting an elective course. Students interested in completing the minor in business administration [p. 1224] in the Tippie College of Business are especially encouraged to complete all four courses listed under Business Electives, above.

## Chemical Process Engineering

Students choose 12 s.h. from a broad selection of engineering, math, and science courses numbered 3000 or above. Students are encouraged to complete MATH:4820 Optimization Techniques and should consult academic advisors for additional course selection.

Students who do not declare a specific focus area are automatically placed in chemical process engineering.

## Computation, Data Science, and Machine Learning

### Computation, Data Science, and Machine Learning Electives

Code	Title	Hours
12 s.h. from these:		
CBE:3020	Applied Statistics for Chemical and Natural Resources Engineering	3
CBE:3998	Individual Investigations: Chemical Engineering	arr.
CBE:5417/IGPI:5417	Physical Meteorology and Atmospheric Radiative Transfer	3
CBE:5425/CEE:5115	Atmospheric Chemistry and Physics	3
ACCT:4200	Accounting for Management Analysis and Control	3
BAIS:3500	Data Mining	3
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	2,4
BME:4310/ BMB:4310	Computational Biochemistry	3
CEE:4511/ME:4111	Scientific Computing and Machine Learning	3
CEE:4512/ME:4112	Engineering Design Optimization	3
CHEM:4480	Introduction to Molecular Modeling	3
CHEM:5431	Statistical Thermodynamics I	3
CS:2110	Programming for Informatics	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:3330	Algorithms	3
CS:4740/IGPI:4740/ MATH:4740/ STAT:4740	Large Data Analysis	3
CS:5110/IGPI:5110	Introduction to Informatics	3
ECE:2400	Linear Systems I	3
ECE:3330/IGPI:3330	Introduction to Software Design	3
ECE:5330/IGPI:5331	Graph Algorithms and Combinatorial Optimization	3
ECE:5420	Power Electronics	3
ENGR:2730	Computers in Engineering	2-3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
ISE:3600/CEE:3142/ STAT:3620	Quality Control	3
ISE:4900	Introduction to Six Sigma	3
MATH:3800/ CS:3700	Introduction to Numerical Methods	3
MATH:5600	Nonlinear Dynamics with Numerical Methods	4
MATH:5700	Introduction to Partial Differential Equations	4

ME:4111/CEE:4511	Scientific Computing and Machine Learning	3
ME:4150	Artificial Intelligence in Engineering	3
ME:5114	Nonlinear Control in Robotic Systems	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:6115	Cooperative Autonomous Systems	3

### Additional Elective

Students may select an additional focus area content course in consultation with academic advisors.

## Energy and Environment

### Required Energy and Environment Course

Code	Title	Hours
This course:		
CBE:5405	Green Chemical and Energy Technologies	3

### Energy and Environment Electives

Code	Title	Hours
9 s.h. from these:		
CBE:2040	Environment, Energy, and Climate Change	3
CBE:2050/CEE:2050	Severe and Unusual Weather	3
CBE:4420/CEE:4150	Environmental Chemistry	3
CBE:4459/ CEE:4159/IGPI:4159	Air Pollution Control Technology	3
CBE:5410	Electrochemical Engineering	3
CBE:5412	Atmospheric Modeling	3
CBE:5415/IGPI:5415	Satellite Image Processing and Remote Sensing of Atmosphere	3
CBE:5417/IGPI:5417	Physical Meteorology and Atmospheric Radiative Transfer	3
CBE:5425/CEE:5115	Atmospheric Chemistry and Physics	3
CEE:4107/CBE:4410	Sustainable Systems	3
CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CHEM:4873	Atmospheric and Environmental Chemistry	3
CHEM:5107	Electrochemistry	2-3
CHEM:5438	Surface Chemistry and Heterogeneous Processes	3
ECE:5630	Sustainable Energy Conversion	3
EES:4490	Elements of Geochemistry	3
EES:4520	Isotope Geochemistry	3
EES:4630	Hydrogeology	4
EES:4790	Applied Environmental Geology	3

ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
ME:4048	Energy Systems Design	4
OEH:6710	Human Toxicology and Risk Assessment	3

In addition to the courses listed above, students may select courses with prefix CHEM, EES, GEOG, or OEH numbered 3000 or above. Advisor approval is required for courses that center on experiential learning, such as research (e.g., GEOG:3992 Undergraduate Research), science communication (e.g., CHEM:4000 Scientists and Writers), or practical experiences/field trip courses (e.g., EES:3000 Geologic Training Assignment).

### Additional Elective

Students may select an additional focus area content course in consultation with academic advisors.

## Entrepreneurship

### Required Entrepreneurship Course

Code	Title	Hours
One of these:		
FIN:3000	Introductory Financial Management	3
ISE:2500	Engineering Economy	3

### Entrepreneurship Electives

Code	Title	Hours
9 s.h. from these:		
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3
An approved course with prefix ENTR that counts toward the technological entrepreneurship certificate		

### Additional Elective

Students should consult academic advisors for course selection. It is recommended that students choose a course with prefix ENTR that counts toward the Certificate in Technological Entrepreneurship [p. 1686].

## Oil and Gas Engineering

The following courses are prerequisites for many of the oil and gas engineering focus area courses. Due to their introductory nature, they do not count toward the focus area's content requirements, but one of the two may be counted as the focus area elective.

Code	Title	Hours
CEE:1030/EES:1030	Introduction to Earth Science	3-4
EES:1050	Introduction to Geology	4

The following courses are recommended to students in the oil and gas engineering focus area to fulfill part of the collegiate curriculum General Education Component approved course subjects requirement.

Code	Title	Hours
Both of these:		
GEOG:1115/ EES:1115/ ENVS:1115/ HIST:1115	The History and Science of Oil	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3

Students in this focus area are encouraged to select courses for the chemical engineering major's advanced science requirement from the following list.

Code	Title	Hours
EES:3110/ ENVS:3110	Chemical Evolution of the Oceans	3
EES:4490	Elements of Geochemistry (recommended for students specializing in petroleum)	3
EES:4630	Hydrogeology (recommended for students specializing in petroleum)	4
EES:4640	Contaminant Hydrogeology	3

### Required Oil and Gas Course

Code	Title	Hours
This course:		
CBE:5405	Green Chemical and Energy Technologies	3

### Oil and Gas Electives

Code	Title	Hours
9 s.h. from these:		
CBE:5199	Contemporary Topics: Chemical and Biochemical Engineering	arr.
CBE:5415/IGPI:5415	Satellite Image Processing and Remote Sensing of Atmosphere	3
CBE:5425/CEE:5115	Atmospheric Chemistry and Physics	3
EES:1290	Energy and the Environment	3
EES:2410	Mineralogy (recommended for students specializing in petroleum)	4
EES:2831	Geologic Field Methods	3
EES:3100/ ENVS:3100	Earth and Planetary Remote Sensing	4
EES:3300	Sedimentary Geology (recommended for students specializing in petroleum)	4
EES:3500	Igneous and Metamorphic Petrology (recommended for students specializing in petroleum)	4
EES:3770	Global Stratigraphy	3
EES:3840	Structural Geology (recommended for students specializing in petroleum)	4
EES:4300	Quantitative Methods in the Geosciences	3
EES:4750	Mineral and Petroleum Exploration Geology	3

EES:4790	Applied Environmental Geology	3
EES:4820	Tectonics and Basin Analysis	3
EES:4832	Geologic Field Analysis	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3

### Additional Elective

Students should consult academic advisors for course selection.

Code	Title	Hours
One of these:		
CEE:1030/EES:1030	Introduction to Earth Science	3-4
EES:1050	Introduction to Geology	4
An additional content area course		
		3-4

## Pharmaceuticals

### Required Pharmaceuticals Course

Code	Title	Hours
At least one of these:		
PCOL:2220	Drug Use and Abuse	3
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3

### Pharmaceuticals Electives

Students select from the engineering, pharmaceuticals, and science courses listed below to reach a total of 12 s.h. when combined with either or both of the courses listed above.

Code	Title	Hours
CBE:3998	Individual Investigations: Chemical Engineering	arr.
CBE:5210	Bioseparations	3
CBE:5300	Drug Delivery Devices	3
CBE:5740	Engineering Principles of Drug Delivery	3
BIOL:1411	Foundations of Biology	4
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3140	Experimental Biochemistry	2
BME:4310/ BMB:4310	Computational Biochemistry	3
BME:5421	Cell Material Interactions	3
BME:5430	Biotransport	3
CHEM:3110	Analytical Chemistry I	3
CHEM:3120	Analytical Chemistry II	3
CHEM:3430	Analytical Measurements	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
HHP:1300	Fundamentals of Human Physiology	3
OEH:6450	Aerosol Technology	3
PCOL:3102	Pharmacology II: Mechanisms of Drug Action	3
PHAR:4146	Drug Disposition and Pharmacokinetics	2

PHAR:4501	Basic Principles of Toxicology	3
PHAR:4537	Principles of Drug Metabolism	3
PHAR:4736	Properties of Dosage Forms I	3
PHAR:4737	Properties of Dosage Forms II	3
PHAR:4740	Materials in Drug and Gene Delivery	3
PHAR:4741	Immunology and Immunotherapies	2
PHAR:4800	Chemical and Biophysical Properties of Drugs	1
PHAR:5521	High Throughput Screening for Pharmaceutical and Biomedical Sciences	1
A course with prefix CHEM numbered 3000 or above		3

Advisor approval is required to select additional chemistry courses that center on experiential learning, such as research (e.g., CHEM:3994 Undergraduate Research) or science communication (e.g., CHEM:4000 Scientists and Writers).

### Additional Elective

Students may select an additional focus area content course in consultation with academic advisors.

## Polymers

### Required Polymers Course

Code	Title	Hours
This course:		
CBE:5310	Polymer Science and Technology	3

### Polymers Electives

Code	Title	Hours
9 s.h. from these:		
CBE:3998	Individual Investigations: Chemical Engineering	arr.
CBE:5199	Contemporary Topics: Chemical and Biochemical Engineering	arr.
CBE:5300	Drug Delivery Devices	3
CBE:5390	Photopolymerization Topics	1
CBE:5740	Engineering Principles of Drug Delivery	3
BME:2500	Biomaterials and Biomechanics	4
BME:5421	Cell Material Interactions	3
CHEM:4372	Advanced Organic Chemistry	3
CHEM:5118	Nanomaterials	3
ME:5146	Modeling of Materials Processing	3
ME:5167/CEE:5137	Composite Materials	3
PHAR:4740	Materials in Drug and Gene Delivery	3
PHYS:3750	Fundamentals of Micro and Nanofabrication	3



Engineering, math, or science courses numbered 3000 or above

### Additional Elective

Students may select an additional focus area content course in consultation with academic advisors.

### Pre-Medicine

Students in this focus area are encouraged to complete the major's advanced chemistry or biochemistry and advanced science requirements by completing either the sequence BMB:3120 Biochemistry and Molecular Biology I and BMB:3130 Biochemistry and Molecular Biology II to satisfy both requirements, or BMB:3110 Biochemistry to satisfy one of the two requirements.

The following courses are recommended to students in the pre-medicine focus area to fulfill the collegiate curriculum General Education Component approved course subjects requirement.

Code	Title	Hours
All of these:		
PSY:1001	Elementary Psychology	3
PSY:2130	Advanced Psychology for Pre-Medical Track	3
SOC:1010	Introduction to Sociology	3-4

### Required Pre-Medicine Courses

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
PHYS:1612	Introductory Physics II	4

### Additional Elective

Consult an academic advisor for course selection.

### Safety and Health

Students in this focus area are encouraged to complete OEH:6710 Human Toxicology and Risk Assessment to satisfy the chemical engineering major's advanced science requirement.

The following courses are recommended to students in the safety and health focus area as part of the collegiate curriculum General Education Component.

Code	Title	Hours
<b>Approved Course Subjects</b>		
GHS:3560	Global Garbage and Global Health	3
GHS:3760/ GEOG:3760	Hazards and Society	3
<b>Diversity and Inclusion</b>		
HHP:1045	Diversity and Inclusion in Healthy Living	3

### Required Safety and Health Course

Code	Title	Hours
This course:		
CBE:4125	Advanced Chemical Process Safety	3

### Safety and Health Electives

Code	Title	Hours
9 s.h. from these:		
CBE:4459/ CEE:4159/IGPI:4159	Air Pollution Control Technology	3
CEE:4158/ OEH:4920	Solid and Hazardous Wastes	3
CPH:3200	Death at Work: Case Studies of Workplace Safety and Health	3
ISE:4175	Safety Engineering	3
OEH:5410	Occupational Safety	3
OEH:5620	Occupational Health	3
OEH:6420	Methods in Exposure Science	3
OEH:6440	Control of Occupational Hazards	3
OEH:6450	Aerosol Technology	3
OEH:6720	Advanced Toxicology	4

### Additional Elective

Students may select an additional focus area content course in consultation with academic advisors.

### Sustainability

Students in the sustainability focus area are encouraged to complete CBE:5425 Atmospheric Chemistry and Physics to satisfy the chemical engineering major's advanced science requirement.

Students in this focus area are required to complete the following courses to fulfill the collegiate curriculum General Education Component.

Code	Title	Hours
<b>Be Creative</b>		
CNW:2740	The Art and Craft of Writing about the Environment	3
<b>Approved Course Subjects</b>		
ENGL:1510	Introduction to Environmental Literature	3
or JMC:1800	Twenty-first-Century Science: Environmental Communication in the Digital Age	
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3

### Sustainability Electives

Code	Title	Hours
12 s.h. from these:		
CBE:4410/CEE:4107	Sustainable Systems	3
A course that counts toward the Certificate in Sustainability		3-4
A science or engineering course numbered 3000 or above		
May include one of these:		
EES:1080/ ENVS:1080	Introduction to Environmental Science	3-4

EES:1085/ ENVS:1085	Fundamentals of Environmental Science	4
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### Additional Elective

Consult academic advisors for course selection. It is recommended that students choose a course that contributes to earning a certificate or minor.

## Combined Programs

### B.S.E./M.S. in Chemical and Biochemical Engineering

The College of Engineering offers a combined Bachelor of Science in Engineering/Master of Science for chemical engineering undergraduate students who intend to earn a M.S. in chemical and biochemical engineering. B.S.E./M.S. students may count 12 s.h. of coursework (typically advanced chemistry sequences and electives) toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they typically complete the M.S. one year later.

To be admitted to the degree program, students must have a cumulative g.p.a. of at least 3.25, and must apply to the Graduate College for acceptance into the program before starting their final two semesters. Visit Undergraduate to Graduate (U2G) Programs on the Department of Chemical and Biochemical Engineering website to learn more.

### B.S.E./M.S. in Civil and Environmental Engineering

Bachelor of Science in Engineering students majoring in chemical engineering who are interested in earning a Master of Science in civil and environmental engineering may apply to the combined B.S.E./M.S. program offered by the College of Engineering. The combined program enables undergraduate students to begin work on the M.S. degree while completing their B.S.E. degree. Students admitted to the program may count 9 s.h. of coursework toward both the B.S.E. and the M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements before they have been awarded the B.S.E. degree. For more information, see the M.S. in civil and environmental engineering [p. 1611] in the Catalog.

## Career Advancement

Chemical and biochemical engineers work in a wide range of industries, including petroleum and specialty chemical production, polymer and plastic production, food processing, energy, microelectronics production, pharmaceutical production, biochemical processing, and environmental compliance. Potential jobs include production, process development, plant design and construction, and fundamental research. Many experienced chemical and biochemical engineers move through management ranks to high-level administrative positions. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree

graduates, according to the National Association of Colleges and Employers (NACE).

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

Engineering Career Services also offers individual advising and class presentations on resumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

# Chemical and Biochemical Engineering, M.S.

The Department of Chemical and Biochemical Engineering provides a stimulating academic community where students engage in a highly personalized learning and research environment. The graduate program provides qualified students with deeper and broader training than is possible at the undergraduate level. The Master of Science program provides students with opportunities to obtain specialized knowledge and expertise through advanced coursework in chemical engineering and related disciplines, to engage in interdisciplinary research opportunities (thesis option), and to impact their communities through service learning.

Faculty within the department have focused research projects in biological and pharmaceutical systems, clean energy and water, air quality and climate, polymers and advanced materials, quantum chemical simulation, machine learning, and remote sensing; see Graduate Program on the Department of Chemical and Biochemical Engineering website.

## Learning Outcomes

Graduates will:

- demonstrate a mastery of advanced chemical engineering concepts;
- effectively communicate scientific concepts and/or research results in both written and oral formats to scientific and general audiences;
- demonstrate knowledge of and commitment to safe and ethical behavior through adherence to best safety practices and academic integrity principles; and
- demonstrate the ability to serve as a STEM ambassador through outreach and service activities.

Students completing the program with thesis will additionally demonstrate the abilities to:

- perform independent research on an original topic in chemical engineering; and
- critically identify and solve research problems, summarize disciplinary information, and evaluate research findings.

## Requirements

The Master of Science program in chemical and biochemical engineering requires a minimum of 30 s.h. in approved graduate courses with or without thesis, plus 3-5 s.h. of required seminars (nonthesis and Undergraduate to Graduate students complete 3 s.h.; thesis students complete 3-5 s.h.). Students who pursue the thesis option may earn up to 6 s.h. in CBE:5999 M.S. Thesis Research: Chemical and Biochemical Engineering. All students must maintain a cumulative g.p.a. of at least 3.00.

Students who receive assistantships, fellowships, or other awarded financial support are expected to pursue an advanced degree with thesis.

Students entering with a degree other than chemical engineering may need to take additional coursework to attain proficiency in core areas of chemical engineering.

The M.S. with a major in chemical and biochemical engineering requires the following coursework. Students must maintain a g.p.a. of at least 3.25 in the five core courses.

## Core Courses

Code	Title	Hours
All of these:		
CBE:5105	Introduction to Literature Review and Proposal Writing	3
CBE:5110	Intermediate Thermodynamics	3
CBE:5115	Transport Phenomena I	3
CBE:5120	Data Science in Chemical and Engineering Systems	3

## Kinetics

Code	Title	Hours
One of these:		
CBE:3205	Introduction to Biochemical Engineering	3
CBE:5315	Polymer Chemistry	3
CBE:5425	Atmospheric Chemistry and Physics	3

## Breadth Requirement

Students take a 3 s.h. course taught in the Department of Chemical and Biochemical Engineering (prefix CBE) in an area outside their prior graduate degree training and research specialization area.

## Electives

Students supplement the core curriculum with electives tailored to their interests.

## Additional Requirements

All thesis students must take ENGR:7270 Engineering Ethics (1 s.h.) during their first semester and CBE:5000 Seminar in Chemical and Biochemical Engineering (1 s.h.) each semester in residence. Nonthesis students must take CBE:5100 Graduate Professional Development Seminar (1 s.h.) in each of their final two semesters in the program.

Students in the nonthesis program may petition for entry into the thesis program or the Ph.D. program by requesting a change of status through the Graduate College. The request is reviewed by the Graduate Admissions Committee. If approved by the committee, the request is forwarded to the chemical and biochemical engineering faculty for final approval. Students then are assigned to research advisors as though they are newly admitted graduate students. For a detailed description of program requirements, see Graduate Program on the Department of Chemical and Biochemical Engineering website.

All students must pass a final examination.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must provide the following.

- Completed application form.
- Unofficial transcript(s). If admitted, official transcripts are required before enrollment. For international students, all academic records should bear the original stamp or seal of the institution and the signature of a school official. Documents not in English must be accompanied by a complete, literal, English translation, certified by the issuing institution.
- Official Graduate Record Examination (GRE) General Test scores (verbal and quantitative) from Educational Testing Services (the University's institutional code is 6681).
- Statement of purpose.
- Three letters of recommendation.
- Test of English as a Foreign Language (TOEFL) or International English Language Testing System (IELTS) scores for applicants whose first language is not English.

Admission to the department is competitive and is based on an applicant's previous coursework, research, and/or industrial experience. The admissions committee looks for evidence that an applicant has demonstrated qualities such as creativity, self-initiative, dedication, and perseverance exhibited by successful master's degree students.

Applicants must have earned a four-year baccalaureate degree (B.S. or B.S.E.) in chemical engineering or a related science or engineering discipline, such as chemistry, biochemistry, biological engineering, environmental science, atmospheric science, materials science, mathematics, and physics.

Applicants are expected to have a cumulative g.p.a. of at least 3.00 on a 4.00 scale in work for their undergraduate degree. Applicants through the Undergraduate to Graduate (U2G) B.S./M.S. program must have a cumulative g.p.a. of at least 3.25 on a 4.00 scale.

## Financial Support

Full financial support is available to admitted M.S. thesis students in the form of teaching assistantships, research assistantships, and fellowships. The department provides up to two years of support for all full-time M.S. thesis students who are making normal progress toward the degree, exhibit satisfactory performance in all duties, and maintain appropriate professional conduct. Students admitted to the nonthesis M.S. or Undergraduate to Graduate (U2G) programs are not guaranteed department financial support.

## Career Advancement

Chemical and biochemical engineers work in a wide range of industries, including petroleum and specialty chemical production, polymer and plastic production, food processing, energy, microelectronics production, pharmaceutical production, biochemical processing, and environmental compliance. Potential jobs include production, process development, plant design and construction, and fundamental research. The engineering profession also is a foundation for a variety of careers in medicine, law, government, and consulting. Many experienced chemical and biochemical engineers move through management ranks to high-level administrative positions. Faculty mentors assigned to graduate students aid in their professional development. Students are exposed to opportunities through seminar speakers who have relevant expertise and are invited to campus.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development. Engineering Career Services also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

The Graduate College offers numerous career advancement opportunities and professional development programs for graduate students. For ongoing program offerings, news, and announcements, see Grad Success Center on the Graduate College website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Chemical and Biochemical Engineering, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CBE:5120	Data Science in Chemical and Engineering Systems	3
ENGR:7270	Engineering Ethics <sup>b</sup>	1
Kinetics course <sup>c</sup>		3
Elective course <sup>d</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
CBE:5104	Introduction to Literature Review and Technical Writing	3
CBE:5115 or CBE:5110	Transport Phenomena I <sup>e</sup> or Intermediate Thermodynamics	3
Breadth requirement course <sup>f</sup>		3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
CBE:5100	Graduate Professional Development Seminar <sup>g</sup>	1
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		3
Elective course <sup>d</sup>		2
<b>Hours</b>		<b>9</b>

**Spring**

CBE:5100	Graduate Professional Development Seminar <sup>g</sup>	1
CBE:5115 or CBE:5110	Transport Phenomena I <sup>e</sup> or Intermediate Thermodynamics	3
Final Exam		
	<b>Hours</b>	<b>4</b>
	<b>Total Hours</b>	<b>32</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Must be completed during first semester.
- c Choose one course from CBE:3205 (offered every spring), CBE:5315 (offered fall of even years), or CBE:5425 (offered spring of even years).
- d Work with faculty advisor to determine appropriate graduate coursework and sequence.
- e CBE:5110 is typically offered spring of even years and CBE:5115 is typically offered spring of odd years.
- f Students take a 3 s.h. course taught in the Department of Chemical and Biochemical Engineering (prefix CBE) in an area outside their prior graduate degree training and research specialization area.
- g Students must take this course in each of their final two semesters in the program; credit earned does not count toward the 30 s.h. required to complete the degree.

# Chemical and Biochemical Engineering, Ph.D.

The Department of Chemical and Biochemical Engineering provides a stimulating academic community where students engage in a highly personalized learning and research environment. The graduate program provides qualified students with deeper and broader training than is possible at the undergraduate level. The Doctor of Philosophy program provides students with opportunities to obtain specialized knowledge and expertise through advanced coursework in chemical engineering and related disciplines, to engage in interdisciplinary research opportunities, and to impact their communities through service learning. The department emphasizes research, since most opportunities for graduates are in research and development.

Faculty within the department have focused research projects in biological and pharmaceutical systems, clean energy and water, air quality and climate, polymers and advanced materials, quantum chemical simulation, machine learning, and remote sensing; see Graduate Program on the Department of Chemical and Biochemical Engineering website.

## Learning Outcomes

Graduates will:

- demonstrate a mastery of advanced chemical engineering concepts;
- effectively communicate scientific concepts and/or research results in both written and oral formats to scientific and general audiences;
- demonstrate the ability perform independent research on an original topic in chemical engineering;
- demonstrate the ability to critically identify and solve research problems, summarize disciplinary information, and evaluate research findings;
- demonstrate knowledge of and commitment to safe and ethical behavior through adherence to best safety practices and academic integrity principles; and
- demonstrate the ability to serve as a STEM ambassador through outreach and service activities.

## Requirements

The Doctor of Philosophy program in chemical and biochemical engineering requires a minimum of 72 s.h. of graduate credit. However, the degree is granted primarily on the basis of achievement rather than on the accumulation of semester hours. Students must maintain a cumulative g.p.a. of at least 3.25.

All students must complete a core curriculum, which consists of one course in transport phenomena, chemical thermodynamics, chemical reaction kinetics, technical communication, and data science plus five additional courses (total of 30 s.h.).

Students entering with a degree other than chemical engineering may need to take additional coursework to attain proficiency in core areas of chemical engineering.

The Ph.D. with a major in chemical and biochemical engineering requires the following coursework.

## Core Courses

Students must complete the five core courses with a minimum g.p.a. of 3.50.

Code	Title	Hours
All of these:		
CBE:5105	Introduction to Literature Review and Proposal Writing	3
CBE:5110	Intermediate Thermodynamics	3
CBE:5115	Transport Phenomena I	3
CBE:5120	Data Science in Chemical and Engineering Systems	3

## Kinetics

Code	Title	Hours
One of these:		
CBE:3205	Introduction to Biochemical Engineering	3
CBE:5315	Polymer Chemistry	3
CBE:5425	Atmospheric Chemistry and Physics	3

## Breadth Requirement

Students take a 3 s.h. course taught in the Department of Chemical and Biochemical Engineering (prefix CBE) in an area outside their prior graduate degree training and research specialization area.

## Electives

Students supplement the core curriculum with electives tailored to their research area.

## Additional Requirements

All students are required to take ENGR:7270 Engineering Ethics (1 s.h.) during their first semester and CBE:5000 Seminar in Chemical and Biochemical Engineering every semester in residence. Students earn the remainder of credit for the degree in elective courses and research.

In addition to a minimum grade-point average in the five core courses, students are required to pass a comprehensive examination before they can become candidates for degree. The comprehensive examination is the presentation and defense of the candidate's research proposal. These examinations are arranged by members of the examining committee and may be repeated at the committee's discretion. Comprehensive examination policies are published in the Manual of Rules and Regulations on the Graduate College website. A final examination, which is a defense of the thesis, completes the doctoral program.

For a detailed description of program requirements, see Graduate Program on the Department of Chemical and Biochemical Engineering website.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in chemical and biochemical engineering in a combined degree program offered by the College of Engineering and the Carver College of Medicine. Applicants

must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must provide the following.

- Completed application form.
- Unofficial transcript(s). If admitted, official transcripts will be required before enrollment. For international students, all academic records should bear the original stamp or seal of the institution and the signature of a school official. Documents not in English must be accompanied by a complete, literal, English translation, certified by the issuing institution.
- Official Graduate Record Examination (GRE) General Test scores (verbal and quantitative) from Educational Testing Services (the University's institutional code is 6681) or International English Language Testing System (IELTS).
- Statement of purpose.
- Three letters of recommendation.
- Test of English as a Foreign Language (TOEFL) scores for applicants whose first language is not English.

Admission to the department is competitive and is based on an applicant's previous coursework, research, and/or industrial experience. The admissions committee looks for evidence that an applicant has demonstrated qualities such as creativity, self-initiative, dedication, and perseverance exhibited by successful Ph.D. or master's degree students.

Applicants must have earned a four-year baccalaureate degree (B.S. or B.S.E.) in chemical engineering or a related science or engineering discipline, such as chemistry, biochemistry, biological engineering, environmental science, atmospheric science, materials science, mathematics, and physics. An M.S. degree is not a prerequisite for admission to the Ph.D. program. Applicants to the Ph.D. program are expected to have a cumulative g.p.a. of at least 3.00 on a 4.00 scale in work for their undergraduate degree.

## Financial Support

Full financial support is available to admitted Ph.D. students in the form of teaching assistantships, research assistantships, and fellowships. The department provides up to five years of support for all full-time Ph.D. students that are making satisfactory progress toward the degree and maintain appropriate professional conduct.

## Career Advancement

The Ph.D. program is designed to equip students with the skills to pursue a career in industry, academia, or government. Faculty and alumni mentors assigned to graduate students aid in their professional development. Students are exposed to opportunities through seminar speakers who have relevant expertise and are invited to campus.

The Graduate College offers numerous career advancement opportunities and professional development programs for graduate students. For ongoing program offerings, news, and

announcements, see Grad Success Center on the Graduate College website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Chemical and Biochemical Engineering, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
CBE:5120	Data Science in Chemical and Engineering Systems	3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
Kinetics course <sup>d</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
CBE:5105	Introduction to Literature Review and Proposal Writing	3
CBE:5115 or CBE:5110	Transport Phenomena I <sup>f</sup> or Intermediate Thermodynamics	3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>13</b>
<b>Second Year</b>		
<b>Fall</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
CBE:7999	Research: Chemical and Biochemical Engineering Ph.D. Dissertation	3
Breadth Requirement course <sup>g</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
CBE:5110 or CBE:5115	Intermediate Thermodynamics <sup>f</sup> or Transport Phenomena I	3

CBE:7999	Research: Chemical and Biochemical Engineering Ph.D. Dissertation	6
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>h</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
CBE:7999	Research: Chemical and Biochemical Engineering Ph.D. Dissertation	8
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
CBE:7999	Research: Chemical and Biochemical Engineering Ph.D. Dissertation	8
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
CBE:7999	Research: Chemical and Biochemical Engineering Ph.D. Dissertation	6
<b>Hours</b>		<b>7</b>
<b>Spring</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
<b>Hours</b>		<b>1</b>
<b>Fifth Year</b>		
<b>Fall</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
<b>Hours</b>		<b>1</b>
<b>Spring</b>		
CBE:5000	Seminar in Chemical and Biochemical Engineering <sup>b</sup>	1
<b>Hours</b>		<b>1</b>
Final Exam <sup>i</sup>		
<b>Hours</b>		<b>1</b>
<b>Total Hours</b>		<b>72</b>

an area outside their prior graduate degree training and research specialization area.

h Complete within three years of entering program.

i Dissertation defense.

a Students must complete specific requirements in the

University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Students must take this course each semester in residence.

c Must be completed during first semester.

d Choose one course from CBE:3205 (offered every spring), CBE:5315 (offered fall of even years), or CBE:5425 (offered spring of even years).

e Work with faculty advisor to determine appropriate graduate coursework and sequence.

f CBE:5110 is typically offered spring of even years and CBE:5115 is typically offered spring of odd years.

g Students take a 3 s.h. course taught in the Department of Chemical and Biochemical Engineering (prefix CBE) in



# Civil and Environmental Engineering

## Chair

- A. Allen Bradley Jr.

**Undergraduate majors:** civil engineering (B.S.E.); environmental engineering (B.S.E.)

**Graduate degrees:** M.S. in civil and environmental engineering; Ph.D. in civil and environmental engineering  
**Faculty:** <https://engineering.uiowa.edu/people/cee-people>  
**Website:** <https://cee.engineering.uiowa.edu/>

Civil and environmental engineering is one of the three largest fields of engineering. It traditionally has been concerned with infrastructure facilities that are both large in scale and essential to modern life. Civil and environmental engineering projects include transportation systems and their components, such as bridges, highways, public transit systems, railways, harbors, airports, and seaports; large-scale structures and office buildings that provide enclosed working and living space; environmental and hydraulic systems that provide clean water and air, including filtration plants and distribution systems for municipal and industrial water supplies, wastewater treatment plants, dams, levees, and irrigation systems.

Growth areas of civil and environmental engineering include water sustainability, infrastructure development, construction management, computer-aided design, hazardous waste management, and engineered environmental systems. In the future, civil and environmental engineers will be called upon to design structures for earth, prevent erosion and sedimentation of rivers, predict effects of global climate change on the environment, provide modern and efficient transportation systems, and ensure the quality of our air, surface waters, and groundwaters.

In planning and design, civil and environmental engineers work with other engineers, architects, landscape architects, planners, economists, financiers, sociologists, lawyers, and other specialists as members of the design team. Some civil and environmental engineers work in engineering offices; others may be called upon to construct or supervise outdoor projects they have designed. These field assignments, many of which are in remote and fascinating parts of the world, are particularly appealing to many civil and environmental engineers. There also is significant potential for entrepreneurial work by civil and environmental engineers as they start their own companies.

In addition to the degree programs offered by the Department of Civil and Environmental Engineering, the department also participates in two Graduate College programs: Applied Mathematical and Computational Sciences [p. 1699], an interdisciplinary doctoral program; and Transportation Planning [p. 1801], a graduate certificate program.

## Certificates

### Sustainable Water Development

The graduate Certificate in Sustainable Water Development trains science, technology, engineering, and mathematics (STEM) students to address future challenges of water scarcity and variability while also meeting the food and energy demands of Earth's growing population. The Department of Civil and Environmental Engineering administers the

certificate program; see the Certificate in Sustainable Water Development [p. 1683] in the Catalog.

### Related Certificate: Transportation Planning

The Transportation Planning Program offers the graduate Certificate in Transportation Planning. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), and Economics (Tippie College of Business); and the School of Planning and Public Affairs (Graduate College) participate in the program.

The certificate is coordinated by the School of Planning and Public Affairs. See the Certificate in Transportation Planning [p. 1802] in the Catalog.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Civil Engineering (Bachelor of Science in Engineering) [p. 1602]
- Major in Environmental Engineering (Bachelor of Science in Engineering) [p. 1608]

### Graduate Programs of Study

#### Majors

- Master of Science in Civil and Environmental Engineering [p. 1611]
- Doctor of Philosophy in Civil and Environmental Engineering [p. 1616]

## Facilities

### Undergraduate Teaching Laboratories

#### Environmental Engineering Teaching Laboratory

Located at the Water Plant, this laboratory is designed to provide undergraduate students hands-on experience in water laboratory testing and analysis. It serves several program-required and elective courses with a laboratory component.

#### Fluids Laboratories

The fluid laboratories comprise a trio of rooms. The Fluids Fundamentals Lab includes recently built equipment and ones that have been around for decades. The Advanced Measurements Lab includes some of the larger experimental devices, such as a wind tunnel and a towing tank. The third laboratory, the Fluids Workshop, is a space in which students can perform their experiments.

#### Hydraulics Laboratory

The Hydraulics Laboratory experimental facilities include flumes and pipe systems to perform experiments on open-channel and closed-conduit flows. Instruments are available

for measuring various flow quantities such as discharge, pressure, velocity, and temperature.

## Iowa Technology Institute

The Iowa Technology Institute contains 17 work stations, all connected to the engineering computer network, that allow students to access AutoCAD, Pro/ENGINEER, and a full complement of structural, hydraulic, transportation, and environmental software to support work on engineering design projects.

## Soils Laboratory

The teaching laboratory contains state-of-the-art equipment to provide hands-on experience to students and allows them to sharpen their skills on soil properties and characterization, soil stability, soil strength, consolidation/compaction for highway embankments, and foundations of structures. The teaching lab is an air-conditioned, temperature-controlled laboratory with an extensive number of different types of equipment. It is used twelve times throughout the year to perform four teaching sessions to groups of junior-level students.

## Structures, Mechanics, and Materials Laboratory

The Structures, Mechanics, and Materials Laboratory is a teaching lab where students conduct experiments to quantify the physical and mechanical properties of construction materials. Equipment is available to test metals, aggregates, concrete, and asphalt.

## Graduate Laboratories

### Structures, Mechanics, and Materials

Facilities for computations, materials testing, geotechnical experiments, and small-scale structural testing are available for research and teaching. Faculty, staff, and students in structures, mechanics, and materials (SMM) have access to the computing resources of the Engineering Technology Center and the Iowa Technology Institute (ITI). Both centers continuously update their computing facilities to maintain pace with the rapidly changing field.

A wide range of experimental facilities are available for testing structural materials such as Portland cement concrete, asphalt, metals, timber, and composites. These facilities include several loading frames (purely uniaxial, purely torsional, and axial-torsional) that are available with computer-based control and data collection systems. Facilities for creep testing, triaxial soil testing, and high-cycle fatigue testing also are available. The laboratories have a variety of ovens and other facilities for preparation and treatment of test specimens.

Four well-equipped physical testing laboratories are dedicated to SMM teaching and research: the Civil Materials Laboratory, Soil Mechanics Laboratory, Plasticity Laboratory, and the Asphalt Laboratory. The Civil Materials Laboratory currently has a small-scale single-degree-of-freedom shaker table. Faculty, staff, and students have access through ITI to a six-degree-of-freedom man-rated shaker table with 4,000-pound payload and a 12-camera Vicon motion-capture system.

## Transportation Engineering

The department's Asphalt Laboratory is equipped with a set of Superpave testing equipment and asphalt mixture performance testing equipment which can measure dynamic modulus and flow number of asphalt mixtures. The lab has a

Hamburg Wheel Tracking Device for measuring the moisture sensitivity of asphalt mixtures; asphalt foaming equipment for mix design of cold in-place recycled asphalt using foamed asphalt; and equipment for Marshall mix design, indirect tensile strength test, and volumetric analysis of asphalt mixtures. The Asphalt Laboratory is one of the department's group of laboratories for testing the strength behavior of other materials.

## Water and the Environment

The teaching and research functions of the department are closely connected to the research activities of IIHR—Hydroscience & Engineering. The institute houses some of the most modern research facilities in the world, including a 100-meter towing tank, a wave basin facility for ship hydrodynamics research, several flumes, an array of field instrumentation for hydrologic experiments, extensive laboratory space for hydraulic modeling, state-of-the-art instrumentation for flow measurements and visualization, and comprehensive computational facilities.

Research related to ecohydraulics and the environment takes place at the Lucille A. Carver Mississippi Riverside Environmental Research Station. IIHR—Hydroscience & Engineering operates the 250-square-foot facility, which is located on the Mississippi River near Muscatine, Iowa. The station provides engineers and biological scientists with an ideal facility in which to examine the multifaceted ecohydraulic processes of the upper Mississippi. It is equipped with water quality laboratories, research boats, and a seminar room.

The Environmental Engineering and Science Laboratories provide state-of-the-art facilities, equipment, and expertise to support both undergraduate and graduate-level instruction and research. The labs support research in contaminant fate and transport in various media (air, water, soil, plants, and microbes), drinking water disinfection and distribution, wastewater treatment, geochemical-contaminant interactions, bioremediation, and phytoremediation. They also provide resources for analytical chemistry, electrochemistry, molecular biology, microscopy, computer modeling, and simulated environments on the bench- and pilot-scale levels.

The Environmental Engineering and Science Laboratories are affiliated with the University's Center for Health Effects of Environmental Contamination, Center for Global and Regional Environmental Research, and the Environmental Health Sciences Research Center, an affiliate of the National Institute of Environmental Health Sciences (NIEHS).

## Courses

### Civil and Environmental Engineering Courses

#### CEE:0000 Civil Engineering Internship/Co-op 0 s.h.

Civil engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record card. Requirements: admission to the Cooperative Education Program.

- CEE:1010 Introduction to Careers in Environmental Engineering** 0 s.h.  
Past, present, and future roles of environmental engineers in society; introduction to the discipline's historical roots and early visionary leaders in sanitation engineering and public health; growth during the environmental movement, and current role of environmental engineers in modern society as stewards for clean air, water, and energy; range of career opportunities available to environmental engineering majors, particularly in the emerging role of ambassadors for sustainable development.
- CEE:1030 Introduction to Earth Science** 3-4 s.h.  
Relationships between plate tectonics, geologic time, and the rock cycle with volcanoes and igneous, sedimentary, metamorphic rocks; fossils; radioactive isotopes; landscape evolution; mountain building; natural resources; their impacts on civilization. GE: Natural Sciences with Lab; Natural Sciences without Lab. Same as EES:1030.
- CEE:1031 Introduction to Earth Science Laboratory** 1 s.h.  
Laboratory component of EES:1030. Requirements: completion of 3 s.h. in EES:1030 or CEE:1030. GE: Natural Sciences Lab only. Same as EES:1031.
- CEE:2010 Civil and Environmental Engineering Professional Practice and Ethics** 1 s.h.  
Practical issues associated with civil engineering practice; topics may include safety and OSHA regulations, engineering specifications/building codes, contracts, liability, and ethics; role that a professional engineering license plays in the student's career and professional/ethical obligations that come with it; history of civil engineering and development of civil practice in the United States.
- CEE:2015 Civil Engineering Tools** 2 s.h.  
Tools and methods used in civil engineering career: AutoCAD, programming, project estimating, heavy equipment productivity estimation, and earthwork estimation.
- CEE:2050 Severe and Unusual Weather** 3 s.h.  
Basic weather concepts behind severe weather phenomena and essential safety information; how weather events cause billions of dollars in damage and thousands of casualties; winter storms can impact half of the nation, paralyzing the transportation network with icy roads and wind driven snow; tornadoes can strike within minutes tearing apart homes; hurricanes can destroy entire communities with strong winds, heavy rain, and deadly storm surge; how understanding severe weather and knowing what to do before, during, and after an event can significantly reduce injury, deaths, and property damage. Same as CBE:2050.
- CEE:2240 Digital Drafting with AutoCAD** 3 s.h.  
Basic principles of 2D and 3D computer-aided drafting; use of AutoCAD software to draw plans, elevations, and sections for objects and interior spaces. Prerequisites: CERM:2010 or SCLP:2810 or TDSN:2210 or MTLs:2910. Same as TDSN:2240.
- CEE:3001 Leadership Skills for Engineers** 1 s.h.  
Survey of leadership ideas and principles as applied to situations commonly encountered in civil engineering practice, especially as they relate to challenges that beginning engineers face; speakers in selected engineering professions provide context and examples; exercises on leadership principles. Requirements: junior standing in civil and environmental engineering.
- CEE:3002 Technical Communication in Civil and Environmental Engineering** 1 s.h.  
Development of communication skills through writing and oral presentations; impact of engineering solutions in a global, economic, environmental, and societal context; writings and presentations on current or historical engineering solutions; exposure to professionals with significant experiences to share in these areas. Requirements: junior standing.
- CEE:3003 Project Management Skills** 1 s.h.  
Review and extension of civil and environmental engineering project management skills in preparation for capstone senior design course; project scheduling, cost estimating, contract types, construction phasing; review for Fundamentals of Engineering Exam (FE) and practice tests in four subdisciplinary areas. Requirements: senior standing.
- CEE:3142 Quality Control** 3 s.h.  
Basic techniques of statistical quality control; application of control charts for process control variables; design of inspection plans and industrial experimentation; modern management aspects of quality assurance systems. Offered fall semesters. Prerequisites: STAT:2020 or BAIS:9100 or (STAT:3100 and STAT:3101 and STAT:3200). Same as ISE:3600, STAT:3620.
- CEE:3155 Principles of Environmental Engineering** 4 s.h.  
Water supply and treatment processes; wastewater treatment processes; processes for air pollution control, groundwater remediation; solid and hazardous waste management. Prerequisites: CHEM:1110.
- CEE:3328 Fluvial Geomorphology** 3 s.h.  
Hydrologic principles, stream channel processes, and fluvial geomorphology within drainage basin systems; spatial and temporal variations in water distribution, analysis of hydrological data, flow mechanisms, sediment transport, forecasting procedures, hydrograph construction, modeling. Requirements: EES:3020 or another 3000-level geology or hydraulics course. Same as EES:3380.
- CEE:3371 Principles of Hydraulics and Hydrology** 3 s.h.  
Hydraulics of pressure conduits and open channels, dimensional analysis, flow measurements, hydraulic machinery, laboratory. Prerequisites: ENGR:2510.
- CEE:3430 Water Treatment** 4 s.h.  
Physical, chemical, and biological processes and operations to remove and treat chemical and pathogenic pollutants and protect human and environmental health; relevant to drinking water, municipal wastewater, water reuse, stormwater, industrial process water, agricultural wastewater; modern technologies and appropriate designs for the developing world; theory and applications; hands-on laboratory. Prerequisites: CEE:3155 and ENGR:2510.
- CEE:3530 Geomechanics** 4 s.h.  
Identification and classification of earth materials; hydraulic and mechanical properties of soils; soil improvement; laboratory testing. Prerequisites: ENGR:2750.
- CEE:3533 Principles of Structural Engineering** 4 s.h.  
Fundamental principles of structural analysis applied to statically determinate and indeterminate structures, continuous beams, trusses, and frames; external and internal equilibrium, compatibility of deformation, influence lines, virtual work; parallel use of classical and matrix formulation; slope deflection, flexibility and stiffness methods; use of computers. Prerequisites: ENGR:2750.

- CEE:3586 Civil Engineering Materials** 3 s.h.  
Structure, strength and failure, durability, deformation, practice, and processing for primary construction materials systems, including steel, aluminum, concrete, asphalt, fiber-reinforced composites, masonry, timber. Prerequisites: ENGR:2750.
- CEE:3763 Principles of Transportation Engineering** 3 s.h.  
History of transportation modes, new transport technologies, traffic operations and control, economic evaluation of transport alternatives, transportation planning, roadway design and construction, route location, preventive maintenance strategies. Requirements: sophomore standing.
- CEE:3783 Surveying and Remote Sensing** 3 s.h.  
Engineering surveying measurements, methods, computations. Prerequisites: ENGR:1100.
- CEE:3790 Resilient Infrastructure and Emergency Response** 3 s.h.  
Concepts of resilient cities with specific emphasis on role of infrastructure and built environment; risk analysis, hazard mitigation and emergency response to various threats; resiliency through good design.
- CEE:3996 Civil and Environmental Engineering: Engineering Project** 1 s.h.  
Support for student learning associated with an engineering project; students work as a team to design and fabricate a product; student projects are often associated with a contest or competitions (e.g., steel bridge, concrete canoe).
- CEE:3997 Engineering Service Project** 1-3 s.h.  
Provides support of student learning associated with a variety of international engineering service projects facilitated by the Department of Civil and Environmental Engineering; service projects are usually designed and built as part of an Engineers Without Borders USA and/or a Bridges to Prosperity (Continental Crossings) approved program; active involvement by students in these organizations required.
- CEE:3998 Individual Investigations: Civil Engineering** arr.  
Individual projects for civil engineering undergraduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.
- CEE:4097 Topics in Teaching and Learning** 1 s.h.  
Overview of Iowa's hydroclimate; emphasis on discharge, rainfall, and temperature; how to address basic research questions related to Iowa's climate and extreme events; hands-on exercises.
- CEE:4102 Groundwater** 3 s.h.  
Groundwater quality and quantity; Darcy's Law, 2D flow equation, unsaturated zone, contaminant transport, redox reactions, drinking water quality, bioremediation; laboratories in permeameter testing, porous media grain size analysis, pump testing, monitoring well installation.
- CEE:4104 Groundwater Modeling** 3 s.h.  
Groundwater flow and contaminant transport modeling; numerical methods, applications of groundwater modeling to water supply, groundwater resources evaluation, remediation design using software; GMS (MODFLOW, MODPATH, and MT3D). Prerequisites: MATH:1860 and EES:4630. Same as EES:4660.
- CEE:4107 Sustainable Systems** 3 s.h.  
New and emerging concepts in sustainable systems design and assessment. Same as CBE:4410.
- CEE:4118 Statistical Methods in Water and the Environment** 3 s.h.  
Basic methods required for data analysis and interpretation of processes related to water and the environment; emphasis on formulating questions, choosing appropriate statistical tools for a given problem, drawing appropriate conclusions from analyses; concepts related to statistical inference and common probabilistic models, linear regression, non-parametric statistics; how to perform these analyses using R programming language; introduction to statistical methods through use of hands-on analyses with real data. Prerequisites: STAT:2020 and MATH:2560.
- CEE:4119 Hydrology** 3 s.h.  
Overview of fundamental processes in water cycle, including precipitation, evaporation, infiltration, and runoff; quantitative approaches for predicting streamflow and design discharges; applications to flood hazard assessment and stormwater management. Prerequisites: ENGR:2510.
- CEE:4135 Structural Modeling and Health Monitoring** 3 s.h.  
Measurements, structural modeling, structural analysis, stiffness method, trusses and frames, structural testing, modal analysis. Prerequisites: CEE:3533 and ENGR:2750.
- CEE:4150 Environmental Chemistry** 3 s.h.  
Principles of general, physical, organic chemistry applied in water and air systems; emphasis on qualitative and quantitative understanding of chemical kinetics and equilibrium; acid-base reactions, complex formation, precipitation, dissolution, and oxidation-reduction reactions; organic nomenclature. Prerequisites: CHEM:1120. Same as CBE:4420.
- CEE:4157 Environmental Engineering Design** 3 s.h.  
Application of physical, chemical, and biological operations and processes to the design of water and wastewater treatment systems; applications in solid and hazardous waste treatment. Prerequisites: CEE:3155.
- CEE:4158 Solid and Hazardous Wastes** 3 s.h.  
Sources, characteristics, collection, disposal of solid and hazardous wastes; environmental impacts of hazardous waste management; resource recovery systems. Requirements: for OEH:4920—OEH:4240. Same as OEH:4920.
- CEE:4159 Air Pollution Control Technology** 3 s.h.  
Sources, environmental and health impacts, regulations, modeling of air pollution; processes and alternative strategies for control; global climate considerations. Same as CBE:4459, IGPI:4159.
- CEE:4160 Introduction to Bridge Engineering** 3 s.h.  
Bridge engineering and design; history of the bridge; factors that affect bridge design; bridges according to use (e.g., road, rail, pedestrian and bicycle) and type (e.g., suspension, cable stay, truss); how sustainability concepts may impact bridge design; substantial design exercise. Prerequisites: CEE:3533.
- CEE:4162 Structural Systems for Buildings** 3 s.h.  
Detailed analysis and design of gravity and lateral force resisting systems for buildings; roof, floor, and bearing wall gravity systems; steel braced frames, steel and concrete moment frames, and masonry and timber shear walls lateral systems; introduction to tall building structures. Prerequisites: CEE:3533.

- CEE:4164 Design of Wood Structures** 3 s.h.  
Framing layout and analysis of wood frame structures for gravity and lateral loads; design of structural members for bending, axial load, and shear, including joists, beams, columns, engineered lumber, bearing walls, shear walls, and diaphragms; introduction to connection design. Prerequisites: CEE:3533.
- CEE:4176 Transportation Research Methods and Analysis** 3 s.h.  
Methods for measuring current and future transportation demand based on changes in population, preferences, built environment, and changing policy objectives; survey design and analysis; basics of travel demand modeling. Same as URP:4262.
- CEE:4180 Fundamentals of Atmospheric Science** 3 s.h.  
Review of fundamental principles in atmospheric sciences needed for study of interdisciplinary topics involving the Earth's atmosphere; understanding weather and climate processes to address problems in engineering; hydrometeorology of rainfall and its measurement by remote sensing; impact of climate anomalies and climate change on water resources; exchange of water, energy, and chemicals at the land-atmosphere boundary; forecasting of atmospheric chemistry and air quality. Prerequisites: ENGR:2510.
- CEE:4187 Statistics for Experimenters** 3 s.h.  
Application of statistical techniques to evaluate data derived from experimental samples designs; use of spreadsheets, statistical software; design and analysis of experiments; regression analysis; model building; practical applications. Same as OEH:4540.
- CEE:4317 Remote Sensing** 3 s.h.  
Fundamentals of electromagnetic waves, atmospheric radiative transfer, passive remote sensing, weather radar, hydrologic application of remote sensing.
- CEE:4370 Open Channel Flow and Sediment Transport** 3 s.h.  
In-depth analysis of governing flow equations; steady uniform flow in channels of different resistance and cross section; flow control sections; specific energy considerations; analysis and computation of gradually varied profiles and spatially varied flow effected by lateral outflow and inflow; unsteady flow; flood routing. Prerequisites: CEE:3371.
- CEE:4371 Water Resources Engineering** 3 s.h.  
Planning and economics of varied water resources projects; stochastic basis for design; flood damage mitigation, reservoirs, river morphology, economic analysis of water projects, urban water requirements, water supply, hydroelectric power systems, river navigation; contemporary civil-engineering problems and issues associated with water infrastructure development. Corequisites: CEE:3371.
- CEE:4374 Water Resource Design** 3 s.h.  
Prerequisites to storm water management systems design, including design flows and rates; analysis and design of storm sewers, detention basins, street and highway drainage facilities, culverts, dams, spillways, measures for energy dissipation; review of wastewater transfer systems and design. Prerequisites: CEE:3371.
- CEE:4385 International Perspectives in Water Sciences and Management** 3 s.h.  
Internationalization and water, with focus on a country or a world region; intensive, in-depth exposure to complex issues that affect planning and execution of water projects in large-scale watersheds.
- CEE:4506 Design of Concrete Structures** 3 s.h.  
Fundamental analysis and design of reinforced concrete members and structures, flexure, shear, bond, continuity, beams, one-way slab system; columns. Prerequisites: CEE:3533.
- CEE:4511 Scientific Computing and Machine Learning** 3 s.h.  
Numerical methods in scientific computing; root problems and optimization; linear algebraic equations; eigenvalue problems; numerical differentiation and integration; interpolation and curve-fitting; initial value and boundary value problems; machine learning in regression, classification, and clustering problems; Python programming and packages. Prerequisites: MATH:2560. Same as ME:4111.
- CEE:4512 Engineering Design Optimization** 3 s.h.  
Engineering design projects involving modeling, formulation, and analysis using optimization concepts and principles; linear and nonlinear models, optimality conditions, numerical methods. Prerequisites: ENGR:2110 and MATH:2550. Requirements: junior standing. Same as ME:4112.
- CEE:4515 Computer-Aided Engineering** 3 s.h.  
Computational engineering modeling and simulation, geometric modeling, grid generation, finite-element and finite-volume methods, uncertainty analysis, optimization, engineering applications. Prerequisites: ENGR:2750. Corequisites: ME:3052. Same as ME:4110.
- CEE:4532 Fundamentals of Vibrations** 3 s.h.  
Vibration of linear discrete and continuous mechanical and structural systems; harmonic, periodic, and arbitrary excitation; modal analysis; applications. Prerequisites: ENGR:2750. Same as ME:4153.
- CEE:4533 Finite Element I** 3 s.h.  
One- and two-dimensional boundary value problems; heat flow, fluid flow, torsion of bars; trusses and frames; isoparametric mapping; higher order elements; elasticity problems; use of commercial software. Prerequisites: ENGR:2750. Same as IGPI:4115.
- CEE:4535 Design of Steel Structures** 3 s.h.  
Concepts and procedures in steel design; LRFD (load and resistance factor design) methodology for beams/columns; analysis and design of indeterminate structures. Prerequisites: CEE:3533.
- CEE:4539 Foundations of Structures** 3 s.h.  
Application of soil mechanics to analysis of structural foundations; slope stability analysis; bearing capacity and settlement of shallow and deep foundations; retaining structures, braced cuts, reinforced earth structures; usage of computational models; subsurface exploration methods. Prerequisites: CEE:3530.
- CEE:4560 Pavement Engineering** 3 s.h.  
Fundamental design principles; characterization and testing of asphalt and concrete paving materials; stresses and strain development within pavement structure; basic principles of mechanistic-empirical pavement design procedures. Prerequisites: CEE:3763.

**CEE:4730 Transportation Infrastructure Construction and Management** 3 s.h.

Analytical methods for developing transportation infrastructure construction and management systems; e-construction, transportation infrastructure condition evaluation, performance modeling, maintenance and rehabilitation optimization, asset management, development of transportation infrastructure construction and management system; application of information technology and mobile computing to solving transportation infrastructure construction and management problems. Prerequisites: CEE:3763.

**CEE:4762 Design of Transportation Systems** 3 s.h.

Overview of different modes within transportation systems; concepts of sustainability and livability in transportation system design; derivation of standards for geometric design of highways; roundabout design; cross-sectional and longitudinal geometric design of highways. Prerequisites: CEE:3763.

**CEE:4763 Traffic Engineering** 3 s.h.

Design of traffic control devices; evaluation and analysis of intersections and transportation networks using appropriate computer software. Prerequisites: CEE:3763.

**CEE:4850 Project Design and Management in Civil Engineering** 3 s.h.

Design of civil engineering systems, individual and team design projects oriented toward the solution of local problems, project management, construction management, contracts, budgeting, bidding. Corequisites: CEE:3003. Requirements: final semester.

**CEE:5083 Introduction to Comp Flow in Pipes and Channels** 3 s.h.

General review of numerical methods in hydraulics (finite-difference, finite-element, and method of characteristics); stability and accuracy of numerical schemes; steady free surface flows; flow transients in pipelines and channels. Prerequisites: ME:5160.

**CEE:5095 Career Paths in Sustainable Water Development** 0 s.h.

Introduction to different career paths in the food, energy, and water (FEW) sector; speakers from a variety of different careers—including researchers, professors, entrepreneurs, consultants, and civic, professional, and global engineers—discuss their own career paths as well as current opportunities in their fields; students prepare individual development plans that identify their preferred career (i.e., training) path, a plan of study (i.e., path coursework), mentors, and their preferred research area. Requirements: graduate standing in sustainable water development program.

**CEE:5096 Water, Energy, and Food Nexus Seminar** 0 s.h.

Invited presentations on research, policy, economics, and social drivers of water, energy, and food in the 21st century.

**CEE:5097 Coaching Seminar on Communicating Water Science** 0 s.h.

Presentation of student research on water, energy, and food in the 21st century; students receive live, immediate feedback from their peers and faculty coaches on best practices to improve their oral communication skills.

**CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation** 0 s.h.

Presentation and discussion of recent advances and research in structures, mechanics, materials, and transportation engineering by guest lecturers, faculty, and students. Requirements: graduate standing.

**CEE:5100 Cultural Competence for Sustainable Water Development Engineers** 0 s.h.

Skills needed to be culturally responsive to a wide range of communities in which sustainable water development engineering students interact with during their professional careers; series of three workshops; focus on how to identify cultural strengths that support development in underserved, resource-constrained communities; how to engage, build trust, and bridge differences with diverse stakeholders; how to conduct culturally sensitive interviews; how to communicate effectively across culture; preparation for Capstone Community Engagement project. Requirements: graduate standing in sustainable water development program.

**CEE:5110 Managing and Sharing Your Research Data** 1 s.h.

Overview of essential practices in managing the data you collect and generate during research. Topics include file organization; documenting your work and lab notebooks; optimizing spreadsheet data and cleanup tools; reproducibility; funder and publisher requirements; and conclude with how and where to share and publish data, from choosing a repository to creating a data record, including licensing, ownership, preservation of access, reuse, and citation. Applicable for any student currently doing research, or planning to do so. Same as OEH:5110.

**CEE:5115 Atmospheric Chemistry and Physics** 3 s.h.

Principal chemical and physical processes affecting atmospheric trace gas and pollutant cycles; emphasis on atmospheric photochemistry, aerosol science, major sources, and removal processes. Corequisites: CBE:3120. Same as CBE:5425.

**CEE:5137 Composite Materials** 3 s.h.

Mechanical behavior of composite materials and their engineering applications; composite constituents (fibers, particles, matrices) and their properties and behavior; macromechanical behavior of composite laminae; micromechanical predictions of composite overall properties; classical lamination theory; composite beams and plates. Prerequisites: ENGR:2750. Same as ME:5167.

**CEE:5156 Physical and Chemical Environmental Processes** 3 s.h.

Theory of physical and chemical operations and processes in water and wastewater treatment, including fundamental aspects of process dynamics; lectures, laboratory. Prerequisites: CEE:4150. Corequisites: CEE:3155.

**CEE:5179 Continuum Mechanics** arr.

Mechanics of continuous media; kinematics of deformation, concepts of stress and strain; conservation laws of mass, momentum and energy; constitutive theories; boundary and initial value problems. Prerequisites: ENGR:2750 or ENGR:2510. Same as ME:5179.

**CEE:5225 Communicating Data Through Stories** 3 s.h.

How to communicate science effectively and responsively with multiple audiences from peers and professors to potential employers, policymakers, and the lay public; focus on speaking about science clearly and vividly in ways that can engage varied audiences, especially those outside the student's own field; connecting and finding common ground with an audience, defining goals, identifying main points, speaking without jargon, explaining meaning and context, using storytelling techniques and multimedia elements. Same as GRAD:5225, SDG:5225.

- CEE:5236 Optimization of Structural Systems** 3 s.h.  
Advanced topics; optimization of structural topology, shape, and material; finite dimensional dynamic response optimization, sensitivity analysis, distributed parameter systems; projects. Same as BME:5720.
- CEE:5310 Informatics for Sustainable Systems** 3 s.h.  
Introduction to fundamental and advanced environmental informatics concepts and procedures including automated data collection, data management, data transformations, and processing to support modeling and analysis; scientific visualization of environmental data to support management of food, energy, and water (FEW) resources; sustainability in FEW systems. Same as IGPI:5311.
- CEE:5350 Watershed Hydrology and Ecosystem Processes** 3 s.h.  
Introduction to hydrologic and ecosystem processes within a watershed; description of water, energy, and nutrient cycling in watersheds; focus on hydrologic and water-quality issues in agricultural Midwest; watershed modeling techniques, ecosystem goods and services, and selected case studies in watershed and ecosystem management problems. Requirements: graduate standing.
- CEE:5369 Intermediate Mechanics of Fluids** 3 s.h.  
Basic concepts and definitions; pressure distribution in a fluid; governing equations and boundary conditions; integral and differential analysis; dimensional analysis and similarity; experimental analysis; laminar and turbulent internal and external flows; potential flows; engineering applications. Prerequisites: ENGR:2510. Same as ME:5160.
- CEE:5372 Experimental Methods in Fluid Mechanics and Heat Transfer** 3 s.h.  
Hands-on experience in methodology of conducting experiments in fluid mechanics and heat transfer from design to data acquisition and processing; essential theoretical elements, experimental methodologies, data acquisition systems, uncertainty analysis; wide variety of instruments for fundamental and applied experimentation; work in small groups; design, implement, test, and report an experiment in area of interest. Same as ME:5162.
- CEE:5380 Fluid Flows in Environmental Systems** 3 s.h.  
Introduction to environmental fluid flows and transport processes with focus on application and developing a language of environmental fluid mechanics; topics include physical and mathematical description of conservation and transport laws, statistical techniques for analyzing environmental flow data, scaling and similarity, stratification, turbulent flux measurement and modeling, environmental boundary conditions; application to surface waters and the planetary boundary layer; applied project involving collection and analysis of environmental flow data.
- CEE:5390 PCBs in the Environment** 3 s.h.  
Polychlorinated biphenyls (PCBs) as potent carcinogens and linked to metabolic syndrome, autism, learning disabilities, hearing loss, and neurological disorders; how these compounds become to be such ubiquitous environmental pollutants; what the impact of their presence is; how sites are remediated and exposures reduced; in-depth examination through literature review, laboratory experiments, computational modeling, final written reports, and presentations. Recommendations: laboratory experience.
- CEE:5410 Politics and Economics of the Food, Energy, Water Nexus** 3 s.h.  
Focus on the relationships between food, energy, and water resources; current and future political and economic frameworks that shape the food, energy, and water nexus.
- CEE:5440 Foundations of Environmental Chemistry and Microbiology** 3 s.h.  
Investigation of chemical and biological processes at the food-energy-water nexus; example topic areas include biogeochemical cycling of nutrients, biomass conversion, resource recovery from wastewater, removing pollutants from drinking water sources, water reuse, engineered natural treatment systems, pollutant transformation and control, treatment of process waters. Requirements: undergraduate senior standing or graduate standing.
- CEE:5460 Water Quality and Flow** 3 s.h.  
Laboratory and field experiments to promote student learning of flow-dependent movement and associated environmental transformation of surface water and groundwater pollutants; exploration of water quality and flow fundamentals needed to design and numerically model treatment reactors for small-community wastewater, urban storm water, and agricultural runoff; emphasis on engineered solutions that couple water quality and flow considerations as potential mitigations for adverse effects on natural water cycle caused by floods and other natural and human-influenced phenomena.
- CEE:5513 Mathematical Methods in Engineering** 3 s.h.  
Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: MATH:2550 and MATH:2560. Same as CBE:5140, ME:5113.
- CEE:5540 Intermediate Mechanics of Deformable Bodies** 3 s.h.  
Application of equilibrium analyses, strain-displacement relations, and constitutive relationships to practical structural systems and elementary plane elasticity problems. Prerequisites: ENGR:2750. Same as ME:5150.
- CEE:5549 Fracture Mechanics** 3 s.h.  
Three-dimensional stress states, definition and criteria for failure, nominal and local yield phenomena, linear elastic and elastic plastic fracture mechanics, plane stress and plane strain fracture toughness, J-Integral, crack opening displacement, environmental assisted cracking, fatigue crack growth, fail safe, and damage tolerant design. Prerequisites: ENGR:2750. Corequisites: ME:3052. Same as ME:5159.
- CEE:5678 Application Simulation to Transportation** 3 s.h.  
Transportation system management and traffic engineering; application of real-time simulation and visualization. Prerequisites: CEE:3763 or CEE:4763. Same as URP:5678.
- CEE:5875 Perspectives in Biocatalysis** 1-3 s.h.  
Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BMB:5875, CBE:5875, CHEM:5875, MICR:5875, PHAR:5875.
- CEE:5990 Structural Engineering Practicum A** 2 s.h.  
Students select a design project and develop two or more alternative design concepts in consultation with a three-member advisory committee consisting of at least one faculty member and one design professional; entire design process documented in a written report. Prerequisites: CEE:3136 and CEE:4535.

- CEE:5991 Structural Engineering Practicum B** 1 s.h.  
Detailed design development of one of the concepts developed in CEE:5990; students perform detailed design calculations using applicable structural analysis and design software, produce professional quality structural plans including connection details, and defend design to a three-member advisory committee. Prerequisites: CEE:5990.
- CEE:5993 Community-Centered Problem Solving and Design** 3 s.h.  
Analysis, evaluation, and modeling of food-energy-water systems (FEWS) development challenges faced by resource-constrained communities in developed and developing countries; design and development of appropriate solutions to address disparities in FEWS and anticipate social, economic, political, technological, human health, and environmental impacts of these interventions; communication with a diverse suite of stakeholders using modern forms of media intended for public engagement and dissemination of research impacts; demonstration of cultural responsiveness consistent with social and economic realities of resource-limited communities.
- CEE:5998 Individual Investigations: Civil and Environmental Engineering** arr.  
Individual projects for civil and environmental engineering graduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.
- CEE:5999 Research: Civil and Environmental Engineering M.S. Thesis** arr.  
Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for the M.S. with thesis in civil and environmental engineering. Requirements: graduate standing.
- CEE:6223 Environmental Boundary Layers** 4 s.h.  
Fundamentals of environmental boundary layer dynamics and thermodynamics of natural and engineered systems; atmospheric boundary layers and aquatic surface layer dynamics; land-atmosphere interaction, air-water exchange, and turbulent transport in aquatic ecosystems; turbulence, surface energy balance, spectral analysis, similarity theory; flow over homogeneous and heterogeneous surfaces, thermal stratification effects, measurement, simulation of turbulent and surface fluxes; applications to environmental modeling, urban meteorology, ecosystem dynamics, renewable energy; recent and current research topics. Prerequisites: ENGR:2510.
- CEE:6225 Communicating Science** 3 s.h.  
Writing and speaking about environmental engineering and science research; key principles of writing with clarity and cohesion, and practice applying these principles on a piece of research writing that students are currently working on; review best practices for presenting research to peers and at conferences; students are required to share their work with peers through writing and presentations. Recommendations: graduate standing in earth and environmental sciences; M.S. students must be thesis option.
- CEE:6250 Environmental Biotechnology** 3 s.h.  
Environmental biotechnology utilizes microorganisms to improve sustainability of human society; basic concepts and quantitative tools needed for microbiological processes to behave in ways that are understandable, predictable, and unified; application of these fundamental principles to a variety of modern applications. Prerequisites: CEE:5440.
- CEE:6253 Environmental Organic Chemistry** 3 s.h.  
Environmental factors that govern processes that determine fate of organic chemicals in natural and engineered systems; knowledge of chemical fate applied toward quantitatively assessing environmental behavior of organic chemicals; holistic view on physical-chemical properties of organic compounds, including aspects of gas-solid partitioning, bioaccumulation, and transformations in the atmosphere.
- CEE:6255 Environmental Biotechnology and Bioremediation** 3 s.h.  
Concepts in molecular microbial ecology and bioremediation; microbial diversity and genetics, evolution of biodegradation pathways, application of quantitative PCR, high-throughput amplicon and metagenomic and transcriptomic sequencing, proteomics, stable isotopes; bioremediation research and practice. Prerequisites: CEE:5154.
- CEE:6299 Advanced Topics in Water and the Environment** 1-3 s.h.  
Advanced topics or areas of study not formally offered in other civil and environmental courses; topics include environmental engineering and science, hydraulics, hydrology, water resources, and sustainable water development.
- CEE:6310 Analytical Methods in Mechanical Systems** 3 s.h.  
Vector and function spaces; functionals and operators in Hilbert spaces; calculus of variations and functional analysis with application to mechanics; Ritz and Galerkin methods. Prerequisites: ME:5113. Same as ME:6214.
- CEE:6376 Viscous Flow** 3 s.h.  
Equations of viscous flow; classical analytical and numerical solutions; flow regimes and approximations; laminar boundary layers—equations, solution methods, applications; stability theory and transition; incompressible turbulent flow—mean-flow and Reynolds-stress equations, modeling, turbulent boundary layers and free shear flows. Requirements: for ME:6260—ME:5160; for CEE:6376—CEE:5369. Same as ME:6260.
- CEE:6520 Watershed Sedimentation** 3 s.h.  
Exploration of rich and complex field of sediment transport, geomorphology, and contaminant transport; associated physical, chemical, and biological processes with associated mathematical modeling; investigation of current topics not covered elsewhere, including physical processes affecting stability/mobility, transport, and fate of soil/sediments; lack of general understanding in development of fine-scale sedimentary structure in different systems, particularly contamination and contamination release; suspension effects on turbulent flows. Prerequisites: CEE:4370.
- CEE:6532 Finite Element II** 3 s.h.  
Computer implementation; plate and shell elements; mixed and hybrid formulations; nonlinear analysis; recent development; introduction to boundary element method. Prerequisites: CEE:4533. Same as IGPI:6216, ME:6215.
- CEE:7250 Advanced Fracture Mechanics** 3 s.h.  
Fracture of modern engineering materials; linear-elastic fracture; computational methods; functionally graded materials; elastic-plastic fracture; multiscale fracture and fatigue crack initiation. Prerequisites: ME:5113 and (ME:5159 or CEE:4533). Same as ME:7250.



**CEE:7549 Multiscale Modeling 3 s.h.**

Computational modeling of engineering materials ranging from molecular to continuum scales, molecular dynamics and Monte Carlo methods, nanoscale continuum modeling, scale-coupling methods. Prerequisites: ME:5143 or CEE:4533. Same as ME:6255.

**CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for the Ph.D. in civil and environmental engineering.

# Civil Engineering, B.S.E.

## Educational Objectives

Within a few years of graduation, graduates of the Bachelor of Science in Engineering (B.S.E.) program in civil engineering will:

- be productive and contributing members of the civil engineering profession as practitioners, entrepreneurs, researchers, or teachers;
- be engaged in learning, understanding, and applying new ideas as the field develops;
- pursue advanced studies, if qualified and interested; and
- promote the safety, health, and welfare of the public and the environment through professional practice and civic leadership.

## Requirements

The Bachelor of Science in Engineering with a major in civil engineering requires a minimum of 129 s.h. of credit. Students must have a g.p.a. of at least 2.00 in all college work used to satisfy degree requirements as well as on all coursework attempted at the University of Iowa.

All B.S.E. students are required to take the same collegiate curriculum. For information about these collegiate requirements, see the Bachelor of Science in Engineering, B.S.E. [p. 1551] in the Catalog. Students completing the major in civil engineering fulfill the collegiate statistics requirement by completing STAT:2020 Probability and Statistics for the Engineering and Physical Sciences. Some focus areas may suggest or require specific courses to fulfill the General Education Component of the collegiate curriculum; see "Focus Area" below.

The major in civil engineering requires the following coursework.

Code	Title	Hours
	Collegiate Curriculum	50
	Major Requirements	52
	Focus Area	27-28
<b>Total Hours</b>		<b>129-130</b>

## Major Requirements

Major requirements include a set of common courses (45 s.h.), four professional skills courses (4 s.h.), and one capstone design course (3 s.h.).

Code	Title	Hours
All of these:		
CEE:1030	Introduction to Earth Science (no lab required)	3
CEE:2015	Civil Engineering Tools	2
CEE:3155	Principles of Environmental Engineering	4
CEE:3371	Principles of Hydraulics and Hydrology	3
CEE:3530	Geomechanics	4
CEE:3533	Principles of Structural Engineering	4
CEE:3586	Civil Engineering Materials	3

CEE:3763	Principles of Transportation Engineering	3
ENGR:2110	Statics	2
ENGR:2130	Thermodynamics	3
ENGR:2510	Fluid Mechanics	4
ENGR:2710	Dynamics	3
ENGR:2750	Mechanics of Deformable Bodies	3

And one of these:

CHEM:1120	Principles of Chemistry II	4
PHYS:1612	Introductory Physics II (with lab)	4

## Professional Skills

Code	Title	Hours
All of these:		
CEE:2010	Civil and Environmental Engineering Professional Practice and Ethics	1
CEE:3001	Leadership Skills for Engineers	1
CEE:3002	Technical Communication in Civil and Environmental Engineering	1
CEE:3003	Project Management Skills	1

## Capstone Design Course

Code	Title	Hours
This course:		
CEE:4850	Project Design and Management in Civil Engineering	3

## Focus Area

Students must select focus area courses according to guidelines established by the Department of Civil and Environmental Engineering. Civil engineering students may choose from several standard focus areas developed by the department or create an individual focus area tailored to their interests.

Standard focus areas are offered in the broad field of civil practice [p. 1602] and in the four technical areas: environmental engineering [p. 1603]; hydraulics and water resources [p. 1603]; structures, mechanics, and materials [p. 1605]; and transportation engineering [p. 1605]. Other areas of focus include management [p. 1604], pre-architecture [p. 1604], and urban and regional planning [p. 1606]. To see guidelines related to tailored focus areas, visit Civil Engineering Focus Areas on the Department of Civil and Environmental Engineering website.

Focus areas in civil engineering consist of content area courses, design courses, and elective courses; carefully selected elective courses may contribute to earning a minor and/or certificate. Some focus areas also may suggest or require specific courses to fulfill the General Education Component of the collegiate curriculum.

## Civil Practice

Students complete five civil and environmental engineering electives (15 s.h.), two design electives (6 s.h.), and two additional elective courses (6 s.h.).

## Civil and Environmental Engineering Electives

Students complete 15 s.h. in civil and environmental engineering electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) not already taken for the major numbered 3000 or above.

It is recommended that students select from the following courses.

Code	Title	Hours
CEE:3783	Surveying and Remote Sensing	3
CEE:3790	Resilient Infrastructure and Emergency Response	3
CEE:4102	Groundwater	3
CEE:4119	Hydrology	3
CEE:4158/OEH:4920	Solid and Hazardous Wastes	3
CEE:4159/CBE:4459/IGPI:4159	Air Pollution Control Technology	3
CEE:4371	Water Resources Engineering	3
CEE:4539	Foundations of Structures	3
CEE:4763	Traffic Engineering	3

## Design Electives

Code	Title	Hours
Two of these:		
CEE:4157	Environmental Engineering Design	3
CEE:4374	Water Resource Design	3
CEE:4506	Design of Concrete Structures	3
or CEE:4535	Design of Steel Structures	
CEE:4762	Design of Transportation Systems	3

## Additional Electives

Students complete 6 s.h. in additional electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) numbered 3000 or above and not already taken for the major, or pre-approved courses taken outside of the College of Engineering. Students should consult with an academic advisor.

The following courses are suggested electives in the civil practice focus area.

Code	Title	Hours
ENGR:2120	Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
ISE:2500	Engineering Economy	3

## Environmental Engineering

Students complete two required courses (7 s.h.), four focus area electives (12 s.h.), one design elective (3 s.h.), and two additional elective courses (6 s.h.).

## Required Environmental Courses

Code	Title	Hours
Both of these:		
CEE:3430	Water Treatment	4
CEE:4157	Environmental Engineering Design	3

## Environmental Electives

Code	Title	Hours
Four of these:		
CEE:4102	Groundwater	3
CEE:4107/CBE:4410	Sustainable Systems	3
CEE:4119	Hydrology	3
CEE:4150/CBE:4420	Environmental Chemistry	3
CEE:4158/OEH:4920	Solid and Hazardous Wastes	3
CEE:4159/CBE:4459/IGPI:4159	Air Pollution Control Technology	3

## Design Electives

Code	Title	Hours
One of these:		
CEE:4374	Water Resource Design	3
CEE:4506	Design of Concrete Structures	3
CEE:4535	Design of Steel Structures	3
CEE:4762	Design of Transportation Systems	3

## Additional Electives

Students complete 6 s.h. in additional electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) numbered 3000 or above and not already taken for the major, or pre-approved courses taken outside of the College of Engineering. Students should consult with an academic advisor.

The following courses are suggested electives in the environmental engineering focus area.

Code	Title	Hours
ENGR:2120	Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
ISE:2500	Engineering Economy	3

## Hydraulics and Water Resources

Students complete three required courses (9 s.h.), three focus area electives (9-10 s.h.), one design elective (3 s.h.), and two additional elective courses (6 s.h.).

## Required Hydraulics and Water Resources Courses

Code	Title	Hours
All of these:		
CEE:4119	Hydrology	3
CEE:4371	Water Resources Engineering	3
CEE:4374	Water Resource Design	3

## Hydraulics and Water Resources Electives

Code	Title	Hours
Three of these:		
CEE:3430	Water Treatment	4
CEE:3783	Surveying and Remote Sensing	3
CEE:4102	Groundwater	3
CEE:4107/CBE:4410	Sustainable Systems	3
CEE:4157	Environmental Engineering Design	3
CEE:4180	Fundamentals of Atmospheric Science	3
CEE:4370	Open Channel Flow and Sediment Transport	3

## Design Elective

Code	Title	Hours
One of these:		
CEE:4157	Environmental Engineering Design	3
CEE:4506	Design of Concrete Structures	3
CEE:4535	Design of Steel Structures	3
CEE:4762	Design of Transportation Systems	3

## Additional Electives

Students complete 6 s.h. in additional electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) numbered 3000 or above and not already taken for the major, or pre-approved courses taken outside of the College of Engineering. Students should consult with an academic advisor.

The following courses are suggested electives in the hydraulics and water resources focus area.

Code	Title	Hours
ENGR:2120	Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
ISE:2500	Engineering Economy	3

## Management

Students complete five required courses (15 s.h.), two design electives (6 s.h.), and two additional elective courses (6 s.h.). Students in the management focus area must complete the minor in business administration [p. 1224] in the Tippie College of Business; this typically requires additional coursework outside of the civil engineering major.

## Required Management Courses

Code	Title	Hours
All of these:		
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
FIN:3000	Introductory Financial Management	3
or ISE:2500	Engineering Economy	
MGMT:2100	Introduction to Management	3

MKTG:3000	Introduction to Marketing Strategy	3
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## Design Electives

Code	Title	Hours
Two of these:		
CEE:4157	Environmental Engineering Design	3
CEE:4374	Water Resource Design	3
CEE:4506	Design of Concrete Structures	3
or CEE:4535	Design of Steel Structures	
CEE:4762	Design of Transportation Systems	3

## Additional Electives

Students complete 6 s.h. in additional electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) numbered 3000 or above and not already taken for the major. Students should consult with an academic advisor.

The following courses are suggested electives in the management focus area.

Code	Title	Hours
CEE:3783	Surveying and Remote Sensing	3
CEE:3790	Resilient Infrastructure and Emergency Response	3
CEE:4102	Groundwater	3
CEE:4119	Hydrology	3
CEE:4158/OEH:4920	Solid and Hazardous Wastes	3
CEE:4159/CBE:4459/IGPI:4159	Air Pollution Control Technology	3
CEE:4371	Water Resources Engineering	3
CEE:4539	Foundations of Structures	3
CEE:4763	Traffic Engineering	3

## Pre-Architecture

Students complete two required courses (6 s.h.), one pre-architecture elective (3 s.h.), two structures electives (6 s.h.), one design elective (3 s.h.), one civil and environmental engineering elective (3 s.h.), and two art electives (6 s.h.). Students in the pre-architecture focus area must complete the minor in art [p. 144] in the College of Liberal Arts and Sciences; this typically requires additional coursework outside of the civil engineering major.

## Required Pre-Architecture Courses

Code	Title	Hours
Both of these:		
CEE:4506	Design of Concrete Structures	3
TDSN:2210	Introduction to 3D Design	3

## Pre-Architecture Elective

Code	Title	Hours
One of these:		
ANIM:2125	Introduction to Animation	3
DRAW:2310	Life Drawing I	3

DSGN:2500	Graphic Design I	3
PHTO:2600	Photography I	3
PNTG:2410	Painting I	3
PRNT:2610	Introduction to Printmaking	3

### Structures Electives

Code	Title	Hours
Two of these:		
CEE:4164	Design of Wood Structures	3
CEE:4535	Design of Steel Structures	3
CEE:4539	Foundations of Structures	3

### Design Elective

Code	Title	Hours
One of these:		
CEE:4157	Environmental Engineering Design	3
CEE:4374	Water Resource Design	3
CEE:4762	Design of Transportation Systems	3

### Civil and Environmental Engineering Elective

Code	Title	Hours
One of these:		
	A third structures course	3
	An additional design course	3
	An additional course with prefix CEE numbered 3000 or above	3

### Art Electives

Students complete 6 s.h. in additional electives chosen from courses that count toward the art minor in the College of Liberal Arts and Sciences. Students should consult with an academic advisor.

The following courses are suggested electives in the pre-architecture focus area.

Code	Title	Hours
CERM:2010	Ceramics I: Handbuilding	3
INTM:2710/ CINE:2869	Introduction to Intermedia	3
MTLS:2910	Introduction to Jewelry and Metal Arts	3
SCLP:2810	Undergraduate Sculpture I	3
TDSN:2240/ CEE:2240	Digital Drafting with AutoCAD	3
TDSN:2250	Digital Prototyping	3

### Structures, Mechanics, and Materials

Students complete two required courses (6 s.h.), four focus area electives (12 s.h.); one design elective (3 s.h.); and two additional elective courses (6 s.h.).

### Required Structures, Mechanics, and Materials Courses

Code	Title	Hours
Both of these:		
CEE:4506	Design of Concrete Structures	3
CEE:4535	Design of Steel Structures	3

### Structures, Mechanics, and Materials Electives

Code	Title	Hours
12 s.h. from these:		
CEE:3783	Surveying and Remote Sensing	3
CEE:4135	Structural Modeling and Health Monitoring	3
CEE:4160	Introduction to Bridge Engineering	3
CEE:4162	Structural Systems for Buildings	3
CEE:4164	Design of Wood Structures	3
CEE:4511/ME:4111	Scientific Computing and Machine Learning	3
CEE:4512/ME:4112	Engineering Design Optimization	3
CEE:4532/ME:4153	Fundamentals of Vibrations	3
CEE:4533/IGPI:4115	Finite Element I	3
CEE:4539	Foundations of Structures	3
CEE:5179/ME:5179	Continuum Mechanics	arr.
CEE:5236/ BME:5720	Optimization of Structural Systems	3
CEE:5540/ME:5150	Intermediate Mechanics of Deformable Bodies	3

### Design Elective

Code	Title	Hours
One of these:		
CEE:4157	Environmental Engineering Design	3
CEE:4374	Water Resource Design	3
CEE:4762	Design of Transportation Systems	3

### Additional Electives

Students complete 6 s.h. in additional electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) numbered 3000 or above and not already taken for the major, or pre-approved courses taken outside of the College of Engineering. Students should consult with an academic advisor.

The following courses are suggested electives in the structures, mechanics, and materials focus area.

Code	Title	Hours
ENGR:2120	Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
ISE:2500	Engineering Economy	3

### Transportation Engineering

Students complete one required course (3 s.h.), five focus area electives (15 s.h.), one design elective (3 s.h.), and two additional elective courses (6 s.h.).

## Required Transportation Course

Code	Title	Hours
This course:		
CEE:4762	Design of Transportation Systems	3

## Transportation Electives

Code	Title	Hours
15 s.h. from these:		
CEE:3142/ISE:3600/ STAT:3620	Quality Control	3
CEE:3783	Surveying and Remote Sensing	3
CEE:3790	Resilient Infrastructure and Emergency Response	3
CEE:3998	Individual Investigations: Civil Engineering	arr.
CEE:4160	Introduction to Bridge Engineering	3
CEE:4176/URP:4262	Transportation Research Methods and Analysis	3
CEE:4560	Pavement Engineering	3
CEE:4730	Transportation Infrastructure Construction and Management	3
CEE:4763	Traffic Engineering	3
CEE:5678/URP:5678	Application Simulation to Transportation	3

## Design Elective

Code	Title	Hours
One of these:		
CEE:4157	Environmental Engineering Design	3
CEE:4374	Water Resource Design	3
CEE:4506	Design of Concrete Structures	3
CEE:4535	Design of Steel Structures	3

## Additional Electives

Students complete 6 s.h. in additional electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) numbered 3000 or above and not already taken for the major, or pre-approved courses taken outside of the College of Engineering. Students should consult with an academic advisor.

The following courses are suggested electives in the transportation engineering focus area.

Code	Title	Hours
ENGR:2120	Electrical Circuits	3
ENGR:2720	Materials Science	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
ISE:2500	Engineering Economy	3

## Urban and Regional Planning

Students complete two required courses (6 s.h.), three focus area electives (9 s.h.), two design electives (6 s.h.), and two additional elective courses (6 s.h.).

Students planning to pursue the combined Bachelor of Science in Engineering/Master of Science program in urban and regional planning should complete URP:6202 Land Use Planning: Law and Practice and URP:6203 The Making of Cities: Histories and Theories of Planning. These courses can be counted toward the collegiate curriculum General Education Component approved course subjects requirement. See Combined Programs [p. 1607] in this section of the Catalog.

## Required Urban and Regional Planning Courses

Code	Title	Hours
Both of these:		
URP:6201/ PBAF:6201	Analytic Methods II	3
URP:6205/ PBAF:6205	Economics for Policy Analysis	3

## Urban and Regional Planning Electives

Code	Title	Hours
Three of these:		
URP:4262/CEE:4176	Transportation Research Methods and Analysis	3
URP:6233/ PBAF:6233	Public Finance and Budgeting	3
URP:6256/ PBAF:6256	Environmental Policy	3
URP:6266/ PBAF:6266	Transportation and Land Use Planning	3
URP:6271/ PBAF:6271	Housing Policy	3

## Design Electives

Code	Title	Hours
Two of these:		
CEE:4157	Environmental Engineering Design	3
CEE:4374	Water Resource Design	3
CEE:4506	Design of Concrete Structures	3
or CEE:4535	Design of Steel Structures	
CEE:4762	Design of Transportation Systems	3

## Additional Electives

Students complete 6 s.h. in additional electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) numbered 3000 or above and not already taken for the major. Students should consult with an academic advisor.

The following courses are suggested electives in the urban and regional planning focus area.

Code	Title	Hours
CEE:3783	Surveying and Remote Sensing	3
CEE:3790	Resilient Infrastructure and Emergency Response	3
CEE:4102	Groundwater	3
CEE:4119	Hydrology	3
CEE:4158/ OEH:4920	Solid and Hazardous Wastes	3

CEE:4159/ CBE:4459/IGPI:4159	Air Pollution Control Technology	3
CEE:4371	Water Resources Engineering	3
CEE:4539	Foundations of Structures	3
CEE:4763	Traffic Engineering	3

## Combined Programs

### B.S.E./M.S. in Civil and Environmental Engineering

The College of Engineering offers the combined Bachelor of Science in Engineering/Master of Science program for civil engineering undergraduate students who intend to earn a M.S. in civil and environmental engineering. B.S.E./M.S. students may attend the departmental graduate seminar and work on a master's thesis or research project while they are still undergraduates. They may count a limited amount of coursework toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they are expected to complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h. and have a cumulative g.p.a. of at least 3.25. They must submit an application form to the Department of Civil and Environmental Engineering, along with a letter stating their proposed area of specialization and the name of a department faculty member willing to be their primary M.S. advisor. Graduate Record Examination (GRE) General Test scores are not required for the degree program.

Applications are due by May 15.

### B.S.E./M.S. in Urban and Regional Planning

The College of Engineering and the School of Planning and Public Affairs offer the combined Bachelor of Science in Engineering/Master of Science program in urban and regional planning. The program, which is completed in five years, is designed for students who wish to pursue a public or private sector career in planning, a field that encompasses the development of alternatives to improve the quality of life in cities and regions.

Graduates are technically oriented professionals who have a clear understanding of policy development and implementation, which they apply to civil and industrial engineering problems. They fill positions such as public works director, transportation engineer, and public utilities staff member.

Each student in the combined program has two advisors, one in civil engineering and one in planning and public affairs. Students enroll in the College of Engineering for their first four years in the program and in the Graduate College for their fifth year. They follow the standard curriculum of their B.S.E. program during the first two years and begin adding courses from the planning and public affairs program during the third year. Successful students receive a B.S.E. at the end of the fourth year and an M.S. in urban and regional planning at the end of the fifth year.

Students in the combined program must maintain a cumulative g.p.a. of at least 3.00 in order to graduate with an M.S. in urban and regional planning.

For more information, see the M.S. in urban and regional planning [p. 1787] (Graduate College) in the Catalog. Contact Engineering Student Services for information about applying to the combined program.

## Career Advancement

When it comes to building the nation's infrastructure or protecting the natural environment, civil environmental engineers are at the forefront. They not only design roads, bridges, and structures, provide clean drinking water, and protect people from natural hazards like flooding or earthquakes, they also engage with the public to create a more sustainable future. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

# Environmental Engineering, B.S.E.

## Educational Objectives

Within a few years of graduation, graduates of the Bachelor of Science in Engineering (B.S.E.) program in environmental engineering will:

- be productive and contributing members of the environmental engineering profession as practitioners, entrepreneurs, researchers or teachers;
- be engaged in learning, understanding, and applying new ideas as the field develops;
- pursue advanced studies, if qualified and interested; and
- promote the safety, health, and welfare of the public and the environment through professional practice and civic leadership.

## Requirements

The Bachelor of Science in Engineering with a major in environmental engineering requires a minimum of 130 s.h. of credit. Students must have a g.p.a. of at least 2.00 in all college work used to satisfy degree requirements as well as on all coursework attempted at the University of Iowa.

All B.S.E. students are required to take the same collegiate curriculum. For information about these collegiate requirements, see the Bachelor of Science in Engineering, B.S.E. [p. 1551] in the Catalog. Students completing the major in environmental engineering fulfill the collegiate statistics requirement by completing STAT:2020 Probability and Statistics for the Engineering and Physical Sciences. The focus area may require specific courses to count toward the General Education Component of the collegiate curriculum; see "Focus Area" below.

The major in environmental engineering requires the following coursework.

Code	Title	Hours
	Collegiate Curriculum	50
	Major Requirements (including one 0 s.h. course)	65
	Focus Area	15
	<b>Total Hours</b>	<b>130</b>

## Major Requirements

Major requirements include a set of common courses (58 s.h.), five professional skills courses (4 s.h., including one 0 s.h. course), and one capstone design course (3 s.h.).

Code	Title	Hours
All of these:		
CEE:1030	Introduction to Earth Science (no lab required)	3
CEE:3155	Principles of Environmental Engineering (with lab)	4
CEE:3371	Principles of Hydraulics and Hydrology	3
CEE:3430	Water Treatment (with lab)	4
CEE:4102	Groundwater	3
CEE:4150	Environmental Chemistry	3

CEE:4157	Environmental Engineering Design	3
CEE:4158	Solid and Hazardous Wastes	3
CEE:4159	Air Pollution Control Technology	3
CEE:4374	Water Resource Design	3
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
CHEM:2210	Organic Chemistry I (no lab required)	3
ENGR:2110	Statics	2
ENGR:2130	Thermodynamics	3
ENGR:2510	Fluid Mechanics	4
ENGR:2710	Dynamics	3
ENGR:2720	Materials Science	3

## Professional Skills

Code	Title	Hours
All of these:		
CEE:1010	Introduction to Careers in Environmental Engineering	0
CEE:2010	Civil and Environmental Engineering Professional Practice and Ethics	1
CEE:3001	Leadership Skills for Engineers	1
CEE:3002	Technical Communication in Civil and Environmental Engineering	1
CEE:3003	Project Management Skills	1

## Capstone Design Course

Code	Title	Hours
This course:		
CEE:4850	Project Design and Management in Civil Engineering	3

## Focus Area

Students must select focus area courses according to guidelines established by the Department of Civil and Environmental Engineering. Environmental engineering students may choose from a standard focus area developed by the department (environmental or public health) or create an individual focus area tailored to their interests. For a description of the standard focus area options and guidelines for tailored focus areas in environmental engineering, see Environmental Engineering Focus Areas on the Department of Civil and Environmental Engineering website.

Focus areas in environmental engineering consist of content area courses and electives; carefully selected elective courses may contribute to earning a minor and/or certificate.

## Environmental

Students in the environmental focus area complete two content area courses (6 s.h.) and three additional electives (9 s.h.).



## Environmental Electives

Code	Title	Hours
Two of these:		
CEE:4107/CBE:4410	Sustainable Systems	3
CEE:4119	Hydrology	3
CEE:4371	Water Resources Engineering	3

## Additional Electives

Students complete 9 s.h. in additional electives. These electives may include any Department of Civil and Environmental Engineering course (prefix CEE) not already taken for the major numbered 3000 or above.

The following courses are additional suggested electives in the environmental focus area.

Code	Title	Hours
CPH:3500/ GHS:3500	Global Public Health	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ENGR:2120	Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
ENGR:2995	Introduction to Artificial Intelligence and Machine Learning in Engineering	3
GEOG:1050	Foundations of GIS	4
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3
LAW:8992	Water Law	arr.
OEH:4240	Global Environmental Health	3

## Public Health

Students in the public health focus area are required to complete the undergraduate certificate in public health in the College of Public Health [p. 2058]. The public health focus area requires CPH:1400 Fundamentals of Public Health as part of the collegiate curriculum General Education Component.

Students in this focus area complete one required course (3 s.h.), three focus area electives (9 s.h.), and one additional elective (3 s.h.).

## Required Public Health Course

Code	Title	Hours
This course:		
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health	3

## Public Health Electives

Code	Title	Hours
Three of these:		
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
CPH:2400	The U.S. Health System in a Global Context	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3

CPH:3500/ GHS:3500	Global Public Health	3
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## Additional Elective

Students complete 3 s.h. in additional elective(s). This may include any Department of Civil and Environmental Engineering course (prefix CEE) not already taken for the major numbered 3000 or above.

The following courses are additional suggested electives in the public health focus area. Students can view courses applicable for the Certificate in Public Health [p. 2077] in the College of Public Health section of the Catalog.

Code	Title	Hours
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
CPH:2220	Building a Healthier Tomorrow: Public Health Methods to Minimize Disease and Pollutant Exposures	3
CPH:4200	Agriculture, Food Systems, and Sustainability	3
CPH:4220/ GHS:4530/ OEH:4530	Global Road Safety	3
Courses that count toward the undergraduate Certificate in Public Health		2-3

## Combined Programs

## B.S.E./M.S. in Civil and Environmental Engineering

The College of Engineering offers a Bachelor of Science in Engineering/Master of Science program for environmental engineering undergraduate students who intend to earn a M.S. in civil and environmental engineering. B.S.E./M.S. students may attend the departmental graduate seminar and work on a master's thesis or research project while they are still undergraduates. They may count a limited amount of coursework toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they are expected to complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h. and have a cumulative g.p.a. of at least 3.25. They must submit an application form to the Department of Civil and Environmental Engineering, along with a letter stating their proposed area of specialization and the name of a department faculty member willing to be their primary M.S. advisor. Graduate Record Examination (GRE) General Test scores are not required for the fast-track degree program.

Applications are due by May 15.

## Career Advancement

Environmental engineers apply engineering principles to design systems that control pollution and protect public health. Environmental engineers restore air, soil, and water quality at contaminated sites, and develop systems that

convert waste into clean energy. Environmental engineering addresses the complex food, energy, and water issues of the 21st century. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

# Civil and Environmental Engineering, M.S.

Graduate study in civil and environmental engineering prepares students for professional careers and further study. The principal concentration areas are environmental engineering and environmental science; hydraulics, hydrology, and water resources; structures, mechanics, and materials; sustainable water development; and transportation.

## Research and Study Areas

### Structures, Mechanics, and Materials

The structures, mechanics, and materials curriculum is designed for students who wish to gain knowledge and skill in the mechanics of solids and structures that they can apply to civil infrastructure systems and other fields. The program concentrates on developing appropriate methodologies for tackling broad, complex issues related to civil infrastructure systems, and on educating engineers in the implementation and application of methodologies to actual engineering projects. Faculty members have expertise in structural engineering, design optimization, solid mechanics, and computational methods.

### Transportation Engineering

The transportation engineering curriculum is geared toward students interested in developing specialized knowledge and skills applicable to the diverse set of issues associated with transportation. Faculty members have expertise in traffic engineering, infrastructure management systems, pavement engineering, advanced construction materials, dynamic load and pavement simulation, optimal design, winter highway maintenance, real-time simulation, human factors, intelligent sensors, nondestructive testing, transportation planning, and travel demand modeling.

### Water and the Environment

The water and the environment graduate program focuses on both fundamental and applied aspects of environmental systems and processes across a range of scales. The water and the environment program offers unique opportunities for students to actively participate in the research, analysis, and design aspects of real-world problems. There are three areas of specialization—environmental engineering and science; hydraulics, hydrology, and water resources; and sustainable water development.

The environmental engineering and science curriculum provides a comprehensive base of coursework and research in the areas of air and water quality management; environmental chemistry and microbiology; natural systems modeling; and processes for water supply, pollution control, and solid and hazardous waste management.

The hydraulics, hydrology, and water resources curriculum is associated with IIHR—Hydroscience & Engineering, a world-renowned research institute, where senior staff members of the institute are professors in the program. IIHR offers unique curriculum opportunities in laboratory and field-scale experimentation, and in mathematical modeling with IIHR's high-speed computer facilities.

The sustainable water development curriculum is focused on training interdisciplinary professional engineers, researchers, educators, and those who are ready to meet

the water resource challenges of communities most in need. Community service and professional development experiences complement innovative research at the food, energy, and water nexus.

Across all specialization areas within water and the environment, interdisciplinary research and study are conducted with programs including the Center for Global and Regional Environmental Research, the Center for Health Effects of Environmental Contamination, the Iowa Superfund Research Program, the Hazardous Substances Research Center, and the Center for Biocatalysis and Bioprocessing; the Departments of Chemical and Biochemical Engineering (College of Engineering), Earth and Environmental Sciences, Geographical and Sustainability Sciences (College of Liberal Arts and Sciences), Microbiology and Immunology (Carver College of Medicine), and Occupational and Environmental Health (College of Public Health); and the School of Planning and Public Affairs (Graduate College). Other areas of interdisciplinary focus include groundwater contamination, biotechnology, global climate change, and hazardous substances.

## Learning Outcomes

Students will gain an ability to:

- apply principles of engineering and science for problem solving to meet societal needs;
- communicate effectively with a range of audiences;
- make ethical and professional judgments that consider the global, economic, environmental, and societal contexts of their decisions and proposed engineering solutions; and
- conduct research through the use of modern research tools and methodologies (thesis students only).

## Requirements

The Master of Science program in civil and environmental engineering requires a minimum of 30 s.h. of graduate credit for thesis students; 31 s.h. for nonthesis students. The program enables students to concentrate in one or more areas of their choice. Students must maintain a cumulative g.p.a. of at least 2.75.

The thesis option requires a minimum of 25 s.h. (eight courses) with the remaining 5 s.h. obtained in CEE:5999 Research: Civil and Environmental Engineering M.S. Thesis.

With the approval of their advisor, students develop a study plan that satisfies the requirements of their chosen curriculum. Students must pass an oral examination and, in some program options, a written examination.

Consult the department's Graduate Program Resources web page for more detailed information about the M.S. program in civil and environmental engineering.

## Core Courses

All students must successfully complete the civil and environmental graduate core courses for their area of focus. Students are expected to complete these courses during their first year of study.

## Elective Courses

Students choose elective courses from any academic area that strengthens their knowledge of water and the environment and provides needed research topic training.

Individual Investigations: Civil and Environmental Engineering (CEE:5998) is not considered a suitable elective.

## Seminars

All full-time students are required to register for and participate in a seminar in their respective program of study; this includes CEE:5096 Water, Energy, and Food Nexus Seminar for areas that fall under the water and the environment curriculum (environmental engineering, environmental science, hydraulics, sustainable water development, and water resources), or CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation for students in structures, mechanics and materials or transportation engineering. Depending on the program of study, there may be additional seminar requirements. For more detailed information visit the department's Graduate Program Resources web page.

## Ethics Course

Students must enroll in ENGR:7270 Engineering Ethics.

## Thesis

Students may earn up to 5 s.h. of research credit in CEE:5999 Research: Civil and Environmental Engineering M.S. Thesis. A total of 3 s.h. may be taken on a graded basis at the discretion of the advisor. Consult the department's Graduate Program Resources web page for more detailed information about the program.

## Combined Programs

### M.S. (Sustainable Water Development Subprogram)/M.S. in Urban and Regional Planning

The Department of Civil and Environmental Engineering and the School of Planning and Public Affairs collaborate to offer a combined Master of Science in civil and environmental engineering with a sustainable water development subprogram/Master of Science in urban and regional planning.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information, see the M.S. in urban and regional planning [p. 1787] (Graduate College) in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Each of the program's curricula is flexible; students may be admitted from all disciplines of engineering as well as from the mathematical and basic sciences.

Applicants should have a cumulative undergraduate g.p.a. of at least 3.00. Those with grade-point averages slightly lower should contact the department.

Beginning with fall 2022 applicants, Graduate Record Examination (GRE) General Test scores are no longer required.

## Financial Support

A significant number of research assistantships are available on a variety of research projects, and a limited number of teaching assistantships may be available. Selection of recipients usually is based on scholastic achievement and research interest.

## Career Advancement

Current and projected demand for M.S. graduates is excellent. Graduates are placed in advanced technical positions in industry, consulting firms, or government, or they may continue their graduate study. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Civil and Environmental Engineering, M.S.

- Environmental Engineering Subprogram [p. 1612]
- Environmental Science Subprogram [p. 1613]
- Hydraulics Subprogram [p. 1613]
- Structures, Mechanics and Materials Subprogram [p. 1614]
- Sustainable Water Development Subprogram [p. 1614]
- Transportation Subprogram [p. 1615]
- Water Resources Subprogram [p. 1615]

### Environmental Engineering Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

31 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.<sup>a</sup>

Hours

0

**First Year****Fall**

CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

**Hours** **16**

**Spring**

CEE:5310	Informatics for Sustainable Systems	3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

Final Exam<sup>e</sup>

**Hours** **15**

**Total Hours** **31**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and CEE website for specifics.

c Must be completed during first semester.

d Required every semester.

e Final exam is required for some program areas. Refer to Graduate Program Resources on the CEE website for details.

**Environmental Science Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

**First Year****Fall**

CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
ENGR:7270	Engineering Ethics <sup>c</sup>	1

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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**Hours** **16**

**Spring**

CEE:5310	Informatics for Sustainable Systems	3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

Final Exam<sup>e</sup>

**Hours** **15**

**Total Hours** **31**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and CEE website for specifics.

c Must be completed during first semester.

d Required every semester.

e Final exam is required for some program areas. Refer to Graduate Program Resources on the CEE website for details.

**Hydraulics Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

**First Year****Fall**

CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

**Hours** **16**

**Spring**

CEE:5310	Informatics for Sustainable Systems	3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
Final Exam <sup>e</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>31</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and CEE website for specifics.

c Must be completed during first semester.

d Required every semester.

e Final exam is required for some program areas. Refer to Graduate Program Resources on the CEE website for details.

## Structures, Mechanics and Materials Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. of graduate level coursework must be completed; more information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CEE Core course <sup>b</sup>		3
CEE Core course <sup>b</sup>		3
CEE Elective course <sup>c</sup>		3
CEE Elective course <sup>c</sup>		3
CEE:5990	Structural Engineering Practicum A	2
ENGR:7270	Engineering Ethics <sup>d</sup>	1
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CEE Core course <sup>b</sup>		3
CEE Elective course <sup>c</sup>		3
CEE Elective course <sup>c</sup>		3
CEE Elective course <sup>c</sup>		3
CEE Elective course <sup>c</sup>		3
CEE:5991	Structural Engineering Practicum B	1
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>16</b>
<b>Total Hours</b>		<b>31</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Complete three courses from CEE:4512, CEE:5513, CEE:5540, CEE:4533, CEE:5179, CEE:5310.

c Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and department website for specifics.

d Must be completed during first semester.

e Required every semester.

f Successful completion of all degree requirements.

## Sustainable Water Development Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
CEE:5310	Informatics for Sustainable Systems	3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
Final Exam <sup>e</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>31</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and CEE website for specifics.

c Must be completed during first semester.

d Required every semester.

e Final exam is required for some program areas. Refer to Graduate Program Resources on the CEE website for details.

## Transportation Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. must be graduate level coursework; more information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CEE:5310	Informatics for Sustainable Systems	3
CEE:4560	Pavement Engineering	3
CEE:5678	Application Simulation to Transportation	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
<b>Hours</b>		<b>16</b>
<b>Spring</b>		
CEE:4730	Transportation Infrastructure Construction and Management	3
STAT:4100 or STAT:4200	Mathematical Statistics I or Statistical Methods and Computing	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>31</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and department website for specifics.

c Must be completed during first semester.

d Required every semester.

e Successful completion of all degree requirements.

## Water Resources Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

### First Year

#### Fall

CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

**Hours 16**

#### Spring

CEE:5310	Informatics for Sustainable Systems	3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE Elective course <sup>b</sup>		3
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

**Final Exam<sup>e</sup>**

**Hours 15**

**Total Hours 31**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and CEE website for specifics.

c Must be completed during first semester.

d Required every semester.

e Final exam is required for some program areas. Refer to Graduate Program Resources on the CEE website for details.

# Civil and Environmental Engineering, Ph.D.

Graduate study in civil and environmental engineering prepares students for professional careers and further study. The principal concentration areas are environmental engineering and environmental science; hydraulics, hydrology, and water resources; structures, mechanics, and materials; sustainable water development; and transportation.

## Research and Study Areas

### Structures, Mechanics, and Materials

The structures, mechanics, and materials curriculum is designed for students who wish to gain knowledge and skill in the mechanics of solids and structures that they can apply to civil infrastructure systems and other fields. The program concentrates on developing appropriate methodologies for tackling broad, complex issues related to civil infrastructure systems, and on educating engineers in the implementation and application of methodologies to actual engineering projects. Faculty members have expertise in structural engineering, design optimization, solid mechanics, and computational methods.

### Transportation Engineering

The transportation engineering curriculum is geared toward students interested in developing specialized knowledge and skills applicable to the diverse set of issues associated with transportation. Faculty members have expertise in traffic engineering, infrastructure management systems, pavement engineering, advanced construction materials, dynamic load and pavement simulation, optimal design, winter highway maintenance, real-time simulation, human factors, intelligent sensors, nondestructive testing, transportation planning, and travel demand modeling.

### Water and the Environment

The water and the environment graduate program focuses on both fundamental and applied aspects of environmental systems and processes across a range of scales. The water and the environment program offers unique opportunities for students to actively participate in the research, analysis, and design aspects of real-world problems. There are three areas of specialization—environmental engineering and science; hydraulics, hydrology, and water resources; and sustainable water development.

The environmental engineering and science curriculum provides a comprehensive base of coursework and research in the areas of air and water quality management; environmental chemistry and microbiology; natural systems modeling; and processes for water supply, pollution control, and solid and hazardous waste management.

The hydraulics, hydrology, and water resources curriculum is associated with IIHR—Hydrosience & Engineering, a world-renowned research institute, where senior staff members of the institute are professors in the program. IIHR offers unique curriculum opportunities in laboratory and field-scale experimentation, and in mathematical modeling with IIHR's high-speed computer facilities.

The sustainable water development curriculum is focused on training interdisciplinary professional engineers, researchers, educators, and those who are ready to meet

the water resource challenges of communities most in need. Community service and professional development experiences complement innovative research at the food, energy, and water nexus.

Across all specialization areas within water and the environment, interdisciplinary research and study are conducted with programs including the Center for Global and Regional Environmental Research, the Center for Health Effects of Environmental Contamination, the Iowa Superfund Research Program, the Hazardous Substances Research Center, and the Center for Biocatalysis and Bioprocessing; the Departments of Chemical and Biochemical Engineering (College of Engineering), Earth and Environmental Sciences, Geographical and Sustainability Sciences (College of Liberal Arts and Sciences), Microbiology and Immunology (Carver College of Medicine), and Occupational and Environmental Health (College of Public Health); and the School of Planning and Public Affairs (Graduate College). Other areas of interdisciplinary focus include groundwater contamination, biotechnology, global climate change, and hazardous substances.

## Learning Outcomes

Students will gain an ability to:

- apply critical thinking skills and principles of engineering and science to solve problems that address societal needs;
- communicate effectively with a range of audiences;
- make ethical and professional judgments that consider the global, economic, environmental, and societal contexts of their decisions and proposed engineering solutions; and
- conduct original research that advances discovery through the use of modern research tools and methodologies.

## Requirements

The Doctor of Philosophy program in civil and environmental engineering requires a minimum of 72 s.h. of graduate coursework, including at least 43 s.h. in formal coursework. Students may count a maximum of 29 s.h. in CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation toward the degree. Students must maintain a cumulative g.p.a. of at least 3.00. The doctoral degree is granted primarily on the basis of achievement rather than on a prescribed course of study.

Students may count up to 24 s.h. from the M.S. in civil and environmental engineering or from another qualified graduate program toward the Ph.D. with departmental approval.

All students usually need at least three years of full-time graduate study to complete the degree. They must pass a qualifying examination and must pass a written and oral comprehensive examination before they may be formally admitted to Ph.D. candidacy; the comprehensive examination usually is taken after all required coursework has been completed. Students devote one year to the preparation of a dissertation that contributes to knowledge in the field; they must defend their dissertation successfully in a final examination.

## Core Courses

Students must successfully complete the appropriate civil and environmental graduate core courses for their area of focus. They are expected to complete core courses during their first year of study.



## Elective Courses

Students should choose elective courses from any academic area that strengthens their knowledge of water and the environment and provides needed research topic training. Independent study, such as CEE:5998 Individual Investigations: Civil and Environmental Engineering, is not considered a suitable elective.

## Seminars

All full-time students are required to register for and participate in seminars in their respective program of study; this includes CEE:5096 Water, Energy, and Food Nexus Seminar for areas that fall under the water and the environment curriculum (environmental engineering, environmental science, hydraulics, sustainable water development, and water resources) or CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation for students in structures, mechanics and materials or transportation engineering. Depending on the program of study, there may be additional seminar requirements. For more detailed information, visit the department's Graduate Program Resources web page.

## Ethics Course

Students must enroll in ENGR:7270 Engineering Ethics.

## Dissertation

Students must complete a dissertation and may apply up to 29 s.h. in CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation toward the degree. A total of 6 s.h. may be taken on a graded basis at the discretion of the advisor. Consult the department's Graduate Program Resources web page for more detailed information about different program of study areas.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Each of the program's curricula is flexible; students may be admitted from all disciplines of engineering as well as from the mathematical and basic sciences.

Applicants should have a graduate g.p.a. of at least 3.00. Those with grade-point averages slightly lower should contact the department.

Beginning with fall 2022 applicants, Graduate Record Examination (GRE) General Test scores are no longer required.

## Financial Support

A significant number of research assistantships are available on a variety of research projects, and a limited number of teaching assistantships may be available. Selection of recipients usually is based on scholastic achievement and research interest.

## Career Advancement

Graduates are placed in advanced technical positions in academia, industry, consulting firms, or government.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Civil and Environmental Engineering, Ph.D.

- Environmental Engineering Subprogram [p. 1617]
- Environmental Science Subprogram [p. 1618]
- Hydraulics Subprogram [p. 1619]
- Structures, Mechanics and Materials Subprogram [p. 1620]
- Sustainable Water Development Subprogram [p. 1621]
- Transportation Subprogram [p. 1622]
- Water Resources Subprogram [p. 1623]

### Environmental Engineering Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. of graduate level coursework must be completed; up to 24 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.		
		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>b</sup>		
		<b>0</b>
<b>Fall</b>		
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
		<b>10</b>

**Spring**

CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE:5095	Career Paths in Sustainable Water Development <sup>f</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
<b>Hours</b>		<b>9</b>

**Second Year****Any Semester**

Comprehensive Exam <sup>g</sup>		0
<b>Hours</b>		<b>0</b>

**Fall**

CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
<b>Hours</b>		<b>15</b>

**Spring**

CEE:6225	Communicating Science <sup>j</sup>	3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
<b>Hours</b>		<b>15</b>

**Third Year****Fall**

CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	9
<b>Hours</b>		<b>12</b>

**Spring**

CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
<b>Hours</b>		<b>9</b>

**Fourth Year****Fall**

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	2
<b>Hours</b>		<b>2</b>

**Spring**

Final Exam <sup>k</sup>		0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
<b>Hours</b>		<b>0</b>
<b>Total Hours</b>		<b>72</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Typically completed by the end of the first year. Refer to the CEE website and the Graduate College Manual of Rules and Regulations for details.
- c Must be completed during first semester.
- d Required every semester.
- e Work with academic advisor to determine graduate elective coursework and sequence. See General Catalog and CEE website for specifics.
- f Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- g Oral exam typically completed by the end of the second year after passing the Qualifying Exam; written dissertation prospectus must be submitted to the committee two weeks before exam.
- h Enrollment during four semesters is required.
- i Total of 29 s.h. from CEE:7999 is required. May take up to 6 s.h. for a letter grade; all other credits must be taken on S/U basis.
- j Technical communication requirement; approved courses include RHET:7500, RHET:7930, RHET:7940. Other courses may be considered and should be submitted to the CEE Director of Graduate Studies for approval.
- k Oral dissertation defense.

**Environmental Science Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. of graduate level coursework must be completed; up to 24 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.		
<b>Hours</b>		<b>0</b>

**First Year****Any Semester**

Qualifying Exam <sup>b</sup>		0
<b>Hours</b>		<b>0</b>

**Fall**

CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
ENGR:7270	Engineering Ethics <sup>c</sup>	1

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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<b>Hours</b>	<b>10</b>
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**Spring**

CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE:5095	Career Paths in Sustainable Water Development <sup>f</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

<b>Hours</b>	<b>9</b>
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**Second Year****Any Semester**

Comprehensive Exam <sup>g</sup>		0
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<b>Hours</b>	<b>0</b>
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**Fall**

CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6

<b>Hours</b>	<b>15</b>
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**Spring**

CEE:6225	Communicating Science <sup>j</sup>	3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6

<b>Hours</b>	<b>15</b>
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**Third Year****Fall**

CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	9

<b>Hours</b>	<b>12</b>
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**Spring**

CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6

<b>Hours</b>	<b>9</b>
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**Fourth Year****Fall**

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	2

<b>Hours</b>	<b>2</b>
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**Spring**

Final Exam <sup>k</sup>		0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

<b>Hours</b>	<b>0</b>
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<b>Total Hours</b>	<b>72</b>
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a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Typically completed by the end of the first year. Refer to the CEE website and the Graduate College Manual of Rules and Regulations for details.

c Must be completed during first semester.

d Required every semester.

e Work with academic advisor to determine graduate elective coursework and sequence. See General Catalog and CEE website for specifics.

f Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

g Oral exam typically completed by the end of the second year after passing the Qualifying Exam; written dissertation prospectus must be submitted to the committee two weeks before exam.

h Enrollment during four semesters is required.

i Total of 29 s.h. from CEE:7999 is required. May take up to 6 s.h. for a letter grade; all other credits must be taken on S/U basis.

j Technical communication requirement; approved courses include RHET:7500, RHET:7930, RHET:7940. Other courses may be considered and should be submitted to the CEE Director of Graduate Studies for approval.

k Oral dissertation defense.

**Hydraulics Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

72 s.h. of graduate level coursework must be completed; up to 24 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.

<b>Hours</b>	<b>0</b>
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**First Year****Any Semester**

Qualifying Exam <sup>b</sup>		0
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<b>Hours</b>	<b>0</b>
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**Fall**

CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE:5380	Fluid Flows in Environmental Systems	3

CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

**Hours 10**

### Spring

CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE:5095	Career Paths in Sustainable Water Development <sup>f</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

**Hours 9**

### Second Year

#### Any Semester

Comprehensive Exam <sup>g</sup>		0
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**Hours 0**

#### Fall

CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6

**Hours 15**

#### Spring

CEE:6225	Communicating Science <sup>j</sup>	3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6

**Hours 15**

### Third Year

#### Fall

CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	9

**Hours 12**

#### Spring

CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
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**Hours 9**

### Fourth Year

#### Fall

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	2

**Hours 2**

#### Spring

Final Exam <sup>k</sup>		0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

**Hours 0**

**Total Hours 72**

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Typically completed by the end of the first year. Refer to the CEE website and the Graduate College Manual of Rules and Regulations for details.
- c Must be completed during first semester.
- d Required every semester.
- e Work with academic advisor to determine graduate elective coursework and sequence. See General Catalog and CEE website for specifics.
- f Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- g Oral exam typically completed by the end of the second year after passing the Qualifying Exam; written dissertation prospectus must be submitted to the committee two weeks before exam.
- h Enrollment during four semesters is required.
- i Total of 29 s.h. from CEE:7999 is required. May take up to 6 s.h. for a letter grade; all other credits must be taken on S/U basis.
- j Technical communication requirement; approved courses include RHET:7500, RHET:7930, RHET:7940. Other courses may be considered and should be submitted to the CEE Director of Graduate Studies for approval.
- k Oral dissertation defense.

## Structures, Mechanics and Materials Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 24 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CEE Core course <sup>c</sup>		3

CEE Core course <sup>c</sup>	3
CEE Core course <sup>c</sup>	3
ENGR:7270 Engineering Ethics <sup>d</sup>	1
CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0

**Hours 10**

### Spring

CEE Core course <sup>c</sup>	3
CEE Core course <sup>c</sup>	3
CEE Elective course <sup>f</sup>	3
CEE Elective course <sup>f</sup>	3
CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0

**Hours 12**

### Second Year

#### Any Semester

Comprehensive Exam <sup>g</sup>	0
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**Hours 0**

#### Fall

CEE Elective course <sup>f</sup>	3
CEE Elective course <sup>f</sup>	3
CEE Elective course <sup>f</sup>	3
CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0
CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>h</sup>	6

**Hours 15**

#### Spring

CEE:6225 Communicating Science <sup>i</sup>	3
CEE Elective course <sup>f</sup>	3
CEE Elective course <sup>f</sup>	3
CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0
CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>h</sup>	6

**Hours 15**

### Third Year

#### Fall

CEE Elective course <sup>f</sup>	3
CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0
CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>h</sup>	9

**Hours 12**

#### Spring

CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0
CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>h</sup>	6

**Hours 6**

### Fourth Year

#### Fall

CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0
CEE:7999 Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>h</sup>	2

**Hours 2**

#### Spring

CEE:5098 Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>e</sup>	0
Final Exam <sup>j</sup>	

**Hours 0**

**Total Hours 72**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Typically completed by the end of first year; refer to department website and Graduate Handbook for specifics.

c Complete five courses from CEE:4512, CEE:5513, CEE:5540, CEE:4533, CEE:5179, CEE:5310.

d Must be completed during first semester.

e Required every semester.

f Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and department website for specifics.

g Oral exam to be completed within one year of passing the Qualifying Exam, typically by the end of second year; a written prospectus is submitted to the committee two weeks before oral exam.

h Minimum of 29 s.h. required. Up to 6 s.h. for a letter grade; all other credits must be taken on S/U basis.

i Technical communication requirement; approved courses include RHET:7500, RHET:7930, RHET:7940. Other courses may be considered and should be submitted to the CEE Director of Graduate Studies for approval.

j Dissertation defense.

## Sustainable Water Development Subprogram

Course	Title	Hours
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### Academic Career

#### Any Semester

72 s.h. of graduate level coursework must be completed; up to 24 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.

**Hours 0**

#### First Year

#### Any Semester

Qualifying Exam <sup>b</sup>		0
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**Hours 0**

#### Fall

CEE:5440 Foundations of Environmental Chemistry and Microbiology	3
CEE:5380 Fluid Flows in Environmental Systems	3

CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE:5095	Career Paths in Sustainable Water Development <sup>f</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
<b>Hours</b>		<b>9</b>

**Second Year****Any Semester**

Comprehensive Exam <sup>g</sup>		
<b>Hours</b>		<b>0</b>

**Fall**

CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
<b>Hours</b>		<b>15</b>

**Spring**

CEE:6225	Communicating Science <sup>j</sup>	3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
<b>Hours</b>		<b>15</b>

**Third Year****Fall**

CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	9
<b>Hours</b>		<b>12</b>

**Spring**

CEE Elective course <sup>e</sup>		3
CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0

CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
<b>Hours</b>		<b>9</b>

**Fourth Year****Fall**

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	2
<b>Hours</b>		<b>2</b>

**Spring**

Final Exam <sup>k</sup>		
CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
<b>Hours</b>		<b>0</b>
<b>Total Hours</b>		<b>72</b>

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- b Typically completed by the end of the first year. Refer to the CEE website and the Graduate College Manual of Rules and Regulations for details.
- c Must be completed during first semester.
- d Required every semester.
- e Work with academic advisor to determine graduate elective coursework and sequence. See General Catalog and CEE website for specifics.
- f Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- g Oral exam typically completed by the end of the second year after passing the Qualifying Exam; written dissertation prospectus must be submitted to the committee two weeks before exam.
- h Enrollment during four semesters is required.
- i Total of 29 s.h. from CEE:7999 is required. May take up to 6 s.h. for a letter grade; all other credits must be taken on S/U basis.
- j Technical communication requirement; approved courses include RHET:7500, RHET:7930, RHET:7940. Other courses may be considered and should be submitted to the CEE Director of Graduate Studies for approval.
- k Oral dissertation defense.

**Transportation Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 24 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CEE:5310	Informatics for Sustainable Systems	3

CEE:4560	Pavement Engineering	3
CEE:5678	Application Simulation to Transportation	3
ENGR:7270	Engineering Ethics <sup>c</sup>	1
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
CEE:4730	Transportation Infrastructure Construction and Management	3
STAT:4100 or STAT:4200	Mathematical Statistics I or Statistical Methods and Computing	3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>f</sup>		0
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>g</sup>	6
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
CEE:6225	Communicating Science <sup>h</sup>	3
CEE Elective course <sup>e</sup>		3
CEE Elective course <sup>e</sup>		3
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>g</sup>	6
<b>Hours</b>		<b>15</b>
<b>Third Year</b>		
<b>Fall</b>		
CEE Elective course <sup>e</sup>		3
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>g</sup>	9
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>g</sup>	6
<b>Hours</b>		<b>6</b>

**Fourth Year****Fall**

CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>g</sup>	2
<b>Hours</b>		<b>2</b>

**Spring**

CEE:5098	Graduate Seminar in Structures, Materials, Mechanics, and Transportation <sup>d</sup>	0
Final Exam <sup>i</sup>		0

<b>Hours</b>	<b>0</b>
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<b>Total Hours</b>	<b>72</b>
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- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Typically completed by the end of first year; refer to department website and Graduate Handbook for specifics.
- c Must be completed during first semester.
- d Required every semester.
- e Work with academic advisor to determine elective graduate coursework and sequence. See General Catalog and department website for specifics.
- f Oral exam to be completed within one year of passing the Qualifying Exam, typically by the end of second year; a written prospectus is submitted to the committee two weeks before oral exam.
- g Minimum of 29 s.h. required. Up to 6 s.h. for a letter grade; all other credits must be taken on S/U basis.
- h Technical communication requirement; approved courses include RHET:7500, RHET:7930, RHET:7940. Other courses may be considered and should be submitted to the CEE Director of Graduate Studies for approval.
- i Dissertation defense.

**Water Resources Subprogram**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. of graduate level coursework must be completed; up to 24 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>b</sup>		0
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE:5380	Fluid Flows in Environmental Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
ENGR:7270	Engineering Ethics <sup>c</sup>	1

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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**Hours 10**

### Spring

CEE Elective course <sup>e</sup>		3
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CEE Elective course <sup>e</sup>		3
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CEE:5350	Watershed Hydrology and Ecosystem Processes	3
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CEE:5095	Career Paths in Sustainable Water Development <sup>f</sup>	0
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CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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**Hours 9**

### Second Year

#### Any Semester

Comprehensive Exam <sup>g</sup>		0
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**Hours 0**

#### Fall

CEE Elective course <sup>e</sup>		3
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CEE Elective course <sup>e</sup>		3
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CEE Elective course <sup>e</sup>		3
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CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
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CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
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**Hours 15**

#### Spring

CEE:6225	Communicating Science <sup>j</sup>	3
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CEE Elective course <sup>e</sup>		3
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CEE Elective course <sup>e</sup>		3
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CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
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CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
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**Hours 15**

### Third Year

#### Fall

CEE Elective course <sup>e</sup>		3
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CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
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CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	9
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**Hours 12**

#### Spring

CEE Elective course <sup>e</sup>		3
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CEE:5097	Coaching Seminar on Communicating Water Science <sup>h</sup>	0
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CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	6
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**Hours 9**

### Fourth Year

#### Fall

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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CEE:7999	Research: Civil and Environmental Engineering Ph.D. Dissertation <sup>i</sup>	2
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**Hours 2**

#### Spring

Final Exam<sup>k</sup>

CEE:5096	Water, Energy, and Food Nexus Seminar <sup>d</sup>	0
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**Hours 0**

**Total Hours 72**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Typically completed by the end of the first year. Refer to the CEE website and the Graduate College Manual of Rules and Regulations for details.

c Must be completed during first semester.

d Required every semester.

e Work with academic advisor to determine graduate elective coursework and sequence. See General Catalog and CEE website for specifics.

f Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

g Oral exam typically completed by the end of the second year after passing the Qualifying Exam; written dissertation prospectus must be submitted to the committee two weeks before exam.

h Enrollment during four semesters is required.

i Total of 29 s.h. from CEE:7999 is required. May take up to 6 s.h. for a letter grade; all other credits must be taken on S/U basis.

j Technical communication requirement; approved courses include RHET:7500, RHET:7930, RHET:7940. Other courses may be considered and should be submitted to the CEE Director of Graduate Studies for approval.

k Oral dissertation defense.



# Electrical and Computer Engineering

## Chair

- Er-Wei Bai

**Undergraduate majors:** computer science and engineering (B.S.E.); electrical engineering (B.S.E.)

**Graduate degrees:** M.S. in electrical and computer engineering; Ph.D. in electrical and computer engineering

**Faculty:** <https://engineering.uiowa.edu/people/ece-people>

**Website:** <https://ece.engineering.uiowa.edu/>

Electrical engineers and computer engineers make vital contributions to nearly all facets of modern society through their work in areas such as the internet of things (IoT), artificial intelligence, deep learning, computer systems, software applications, medical imaging, robotics, wireless communications, and fiber optics. From smart technologies to high-definition television, cellular telephones, and computer networks, the contributions of electrical and computer engineers are constantly reinventing the world.

Many benefits that have sprung from electrical and computer engineering technology now are taken for granted—noninvasive imaging of the brain and other internal organs, astonishing views of the solar system's outer planets, and wireless telecommunications. Electrical and computer engineers also play crucial roles in major emerging technologies, such as driverless vehicles, smart cities, and human genomics.

As the United States strives to retain or enlarge its share of national and international markets, electrical and computer engineers will play a more important role in fostering innovation, increasing productivity, and creating intelligent systems to improve the quality of life for residents.

Electrical and computer engineers work in research, design, development, manufacturing, sales, market analysis, consulting, field service, and management. They are employed in computer, semiconductor, software, aerospace, telecommunication, medical, radio, television, and power industries, and many graduates pursue entrepreneurial ventures.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Computer Science and Engineering (Bachelor of Science in Engineering) [p. 1632]
- Major in Electrical Engineering (Bachelor of Science in Engineering) [p. 1635]

### Graduate Programs of Study

#### Majors

- Master of Science in Electrical and Computer Engineering [p. 1638]
- Doctor of Philosophy in Electrical and Computer Engineering [p. 1640]

## Research and Study Areas

### Augmented Reality and Multimodal Sensing

The department is actively involved in research to advance augmented reality and virtual reality systems, particularly regarding their underlying multimodal imaging and sensing techniques. Work in this area relies on mathematics, instrumentation, software engineering, computer vision, and computer graphics to design and engineer novel methodologies and systems for sensing, virtually replicating, understanding, and then augmenting the world around us. This is an interdisciplinary research area that encompasses fields such as: 3D/4D surface imaging and measurement, 3D/4D data compression and communication, real-time computer vision, computer-aided surgeries, machine learning, computer graphics, human-computer interaction, multimedia on mobile devices, and computer-aided design. In addition to advancing the basic science within those fields, departmental researchers are pursuing various applications of their work via collaborations with the Carver College of Medicine [p. 1830], the Public Digital Arts faculty cluster, the Iowa Initiative for Artificial Intelligence, the Iowa Institute for Biomedical Imaging, and the Iowa Technology Institute.

### Bioinformatics and Computational Biology

The Center for Bioinformatics and Computational Biology (CBCB) is a multidisciplinary research enterprise that encompasses numerous laboratories and collaborates with many graduate programs on campus. Students may earn the Certificate in Informatics [p. 1756] (Graduate College), to augment their Ph.D. training in disciplines ranging from molecular biology to biochemistry to computer science to engineering.

The Coordinated Laboratory for Computational Genomics, a CBCB affiliate, engages in a broad range of research activities that complement the Human Genome Project. Members of the laboratory develop new hardware and software techniques for analysis and annotation of genomic sequence, its transcription and translation, and the proteome. Other efforts are aimed at systematic capture and curation of phenotypic information acquired from massive databases of clinical information derived from collaborations with the Carver College of Medicine. The goal of these projects is to elucidate the mechanisms of human disease and develop promising new methods for cures and treatments.

The laboratory's facilities include more than 200 workstations, three Linux clusters, and access to the National Science Foundation (NSF) TeraGrid and other high performance computing facilities. Projects in the laboratory frequently involve cutting-edge genomic and proteomic instruments such as the Roche 454 next-generation sequencing platform and several high-throughput gene expression (microarray) measurement platforms.

### Computer Systems

High performance computing research involves development of collaborative and parallel computing environments and associated software tools, and use of these facilities and tools in varied application domains, including image processing and computational biology. Current work in networking focuses on protocols and layer-integration schemes that

support high performance wireless networking, and on control and coordination of mobile ad hoc networks. Current research facilities in these areas include several large cluster computers and an experimental asynchronous transfer mode (ATM) network.

Departmental facilities that support this work include Linux and Windows workstations and server nodes that provide college-wide networked computer services. Advanced computing facilities also are available at national supercomputing centers and federal laboratories.

## Control Systems and Systems Theory

Control systems and systems theory use feedback to improve the predictability and efficiency of engineered systems ranging from electronic amplifiers to vehicle guidance systems, manufacturing processes, communication channels, and the internet. Work in control systems and systems theory draws heavily on results from mathematics, physics, and computer science to model the systems that are to be controlled and to implement feedback controllers.

Current research emphasizes optimal, adaptive, digital, robust, and stochastic control and the control of discrete event dynamical systems. Recent work has concerned the estimation, identification, and robust control of linear and nonlinear dynamical systems; set membership identification, control over wireless communication channels; coordinated fault tolerant control of unmanned vehicles; use of control theory to analyze distributed computing, communications, and manufacturing systems; interplay between communications and control; design of fast digital controllers using subband coding; and multirate control systems.

Research in control systems and systems theory is supported by extensive computing resources and collaborations with local industry, the National Advanced Driving Simulator (NADS), the Iowa Technology Institute, and the Carver College of Medicine [p. 1830].

## Nanoscale Electronics and Spintronics

Nanotechnology is the branch of technology that deals with dimensions that are 10,000 times smaller than the width of the hair. Nanoscience and nanotechnology involve the ability to see and to control individual atoms and molecules. Utilizing the nanofabrication and nanoimaging facilities available on campus, nanoscale transistors, optical circuits, biosensors, and solar cells are being developed. Departmental researchers are pursuing experimental, theoretical, and large-scale computational approaches.

## Optoelectronics

Current research topics are optical and electronic properties of semiconductors, semiconductor devices, electro-optics, nonlinear optics, nonlinear wave propagation in plasmas, nanotechnology, and medical devices. This research is at the interface of optical engineering, materials engineering, quantum physics, and electromagnetics.

Much work is done in collaboration with other University of Iowa departments, including the Departments of Physics and Astronomy, and Chemistry (College of Liberal Arts and Sciences), and the Departments of Internal Medicine and Neurosurgery (Carver College of Medicine). Facilities

include two molecular beam epitaxy reactors (in physics and astronomy), a microfabrication laboratory with nanometer resolution capabilities, electrical characterization capability to 22 GHz, several Ti-sapphire lasers, a mid-infrared optical parametric oscillator, and plasma equipment for nonlinear wave plasma interaction studies.

Examples of current projects are the design and fabrication of diode lasers and light-emitting diodes based on the bandgap engineering of antimony and arsenic-based III-V compound semiconductors, phase control of laser arrays, development of an all-optical power equalizer, characterization of quantum well devices, nonlinear waveguide devices, development of a noncontact method to measure transport properties, plasma and optical soliton excitation and propagation, development of cellular probes, gas sensors, and a laser scalpel for medical research.

## Signal and Image Processing

Research in image processing and basic and applied signal processing is supported by a digital signal processing laboratory and an image analysis laboratory. Collaborative research with faculty in the Departments of Radiology, Neurology, Psychiatry, Internal Medicine, Ophthalmology and Visual Sciences, Radiation Oncology (Carver College of Medicine), and the Roy J. Carver Department of Biomedical Engineering is directed at quantitative analysis of medical images.

In the area of signal processing, current projects include analysis and design of efficient adaptive algorithms for signal processing, efficient coding and transmission of speech, speech processing aids for the hearing impaired, robust equalization of uncertain channels, application of neural networks to communications systems, multirate signal processing, and subband coding and channel equalization.

Image processing and analysis projects include development of novel methods for image segmentation, image registration, computer-aided detection and diagnosis, early identification of disease patterns from medical image data, computer-aided surgical planning, virtual and augmented reality medical image visualization, building anatomic atlases, and a broad range of translational medicine projects focusing on research and clinical applications of the novel methods. The areas of interest span all scales, from molecules to cells to small animals to humans, and cover a broad range of organ systems and targeted diseases. The spectrum of medical imaging modalities used for research and applications in image processing and analysis is equally broad, encompassing all existing modalities, including X-ray, CT, MR, PET, SPECT, and OCT.

The Medical Image Analysis Labs consist of several specialized facilities for digital image processing. They are equipped with state-of-the-art devices for data storage, transfer, visualization, and analysis. High-capacity data storage devoted to image processing research offers more than 35 TB of online hard disk space. An augmented reality medical image visualization lab serves as a high performance collaborative resource for the Iowa Institute for Biomedical Imaging. The institute makes additional resources available to image processing research, including small and large animal as well as human research scanning facilities, and provides a backbone for interdisciplinary medical image analysis research to electrical and computer engineering graduate students and faculty.

## Wireless Communication Systems

The department is engaged in research using wireless sensor networks (WSNs), which consist of spatially distributed autonomous devices that use sensors to cooperatively monitor physical or environmental conditions such as temperature, sound, vibration, pressure, motion, and pollutants at different locations. WSNs are used for environment and habitat monitoring, health care applications, home automation, and traffic control. Current research includes the application of WSNs, traditional telemetry, and commercial cellular communication infrastructure for geosciences data collection (e.g., rainfall, water quality, soil moisture).

Another important research interest involving distributed sensor networks is the distributed control of power systems, especially requirements of the next-generation electric grid with smart metering and distributed generation using small-scale wind and solar generators. Research on WSNs also includes the design of cooperative communication techniques for energy efficient WSNs and issues of localization, network organization, and control.

Research activities in communication systems focus on design and analysis of receivers for digital wireless communications, especially the development of effective and practical receivers for multiple-user wireless cellular systems in multipath channels. Topics of research include the design, analysis, and experimental demonstration of large-scale distributed multiple-input multiple-output (MIMO) arrays for communication sensing and electronic warfare; precision interference cancellation techniques using feedback control; and synchronization and channel estimation for massive MIMO Base Stations.

### Facilities

## Undergraduate Core

Electrical and computer engineering provides core instruction for the college in electrical circuits, electronics, instrumentation, and computers. A key part of this core teaching responsibility lies in providing students with an early opportunity to use engineering laboratory instrumentation.

## Undergraduate Laboratories

The department's undergraduate laboratories include facilities for the study of the internet of things (IoT), electrical and electronic circuits, wireless communication, power and sustainable energy, signals and systems, embedded systems, measurement automation, communication systems, control systems, image processing, robotics, and optics. The laboratories are equipped with modern equipment, including digital oscilloscopes, computer-controlled virtual instrumentation, and software and hardware for embedded-systems development.

## Graduate Facilities and Laboratories

The department has laboratories intended primarily for graduate research in the areas of virtual and augmented reality, deep learning, big data, bioinformatics, image processing, software engineering, electro-optics, control systems, medical imaging and image analysis, large-scale intelligent systems, and wireless communication. Linux, Macintosh, and Windows workstations and server nodes

provide college-wide networked computing support. Through cooperative arrangements, advanced computing facilities at national supercomputing centers, federal laboratories, and other universities are available for graduate research.

### Courses

## Electrical and Computer Engineering Courses

### **ECE:0000 Electrical Engineering Internship/Co-op 0 s.h.**

Electrical engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

### **ECE:1000 First-Year Seminar 1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

### **ECE:2400 Linear Systems I 3 s.h.**

Introduction to continuous and discrete time signals and systems with emphasis on Fourier analysis; examples of signals and systems; notion of state and finite state machines; causality; linearity and time invariance; periodicity; Fourier transforms; frequency response; convolution; IIR and FIR filters, continuous and discrete Fourier transforms; sampling and reconstruction; stability. Prerequisites: ENGR:2120 and MATH:2560.

### **ECE:2410 Principles of Electronic Instrumentation 4 s.h.**

Principles of analog signal amplification, signal conditioning, filtering; operational amplifier circuit analysis and design; principles of operation of diodes, bipolar transistors, field effect transistors; discrete transistor amplifier analysis and design; laboratory included. Prerequisites: ENGR:2120 and PHYS:1612 and MATH:2560.

### **ECE:3000 Electrical and Computer Engineering Professional Seminar 1 s.h.**

Professional aspects of electrical and computer engineering, and computer science, presented through lectures and discussions by guest speakers, field trips, and panel discussions. Requirements: junior standing.

### **ECE:3320 Introduction to Digital Design 3 s.h.**

Modern design and analysis of digital switching circuits; combinational logic; sequential circuits and system controllers; interfacing and busing techniques; design methodologies using medium- and large-scale integrated circuits; lab arranged. Requirements: sophomore standing.

### **ECE:3330 Introduction to Software Design 3 s.h.**

Design of software for engineering systems; algorithm design and structured programming; data structures; introduction to object-oriented programming in JAVA; applications to engineering problems; lab arranged. Prerequisites: ENGR:2730. Same as IGPI:3330.

**ECE:3350 Computer Architecture and Organization****3 s.h.**

Basic concepts; computer evolution, register transfer level design, simulation techniques, instruction sets (CISC and RISC), assembly language programming, ALU design, arithmetic algorithms and realization of arithmetic functions, hardwired and microprogrammed control, memory hierarchies, virtual memory, cache memory, interrupts and DMA, input/output; introduction to high performance techniques, pipelining, multiprocessing; introduction to hardware description languages (Verilog, VHDL); students design and simulate a simple processor. Prerequisites: ENGR:2730 and ECE:3320.

**ECE:3360 Embedded Systems****3 s.h.**

Microprocessors and microcontrollers as components in engineering systems; embedded system design processes; microcontroller/microprocessor architecture; interrupts and traps; memory and device interfacing; low-level and high-level software design for embedded systems; examples of embedded system architecture and design; fundamentals of operating systems; tasks and processes; context switching and scheduling; memory and file management, interprocess communication; device drivers. Prerequisites: ENGR:2730 and ECE:3320. Corequisites: ECE:2410.

**ECE:3400 Linear Systems II****3 s.h.**

Builds on concepts from ECE:2400 towards application in digital signal processing; lab exercises, hands-on term project; review of key linear systems concepts; MATLAB basics, tools, and functions for digital signal processing; discrete time systems, difference equations in digital signal processing; Fourier analysis of discrete time signals; transient, steady-state, and frequency response of discrete time, linear time-invariant (LTI) systems; Z-transform analysis; sampling theorem and aliasing; power spectral density and periodograms; recording and processing of sound and music; finite impulse response (FIR) and infinite impulse response (IIR) filters; designing and using filters in MATLAB. Prerequisites: ECE:2400.

**ECE:3410 Electronic Circuits****4 s.h.**

Design and analysis of FET and BJT amplifiers; low, midrange, high-frequency analysis; difference amplifiers; feedback amplifiers; SPICE simulation; power amplifiers; digital logic families. Prerequisites: ECE:2410 and ECE:2400.

**ECE:3500 Communication Systems****3 s.h.**

Introduction to analog and digital communications, with an emphasis on modulation and noise analysis; Fourier analysis, probability theory, random variable and processes, AM, FM, pulse-coded modulation, binary digital modulation, SNR analysis of AM and FM, BER analysis of digital modulation schemes. Prerequisites: ECE:2400.

**ECE:3540 Communication Networks****3 s.h.**

Communication networks, layered network architectures, applications, network programming interfaces (e.g., sockets), transport, congestion, routing, data link protocols, local area networks, emerging high-speed networks, multimedia networks, network security, internet protocol; technology examples. Prerequisites: ENGR:2730. Corequisites: STAT:2020.

**ECE:3600 Control Systems****3 s.h.**

Fundamental concepts of linear feedback control, mathematical modeling, transfer functions, system response, feedback effects, stability, root-locus and frequency response analysis and design, compensation, lab arranged. Prerequisites: ECE:2400.

**ECE:3700 Electromagnetic Theory****3 s.h.**

Electric and magnetic forces, Maxwell's equations, wave propagation; applications, including radiation, transmission lines, circuit theory. Prerequisites: MATH:3550 and PHYS:1612.

**ECE:3720 Semiconductor Devices****3 s.h.**

Fundamentals of semiconductor physics and devices; principles of the p-n junction diode, bipolar transistor, field effect transistor. Prerequisites: ECE:3410 and PHYS:1612.

**ECE:3998 Individual Investigations: Electrical Engineering****arr.**

Individual projects for electrical engineering undergraduate students: laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.

**ECE:4720 Introductory Optics****3 s.h.**

Wave motion and superposition, electromagnetic theory, photons, propagation of light, geometrical and physical optics, interference, diffraction, polarization, and Fourier optics; optical components, devices, and systems. Prerequisites: (PHYS:1512 or PHYS:2703 or PHYS:1612) and (MATH:1560 or MATH:1860). Same as PHYS:4720.

**ECE:4728 Introductory Solid State Physics****3 s.h.**

Phenomena associated with solid state; classification of solids and crystal structures, electronic and vibrational properties in solids; thermal, optical, magnetic, dielectric properties of solids. Prerequisites: PHYS:3741. Same as PHYS:4728.

**ECE:4880 Principles of Electrical and Computer Engineering Design****3 s.h.**

Design problems requiring integration of subject matter from other required electrical and computer engineering courses. Prerequisites: ECE:2410 and ENGR:2730. Requirements: senior standing.

**ECE:4890 Senior Electrical and Computer Engineering Design****3 s.h.**

Individual or team project; demonstration of completed project and formal engineering report. Prerequisites: ECE:4880 and (3 of the following are required: ECE:3330, ECE:3350, ECE:3360, ECE:3400, ECE:3500, ECE:3600, CS:3330). Requirements: completion of three required subprogram courses.

**ECE:5000 Graduate Seminar: Electrical and Computer Engineering****0 s.h.**

Presentation and discussion of recent advances and research in electrical and computer engineering by guest lecturers, faculty, students. Requirements: graduate standing.

**ECE:5300 Switching Theory****3 s.h.**

Switching algebras; combinational circuits—hazards, minimization, multiple-output networks; sequential circuits—critical races, essential hazards, fundamental-mode, pulse-mode, synchronous circuits-state assignment, state reduction; input-output experiments. Prerequisites: ECE:3320.

**ECE:5320 High Performance Computer Architecture****3 s.h.**

Problems involved in designing and analyzing current machine architectures using hardware description language (HDL) simulation and analysis, hierarchical memory design, pipeline processing, vector machines, numerical applications, multiprocessor architectures and parallel algorithm design techniques; evaluation methods to determine relationship between computer design and design goals. Prerequisites: ECE:3350 or CS:3620. Same as CS:5610.

**ECE:5330 Graph Algorithms and Combinatorial Optimization** **3 s.h.**

Combinatorial optimization problems; time complexity; graph theory and algorithms; combinatorial optimization algorithms; complexity theory and NP-completeness; approximation algorithms; greedy algorithms and matroids. Prerequisites: ECE:3330. Same as IGPI:5331.

**ECE:5380 Testing Digital Logic Circuits** **3 s.h.**

Logic models for faults; fault detection in combinational and sequential circuits; fault-diagnosis; design for testability; random testing, compressed data testing, built-in testing. Prerequisites: ECE:3320.

**ECE:5410 Advanced Circuit Techniques** **3 s.h.**

Advanced circuit techniques and principles; analog circuit design including amplifiers, oscillators, multipliers, modulators, phase-locked loops, active filters, switching power supplies, analog to digital and digital to analog converters; lab activities include circuit simulation, design, printed circuit board (PCB) layout and fabrication, assembly, and testing. Prerequisites: ECE:3410.

**ECE:5415 Radio Frequency Electronics** **3 s.h.**

Active and passive devices and transmission line structures at radio frequencies; analysis and design of radio frequency electronic circuits including amplifiers, mixers, multipliers, detectors, radio frequency filters, and oscillators using scattering parameters and the Smith chart; impedance matching, noise and distortion, and power amplifiers; laboratory projects include designing, simulating, building, and testing a radio frequency amplifier and other components used in a radio receiver or transmitter. Prerequisites: ECE:3410 and ECE:3700.

**ECE:5420 Power Electronics** **3 s.h.**

Fundamental concepts and design techniques of power electronics circuits; switching power pole and various switch-mode DC to DC power conversion topologies; feedback control of switch-mode DC to DC power supplies; diode rectification of AC utility power and Power Factor Control (PFC) circuits; electromagnetic concepts and design of high-frequency inductors and transformers; electrically isolated switch-mode DC power supply topologies and soft-switching DC-DC converters and inverters; techniques for synthesis of DC and low-frequency AC sinusoidal voltages. Prerequisites: PHYS:1611 and ENGR:2120 and MATH:2560. Requirements: junior standing.

**ECE:5430 Electric Drive Systems** **3 s.h.**

Basic characteristics of DC and AC electric motors and their associated power electronics interfaces; applications of electric machines and drives that are essential for wind turbines, electric and hybrid-electric; emphasis on vehicles; electric machines in context of overall drives and associated applications; space-vector theory used to analyze electric machines and drives; DC motor/generator characteristics and control; AC single phase and three-phase motor characteristics and feedback control, including AC synchronous and induction motors. Prerequisites: ENGR:2120 and PHYS:1611 and MATH:2560. Requirements: junior standing.

**ECE:5450 Machine Learning** **3 s.h.**

Fundamentals of machine learning theory including regression, classification, neural networks, clustering, and principal component analysis; engineering applications. Prerequisites: ECE:2400 or BME:2200. Same as IGPI:5450.

**ECE:5455 Detection and Estimation** **3 s.h.**

Basic strategies to cope with noise in measurements with three objectives at core of most machine learning tasks —hypothesis testing (where one must choose between various hypotheses), parameter estimation (where multiple parameters whose values define how a system will behave must be estimated from noisy measurements), and filtering (where a noisy music signal must be cleaned up); topics include probability and statistics, random variables and signals, hypothesis testing, parameter estimation, discrete- and continuous-time random processes, and optimal filtering; assignments, written exams, and projects. Prerequisites: STAT:2020 and ECE:2400.

**ECE:5460 Digital Signal Processing** **3 s.h.**

Theory, techniques used in representing discrete-time signals; system concepts in frequency and sampling domains; FIR and IIR digital filter theory, design and realization techniques; theory, application of discrete Fourier transforms/FFT. Prerequisites: ECE:3400. Same as IGPI:5460.

**ECE:5470 Medical Imaging Physics** **3 s.h.**

Physics and data acquisition techniques of major medical imaging modalities (X-ray, CT, MR, ultrasound, PET, SPECT); physical interactions of energy with living tissue; principles and methods for acquiring imaging data and subsequent image construction; how individual modalities influence image quality; MATLAB programming required. Second in a medical imaging sequence. Prerequisites: BME:2200 and BME:2210. Same as BME:5210, IGPI:5206.

**ECE:5480 Digital Image Processing** **3 s.h.**

Mathematical foundations and practical techniques for digital manipulation of images; image sampling, compression, enhancement, linear and nonlinear filtering and restoration; Fourier domain analysis; image pre-processing, edge detection, filtering; image segmentation. Prerequisites: ECE:2400 or BME:2200. Same as IGPI:5480.

**ECE:5490 Multi-Dimensional Image Analysis Tools and Techniques** **3 s.h.**

Broad exposure to common tools of medical imaging analysis in commercial, clinical, and research settings, including algorithm development (using C++ and ITK), rapid prototyping (SimpleITK, nipy, ipython notebook), statistical analysis (R), machine learning (scikit-learn, keras/tensorflow) and reproducible science tools (python, git, bash); special emphasis on big data challenges associated with volume, velocity, and veracity; real-world settings for problems include image-guided robotic surgery, dose treatment planning, and image analysis. Prerequisites: ECE:5480 and (ECE:3330 or CS:2820).

**ECE:5500 Digital Communications** **3 s.h.**

Random processes, source coding, digital transmission at baseband, optimum receiver design for Gaussian noise, error probability and power spectrum analysis, signal design for bandlimited channels, digital carrier modulation, bandwidth/energy/error probability tradeoffs, coding for error detection and correction. Prerequisites: STAT:2020 and ECE:3500.

**ECE:5520 Introduction to Information and Coding Theories** **3 s.h.**

Quantitative measure of information; source encoding; error detecting codes; block and convolutional codes, design of hardware and software implementations; Viterbi decoding. Prerequisites: ECE:3500 and STAT:2020.

**ECE:5530 Wireless Sensor Networks 3 s.h.**

Wireless sensor networks overview; antennas, radio propagation models; WSN power and energy considerations, engineering issues, batteries, networks layers, stacks; medium access control (MAC); spread spectrum, FHSS, CDMA; infrastructure establishment; WSN routing; localization; synchronization; sensors; RFID; WSN case studies; lab. Prerequisites: STAT:2020 and ECE:3500. Requirements: senior standing.

**ECE:5550 Internet of Things 3 s.h.**

Internet of things (IoT) describes the evolution of the internet to intelligent devices, sensors, actuators, controllers, and other types of internet-enabled components; soon, IoT-based applications will enable seminal advances in a wide range of areas including health and lifestyle, transportation, smart cities, environment, energy, agriculture, and industry; topics include IoT logical and physical structure, IoT-enabled internet services, IoT devices/platforms/endpoints, IoT application domains, IoT security and privacy issues, and IoT data analytic; case studies and projects focused on design and implementation of a working IoT application. Prerequisites: ENGR:2730. Requirements: background in computer networks or embedded systems.

**ECE:5600 Control Theory 3 s.h.**

State space approach; controllability, observability, canonical forms, Luenberger observers, feedback control via pole placement, stability, minimal realization and optimal control. Prerequisites: ECE:3600.

**ECE:5620 Electric Power Systems 3 s.h.**

Overview of electric power systems; single phase and three-phase representations of electric power signals and electromagnetic concepts; AC transmission lines and underground cables, power flow in a power system network, AC power transformers, High Voltage DC (HVDC) power transmission, electric power distribution, synchronous generators, voltage regulation and stability, power system transients and dynamic stability, control of interconnected power systems, transmission line faults, transient over-voltages and surge protection. Prerequisites: PHYS:1611 and ENGR:2120 and MATH:2560. Requirements: junior standing.

**ECE:5630 Sustainable Energy Conversion 3 s.h.**

Overview of sustainable energy conversion technologies; thermal energy conversion; Carnot and Rankine cycles; solar resource and raw energy availability, PV solar cell characteristics, solar panel construction, Maximum Power Point (MPP) tracking and utility grid interface; wind energy conversion resource and available energy, wind turbine configurations, electrical power interface electronics; ocean energy conversion tidal and wave resources and conversion technologies; tidal basin containment conversion and tidal current turbine systems. Prerequisites: ENGR:2120 and PHYS:1611 and MATH:2560. Requirements: junior standing.

**ECE:5640 Computer-Based Control Systems 3 s.h.**

Discrete and digital control systems; application of computers in control; sampling theorem; discrete time system models; analysis and design of discrete time systems; control design by state variable and input/output methods; advanced topics in digital controls; lab. Prerequisites: ECE:5600. Same as IGPI:5641.

**ECE:5700 Advanced Electromagnetic Theory 3 s.h.**

Time varying fields; plane wave propagation, reflection, refraction; waves in anisotropic media transmission lines, impedance matching, Smith chart; metallic and dielectric wave guides; resonators; antennas, antenna arrays. Prerequisites: ECE:3700.

**ECE:5780 Optical Signal Processing 3 s.h.**

Linear systems description of optical propagation; diffraction and angular plane wave spectrum; lenses as Fourier transformers, lens configurations as generalized optical processors; lasers, coherence, spatial frequency analysis; holography; convolvers, correlators, matched filters; synthetic aperture radar; optical computing. Requirements: for ECE:5780—ECE:3700; for PHYS:4820—PHYS:3812. Same as PHYS:4820.

**ECE:5790 Electro Optics 3 s.h.**

Wave equation solutions; optical birefringence; finite beam propagation in free space, dielectric waveguides and fibers; optical resonators; nonlinear phenomena; electro-optic, acousto-optic modulation; optical detection, noise; application to communication systems. Requirements: for ECE:5790—ECE:3700; for PHYS:4726—PHYS:3812. Same as PHYS:4726.

**ECE:5800 Fundamentals of Software Engineering 3 s.h.**

Problem analysis, requirements definition, specification, design, implementation, testing/maintenance, integration, project management; human factors; management, technical communication; design methodologies; software validation, verification; group project experience. Prerequisites: CS:2820 or ECE:3330. Same as CS:5800.

**ECE:5810 Formal Methods in Software Engineering 3 s.h.**

Models, methods, and their application in all phases of software engineering process; specification methods; verification of consistency, completeness of specifications; verification using tools. Prerequisites: ECE:3330 or CS:2820. Recommendations: CS:4350. Same as CS:5810.

**ECE:5820 Software Engineering Languages and Tools 3 s.h.**

Modern agile software development practices for cloud and web-based applications, using state-of-the-art software engineering languages, tools, and technologies; agile software development practices, software-as-a-service (SAAS), and the Ruby on Rails Development Framework. Prerequisites: ECE:3330 or CS:2820. Same as CS:5820.

**ECE:5830 Software Engineering Project 3 s.h.**

Team software development project using concepts and methodologies learned in earlier software engineering classes; practical aspects of large-scale software development. Prerequisites: ECE:5820. Same as CS:5830.

**ECE:5995 Contemporary Topics in Electrical and Computer Engineering arr.**

New topics or areas of study not offered in other electrical and computer engineering courses; based on faculty/student interest; not available for individual study.

**ECE:5998 Individual Investigations: Electrical and Computer Engineering arr.**

Individual projects for electrical and computer engineering graduate students; laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.

**ECE:5999 Research: Electrical and Computer Engineering M.S. Thesis arr.**

Experimental and/or analytical investigation of approved topic for partial fulfillment of requirements for M.S. degree with thesis in electrical and computer engineering. Requirements: graduate standing.

**ECE:7470 Image Analysis and Understanding 3 s.h.**

Mathematical foundations and practical techniques of digital image analysis and understanding; image segmentation (from edges and regions), object description (from boundaries, regions, scale, scale insensitive descriptions, 3D shape, texture) pattern recognition (statistical and syntactic methods, cluster analysis), image understanding (knowledge representation, control strategies, matching, context, semantics), image analysis and understanding systems; lab arranged. Prerequisites: ECE:5480. Same as IGPI:7470.

**ECE:7480 Advanced Digital Image Processing 3 s.h.**

Advanced local operators (scale-space imaging, advanced edge detection, line and corner detection), image morphology (binary/gray scale operators, morphological segmentation and watershed), digital topology and geometry (binary/fuzzy digital topology, distance functions, skeletonization), color spaces, wavelets and multi-resolution processing (Haar transform, multi-resolution expansions, wavelet transforms in one or two dimensions, fast wavelet transform, wavelet packets), image registration (intensity correlation, mutual information, and landmark-based deformable registration methods). Prerequisites: ECE:5460 and ECE:5480. Same as IGPI:7480.

**ECE:7720 Semiconductor Physics 3 s.h.**

Electronic, optical, and materials properties of semiconductors. Prerequisites: PHYS:4728 and PHYS:5742. Same as PHYS:7720.

**ECE:7930 Seminar: Plasma Physics arr.**

Current research. Same as PHYS:7930.

**ECE:7999 Research: Electrical and Computer Engineering Ph.D. Thesis arr.**

Experimental and/or analytical investigation of approved topic for partial fulfillment of requirements for Ph.D. in electrical and computer engineering.

# Computer Science and Engineering, B.S.E.

The Bachelor of Science in Engineering (B.S.E.) program in computer science and engineering combines the technical content of a computer science degree and a computer engineering degree in a single degree program. The program curriculum is jointly taught by faculty from the Department of Electrical and Computer Engineering and the Department of Computer Science (College of Liberal Arts and Sciences). The program provides students with a strong theoretical and conceptual understanding of the principles underlying computer software and hardware along with the engineering analysis, design, and multidisciplinary teamwork skills needed to develop large and complex systems containing both software and hardware components.

The computer science and engineering program encompasses the technical rigor of a Bachelor of Science program in computer science and a Bachelor of Science program in computer engineering. This major is jointly accredited in computer science and computer engineering by the Accreditation Board for Engineering and Technology (ABET). Graduates gain the foundational knowledge provided by a computer science education together with the critical thinking, problem-solving, and system design skills at the heart of a computer engineering curriculum.

The major provides technical depth and breadth as well as flexibility and the opportunity for students to customize their programs according to their own goals and interests. Students choose one of several focus areas according to the type of job or research they plan to pursue; students also have the opportunity to work with their academic advisor to build a focus area plan that adheres to their goals and interests. Students select a focus area to personalize their curriculum and to prepare them for certain jobs or research study they intend to seek.

In their senior year, students complete a two-semester capstone design sequence culminating in the development and implementation of a significant, original project. The capstone design experience emphasizes teamwork, professionalism, open-ended problem solving, and the ability to work within real-world constraints and engineering standards.

## Educational Objectives

Graduates of the computer science and engineering program will:

- exhibit leadership and vision in contributing to the computing-related technical and policy decisions of industry, government, and research enterprises;
- demonstrate computing skills and problem-solving abilities that permit them to contribute in a variety of technical, business, and academic careers;
- thrive in diverse, global, and multidisciplinary environments;
- possess the ability to communicate effectively and participate collaboratively in interactions with other computing and engineering professionals; and
- understand the importance of participating in lifelong learning activities that enhance their professional and personal development.

## Requirements

The Bachelor of Science in Engineering with a major in computer science and engineering requires a minimum of 129 s.h. of credit. Students must have a g.p.a. of at least 2.00 on all college work used to satisfy degree requirements as well as on all coursework attempted at the University of Iowa.

All B.S.E. students are required to take the same collegiate curriculum. For information about these collegiate requirements, see the Bachelor of Science in Engineering, B.S.E. [p. 1551] in the Catalog. Students completing the major in computer science and engineering fulfill the collegiate statistics requirement by completing STAT:2020 Probability and Statistics for the Engineering and Physical Sciences.

The major in computer science and engineering requires the following coursework.

Code	Title	Hours
	Collegiate Curriculum	50
	Major Requirements	59
	Focus Area	20
<b>Total Hours</b>		<b>129</b>

## Major Requirements

Major requirements include a set of common courses (52 s.h.), one departmental seminar (1 s.h.), and two capstone design courses (6 s.h.).

Code	Title	Hours
All of these:		
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ECE:3320	Introduction to Digital Design	3
ECE:3330	Introduction to Software Design	3
ECE:3350	Computer Architecture and Organization	3
ECE:3360	Embedded Systems	3
ECE:3540	Communication Networks	3
CS:1210	Computer Science I: Fundamentals	4
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:3330	Algorithms	3
CS:3620	Operating Systems	3
CS:3820	Programming Language Concepts	3
ENGR:2120	Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
PHYS:1612	Introductory Physics II (with lab)	4

## Departmental Seminar

Code	Title	Hours
This course:		
ECE:3000	Electrical and Computer Engineering Professional Seminar	1



## Capstone Design Courses

In their senior year, students complete a two-semester capstone design sequence culminating in the development and implementation of a significant, original project.

Code	Title	Hours
Both of these:		
ECE:4880	Principles of Electrical and Computer Engineering Design	3
ECE:4890	Senior Electrical and Computer Engineering Design	3

## Focus Area

Students must select focus area courses according to guidelines established by the Department of Electrical and Computer Engineering. A number of established focus areas are available, and students also may work with their academic advisor to create a customized plan tailored to their goals and interests.

Students complete a minimum of 17 s.h. in elective courses for the focus area (typically six courses) and one complementary theory elective course (3 s.h.). Carefully selected elective and general education courses may contribute to earning a minor and/or certificate, including the Certificate in Sustainability [p. 2226] (University College) or the Certificate in Technological Entrepreneurship [p. 1686].

For a complete list of focus areas and course selection guidelines, see Focus Areas on the Department of Electrical and Computer Engineering website. Although general guidelines and requirements for elective courses are listed below, course recommendations for specific focus areas differ. While some courses may apply to more than one focus area requirement, a single course may only count once toward completing a focus area.

## Electrical and Computer Engineering Electives

Students choose two focus area electives from courses with prefix ECE not already required for the major. Students must consult an academic advisor and gain approval from the undergraduate curriculum chair to count ECE:5998 Individual Investigations: Electrical and Computer Engineering toward this requirement.

Code	Title	Hours
Both of these:		
Technical course in the Department of Electrical and Computer Engineering numbered ECE:3400 or above, excluding ECE:3998, ECE:5000, and ECE:5999		3-4
Advanced course in the Department of Electrical and Computer Engineering numbered ECE:5001-ECE:5995		3

## Computer Science Electives

Students choose two focus area electives from computer science courses not already required for the major. At least one course must be considered advanced for the elective (numbered CS:4330 and above), as defined in the table below.

Students may be able to complete computer science courses not listed here; see Approved Computer Science Elective

Courses on the Department of Electrical and Computer Engineering website for more information.

Code	Title	Hours
Two of these:		
CS:3700/ MATH:3800	Introduction to Numerical Methods	3
Computer science course numbered CS:4330-CS:5980, excluding CS:4510, CS:5110, and CS:5630		3-4

## Additional Electives

Students select additional courses to reach a minimum of 17 s.h. in focus area electives. Courses may be from the electrical and computer engineering (prefix ECE) or computer science (prefix CS) categories above, or they may be chosen from outside of those lists with approval of an academic advisor.

## Theory Elective

Code	Title	Hours
One of these:		
ECE:5330/IGPI:5331	Graph Algorithms and Combinatorial Optimization	3
ECE:5450/IGPI:5450	Machine Learning	3
ECE:5520	Introduction to Information and Coding Theories	3
ECE:5810/CS:5810	Formal Methods in Software Engineering	3
ECE:5995	Contemporary Topics in Electrical and Computer Engineering (when topic is cryptography)	3
CS:4330	Theory of Computation	3
CS:4350	Logic in Computer Science	3
CS:4720/ MATH:4820	Optimization Techniques	3
CS:5340	Limits of Computation	3
CS:5360	Randomized Algorithms	3
CS:5370	Computational Geometry	3
CS:5430	Machine Learning	3
CS:5620	Distributed Systems and Algorithms	3
CS:5860	Lambda Calculus and Applications	3

## Double Major in Computer Science and Engineering/ Electrical Engineering

Students may earn a double major in computer science and engineering (CSE) and electrical engineering (EE). They must satisfy all requirements of the electrical track of the EE major and all requirements of the CSE major.

### Combined Programs

## B.S.E./M.S. in Electrical and Computer Engineering

The College of Engineering offers a Bachelor of Science in Engineering/Master of Science for computer science

and engineering undergraduate students who intend to earn a M.S. in electrical and computer engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level coursework and do thesis-level research while they are still undergraduates. They may count 9 s.h. of graduate coursework toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.25, and must submit a letter of application to the chair of the Department of Electrical and Computer Engineering. For more information, see Joint B.S./M.S. Degree Undergraduate to Graduate (U2G) program on the Department of Electrical and Computer Engineering website.

## **B.S.E./M.C.S.**

The College of Engineering and the Department of Computer Science (College of Liberal Arts and Sciences) offer a combined Bachelor of Science in Engineering/Master of Computer Science for computer science and engineering undergraduate students.

The combined degree program allows students to count a limited amount of credit toward both degrees. For more information, see the Master of Computer Science, M.C.S. [p. 347] in the Catalog.

## **Career Advancement**

Students who earn a major in computer science and engineering work in research, design, development, manufacturing, sales, market analysis, consulting, field service, and management. They are employed in computer, semiconductor, software, aerospace, telecommunication, medical, radio, television, and power industries, and many graduates pursue entrepreneurial ventures.

The major also prepares students for further study in many areas demanding computational and engineering skill sets.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

# Electrical Engineering, B.S.E.

Electrical engineers develop technologies and systems for a wide variety of applications ranging from telecommunications to medical imaging. They play a central role in the design and implementation of any technology that is powered by electricity as well as the generation and distribution of electric power. Topics covered in the electrical engineering curriculum include: design of electronic circuits, communication systems, control systems, and semiconductor devices. Students may opt to specialize in any of these areas as well as others that include electrical power generation and distribution, medical image processing, computer systems, or design of micro- and nano-scale optical and electronic devices.

The major provides technical depth and breadth as well as flexibility and the opportunity for students to customize their programs according to their own goals. Students choose one of several focus areas according to the type of job or research they plan to pursue. More than 20 focus areas are available; see Focus Areas on the Department of Electrical and Computer Engineering website. Students also have the opportunity to work with their academic advisor to build a focus area plan that adheres to their goals and objectives. Focus areas allow students to personalize their curriculum and to prepare them for the jobs or research they intend to pursue.

In their senior year, students complete a two-semester capstone design sequence culminating in a significant, original project.

## Educational Objectives

Graduates of the electrical engineering program will:

- exhibit leadership and vision in contributing to the technical and policy decisions of industry, government, and research enterprises;
- demonstrate problem-solving abilities that permit them to contribute in a variety of technical, business, and academic careers;
- thrive in diverse, global, and multidisciplinary environments;
- possess the ability to communicate effectively and participate collaboratively in interactions with engineers and other professionals; and
- understand the importance of participating in lifelong learning activities that enhance their professional and personal development.

## Requirements

The Bachelor of Science in Engineering with a major in electrical engineering requires a minimum of 128 s.h. of credit. Students must have a g.p.a. of at least 2.00 on all college work used to satisfy degree requirements as well as on all coursework attempted at the University of Iowa.

The curriculum is built on a common core of electrical and computer engineering courses taken by all students. Beginning in their sophomore year, students select either the electrical or computer curricular track and begin taking more specialized courses. The electrical track is intended to provide a broad background in electrical engineering concepts and practice that prepares students for graduate study or

electrical engineering careers in a wide range of industries and organizations. The computer track provides focus and depth for students preparing for graduate study, or a career in computer hardware or software engineering. Students begin taking track and focus area elective courses in their third year.

All B.S.E. students are required to take the same collegiate curriculum. For information about these collegiate requirements, see the Bachelor of Science in Engineering, B.S.E. [p. 1551] in the Catalog. Students completing the major in electrical engineering fulfill the collegiate statistics requirement by completing STAT:2020 Probability and Statistics for the Engineering and Physical Sciences.

The major in electrical engineering requires the following coursework. Students pursuing the computer track complete 52 s.h. in major requirements and 26-27 s.h. in a focus area. Students pursuing the electrical track complete 55 s.h. in major requirements and 23-24 s.h. in a focus area.

Code	Title	Hours
	Collegiate Curriculum	50
	Major Requirements, including chosen track	52-55
	Focus Area	23-27
	<b>Total Hours</b>	<b>128-29</b>

## Major Requirements

Major requirements include a set of common courses (29 s.h.), required courses within one of two tracks (16 s.h. in the computer track, 19 s.h. in the electrical track), one departmental seminar (1 s.h.), and two capstone design courses (6 s.h.).

Code	Title	Hours
All of these:		
ECE:2400	Linear Systems I	3
ECE:2410	Principles of Electronic Instrumentation	4
ECE:3320	Introduction to Digital Design	3
ECE:3360	Embedded Systems	3
ECE:3700	Electromagnetic Theory	3
ENGR:2120	Electrical Circuits	3
ENGR:2730	Computers in Engineering	3
MATH:3550	Engineering Mathematics V: Vector Calculus	3
PHYS:1612	Introductory Physics II (with lab)	4

## Tracks

Beginning in their sophomore year, students select either the electrical or computer curricular track and begin taking more specialized courses. The options for breadth and depth courses in the focus area are in part informed by the track a student is completing; see "Focus Area" below.

## Computer

Code	Title	Hours
All of these:		
ECE:3330	Introduction to Software Design	3
ECE:3350	Computer Architecture and Organization	3
CS:2210	Discrete Structures	3

CS:2230	Computer Science II: Data Structures	4
CS:3330	Algorithms	3

## Electrical

Code	Title	Hours
All of these:		
ECE:3400	Linear Systems II	3
ECE:3410	Electronic Circuits	4
ECE:3500	Communication Systems	3
ECE:3600	Control Systems	3
ECE:3720	Semiconductor Devices	3
PHYS:2704	Physics IV	3

## Departmental Seminar

Code	Title	Hours
This course:		
ECE:3000	Electrical and Computer Engineering Professional Seminar	1

## Capstone Design Courses

In their senior year, students complete a two-semester capstone design sequence culminating in the development and implementation of a significant, original project. The capstone design experience emphasizes teamwork, professionalism, open-ended problem solving, and the ability to work within real-world constraints and engineering standards.

Code	Title	Hours
Both of these:		
ECE:4880	Principles of Electrical and Computer Engineering Design	3
ECE:4890	Senior Electrical and Computer Engineering Design	3

## Focus Area

Students must select focus area courses according to guidelines established by the Department of Electrical and Computer Engineering. A number of established focus areas are available, and students also may work with their academic advisor to create a customized plan tailored to their goals and objectives. Focus areas allow students to personalize their curriculum and to prepare them for the jobs or research they intend to pursue.

Focus areas in the electrical engineering major consist of one breadth elective (3-4 s.h.), one depth elective (3 s.h.), two Department of Electrical and Computer Engineering courses (prefix ECE) numbered above 5000 (6 s.h.), two technical electives that align with the focus area (6-7 s.h.), and additional elective courses (5 s.h.). Students completing the computer track take an additional elective course (3-4 s.h.) in the Department of Electrical and Computer Engineering (prefix ECE); see "Additional Electives" below.

The options for breadth and depth courses in the focus area are in part informed by the track a student is completing—computer or electrical. Carefully selected elective and general education courses may contribute to earning a minor and/or certificate, including the Certificate in Sustainability [p. 2226] (University College) or the Certificate in Technological

Entrepreneurship [p. 1686] (College of Engineering). Students selecting the computer track satisfy the requirements for a minor in computer science [p. 345] (College of Liberal Arts and Sciences) without having to take additional courses. Students who take an additional advanced math course meet the requirements for a minor in mathematics [p. 846] (College of Liberal Arts and Sciences).

For a complete list of focus areas and course selection guidelines, see Focus Areas on the Department of Electrical and Computer Engineering website. Although general guidelines and requirements for elective courses are listed below, course recommendations for specific focus areas differ. While some courses may apply to more than one focus area requirement, a single course may only count once towards completing a focus area.

## Breadth Elective

Students in the computer track must choose their breadth elective from the list of required electrical track courses. Students in the electrical track must choose their breadth elective from the list of required computer track courses. See "Major Requirements" above. Students in either track may instead use ECE:3540 Communication Networks as their breadth elective.

## Depth Elective

The depth elective must be an advanced course, normally numbered 4000 or above, in a subject area within a student's track.

## Computer

Options for the computer track include the following.

Code	Title	Hours
One of these:		
ECE:5300	Switching Theory	3
ECE:5320/CS:5610	High Performance Computer Architecture	3
ECE:5380	Testing Digital Logic Circuits	3
ECE:5450/IGPI:5450	Machine Learning	3
ECE:5460/IGPI:5460	Digital Signal Processing	3
ECE:5480/IGPI:5480	Digital Image Processing	3
ECE:5530	Wireless Sensor Networks	3
ECE:5550	Internet of Things	3
ECE:5820/CS:5820	Software Engineering Languages and Tools	3

## Electrical

Options for the electrical track include the following.

Code	Title	Hours
One of these:		
ECE:5300	Switching Theory	3
ECE:5320/CS:5610	High Performance Computer Architecture	3
ECE:5410	Advanced Circuit Techniques	3
ECE:5480/IGPI:5480	Digital Image Processing	3
ECE:5500	Digital Communications	3
ECE:5600	Control Theory	3
ECE:5640/IGPI:5641	Computer-Based Control Systems	3
ECE:5700	Advanced Electromagnetic Theory	3

## Advanced Electrical and Computer Engineering Electives

Students complete at least two Department of Electrical and Computer Engineering courses (prefix ECE) numbered above 5000. Specific recommendations vary based on focus area.

### Additional Electives

Students select additional courses from the focus area categories above or from a list of suggested electives for their specific focus area. Additional electives for students pursuing the computer track total at least 14 s.h. (typically five courses) while electrical track electives total at least 11 s.h. (typically four courses).

Students may select courses in the Department of Electrical and Computer Engineering (prefix ECE) not already taken for the major. Courses not listed here may be able to count toward the focus area requirements; students should consult an academic advisor.

While course recommendations for specific focus areas differ, the following is a list of potential elective courses for either track.

Code	Title	Hours
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
BUS:2013/ GEOG:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3
CEE:4107/CBE:4410	Sustainable Systems	3
CHEM:1120	Principles of Chemistry II	4
CHEM:2220	Organic Chemistry II	3
CHEM:2410	Organic Chemistry Laboratory	3
ENGR:2130	Thermodynamics	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3
ISE:2500	Engineering Economy	3
ISE:4172	Big Data Analytics	3
MATH:3800	Introduction to Numerical Methods	3
MATH:4040	Matrix Theory	3
MATH:4200	Complex Variables	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3

## Double Major in Electrical Engineering/Computer Science and Engineering

Students may earn a double major in electrical engineering (EE) and computer science and engineering (CSE). They must satisfy all requirements of the electrical track of the EE major and all requirements of the CSE major.

## Combined Programs

### B.S.E./M.S. in Electrical and Computer Engineering

The College of Engineering offers a Bachelor of Science in Engineering/Master of Science for electrical engineering undergraduate students who intend to earn a M.S. in electrical and computer engineering. B.S.E./M.S. students may take up to 12 s.h. of graduate-level coursework and do thesis-level research while they are still undergraduates. They may count 9 s.h. of graduate coursework toward both degrees. Once students complete the requirements for the bachelor's degree, they are granted the B.S.E., and they normally complete the M.S. one year later.

To be admitted to the degree program, students must have completed at least 80 s.h., must have a cumulative g.p.a. of at least 3.25, and must submit a letter of application to the chair of the Department of Electrical and Computer Engineering. For more information, see Joint B.S./M.S. Degree Undergraduate to Graduate (U2G) on the Department of Electrical and Computer Engineering website.

## Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors hold eight of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). Electrical engineers find employment everywhere smart technology is employed. They consistently rank among the most sought after and highest-paid technology professionals. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Electrical engineers work in research, design, development, manufacturing, sales, market analysis, consulting, field service, and management. They are employed in computer, semiconductor, software, aerospace, telecommunication, medical, radio, television, and power industries.

Engineering Career Services develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester.

Engineering Career Services also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

# Electrical and Computer Engineering, M.S.

The Department of Electrical and Computer Engineering stimulates excellence in scholarship and research through close contact with the faculty and programs tailored to fit students' individual needs.

Students select an advisor and, with the advisor, plan an individual program bounded only by the broad guidelines of the Graduate College and the program. The department maintains close interdisciplinary ties with other University of Iowa departments, especially with the Departments of Physics and Astronomy, and Computer Science (College of Liberal Arts and Sciences); the Departments of Industrial and Systems Engineering, and Mechanical Engineering, the Roy J. Carver Department of Biomedical Engineering (College of Engineering); and the Carver College of Medicine. Principal areas of graduate study include medical image analysis, signal and image processing, control systems and systems theory, wireless communications, waves and materials, computer systems, and computational genomics. View principal areas of study under Research and Study Areas [p. 1625] in the Electrical and Computer Engineering section of the Catalog.

## Learning Outcomes

Students will:

- demonstrate a broad knowledge of electrical and computer engineering topics;
- be able to analyze electrical and computer engineering problems and apply their knowledge to solve them; and
- demonstrate professional skills of effective communication and ethical conduct in professional, social, and scholarly activities.

In addition to the learning outcomes listed above, students who complete a thesis will:

- demonstrate a mastery of concepts in their specific area of study;
- be able to employ experimental methods to investigate and generate reports for research-oriented problems; and
- demonstrate leadership in professional, social, and scholarly activities.

## Requirements

The Master of Science program in electrical and computer engineering requires 30 s.h. of graduate credit with or without thesis. Either option may precede Ph.D. study. M.S. students must maintain a cumulative g.p.a. of at least 3.00.

Thesis students must complete at least 12 s.h. from an approved list of electrical and computer engineering courses and 6 s.h. in ECE:5999 Research: Electrical and Computer Engineering M.S. Thesis. Nonthesis students must complete at least 18 s.h. from an approved list of electrical and computer engineering courses; they may count no more than 3 s.h. of independent study toward the degree. For a list of approved courses, see the Department of Electrical and Computer Engineering Graduate Handbook on the department's Graduate Program Information website. Courses required for the B.S.E. in electrical engineering do not count toward the M.S. requirements.

Students who plan to satisfy thesis requirements must successfully complete a final examination, which is conducted by a committee of at least three faculty members. The final examination consists of an oral defense of the thesis.

## Software Engineering Subprogram

A software engineering subprogram is available to both thesis and nonthesis students. Both thesis and nonthesis options require a minimum of 30 s.h. of graduate credit. All rules for additional credit and the M.S. final examination are the same as for the M.S. without the subprogram. Successful completion of the subprogram results in a degree designation that specifies the software engineering subprogram on a student's transcript.

The software engineering subprogram requires the following coursework.

Code	Title	Hours
ECE:5320	High Performance Computer Architecture	3
ECE:5330	Graph Algorithms and Combinatorial Optimization	3
ECE:5800	Fundamentals of Software Engineering	3
ECE:5810	Formal Methods in Software Engineering	3
ECE:5820	Software Engineering Languages and Tools	3
ECE:5830	Software Engineering Project	3

In addition to the courses listed above, thesis students complete another 3 s.h. of approved coursework and 6 s.h. in ECE:5999 Research: Electrical and Computer Engineering M.S. Thesis; nonthesis students complete another 9 s.h. of approved coursework. Students who complete one or more required courses as an undergraduate can substitute courses from the list of approved electrical and computer engineering courses; see the list of approved courses in the Department of Electrical and Computer Engineering Graduate Handbook on the department's Graduate Program Information website.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must have a g.p.a. of at least 3.00 on all electrical and computer engineering, mathematics, and physics coursework. Those with a g.p.a. between 2.75 and 3.00 in electrical and computer engineering, mathematics, and physics coursework may be admitted on probation, if warranted by other aspects of their academic records.

Students with baccalaureate degrees in related areas (e.g., physics, mathematics, and computer science) may be admitted on conditional status. They may be required to complete additional coursework, without earning graduate credit, before being granted regular status.

Each application is reviewed individually. Extenuating circumstances may permit deviations from the usual standards.

## Financial Support

A number of fellowships, traineeships, assistantships, scholarships, and industrial grants are available to graduate students who qualify. These are awarded on a competitive basis.

## Career Advancement

The engineering profession is a foundation for a variety of careers in industry, medicine, law, government, and consulting. Electrical engineers find employment everywhere smart technology is employed. They consistently rank among the most sought after and highest-paid technology professionals. On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Career Services develops and promotes experiential education and professional opportunities for students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester.

Engineering Career Services also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Electrical and Computer Engineering, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ENGR:7270	Engineering Ethics <sup>c</sup>	1
ECE required course <sup>d</sup>		3
ECE required course <sup>d</sup>		3
ECE required course <sup>d</sup>		3
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>e</sup>	0
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
ECE required course <sup>d</sup>		3
ECE required course <sup>d</sup>		3
ECE required course <sup>d</sup>		3

ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>e</sup>	0
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		2
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>e</sup>	0
<b>Hours</b>		<b>8</b>
<b>Spring</b>		
Elective course <sup>f</sup>		3
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>e</sup>	0
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>30</b>

- a Students must complete at least 18 s.h. from an approved list of Electrical and Computer Engineering courses; they may count no more than 3 s.h. of independent study toward the degree.
- b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- c Must be completed during first semester.
- d Work with faculty advisor to determine appropriate coursework and sequence, depending on area of interest or specialization; may include no more than 3 s.h. of independent study.
- e Required attendance every semester until degree completion.
- f Work with academic advisor to determine appropriate elective coursework and sequence.
- g Completion of degree requirements.

# Electrical and Computer Engineering, Ph.D.

The Department of Electrical and Computer Engineering stimulates excellence in scholarship and research through close contact with the faculty and programs tailored to fit students' individual needs.

Students select an advisor and, with the advisor, plan an individual program bounded only by the broad guidelines of the Graduate College and the program. The department maintains close interdisciplinary ties with other University of Iowa departments, especially with the Departments of Physics and Astronomy, and Computer Science (College of Liberal Arts and Sciences); the Departments of Industrial and Systems Engineering, and Mechanical Engineering, and the Roy J. Carver Department of Biomedical Engineering (College of Engineering); and the Carver College of Medicine. Principal areas of graduate study include medical image analysis, signal and image processing, control systems and systems theory, wireless communications, waves and materials, computer systems, and computational genomics. View principal areas of study under Research and Study Areas [p. 1625] in the Electrical and Computer Engineering section of the Catalog.

## Learning Outcomes

Graduates will:

- demonstrate a detailed knowledge of electrical and computer engineering topics and a mastery of advanced concepts within their specific area of study;
- master the analytical and methodological skills needed to identify, evaluate, and analyze novel discovery in their areas of specialization;
- be able to employ experimental methods to investigate and generate reports for research-oriented problems; and
- demonstrate professional skills, including concise and effective communication of complex technical ideas to both general and specialized audiences through verbal, visual, and written formats; leadership in their field of study; and ethical conduct in professional, social, and scholarly activities.

## Requirements

The Doctor of Philosophy program in electrical and computer engineering requires a minimum of 72 s.h. of graduate credit. At least 45 s.h. must be earned in formal coursework (not in thesis work or other independent study), including 30 s.h. from an approved list of electrical and computer engineering courses. For the list of approved courses, see the Department of Electrical and Computer Engineering Graduate Handbook on the department's Graduate Program Information website. Each student's study plan must be approved by the student's advisor and by the graduate committee. Students must maintain a cumulative g.p.a. of 3.25 or higher in all graduate coursework.

Acceptance to the Ph.D. program requires successful completion of the Ph.D. qualifying process. The qualifying process consists of two parts—an examination and a course breadth requirement. The half-day written exam is given once a year, late in the spring semester. It covers two subjects chosen by a student from a list of nine. Students normally are expected to take the qualifying examination within the first 30

s.h. of their graduate studies. A cumulative g.p.a. of at least 3.25 is required for admittance to the exam. Students who fail the examination may retake it only once the next time it is offered.

To complete the breadth requirement, students must take two courses associated with the same list of nine subjects that the examination is drawn from and complete the courses with grades of at least A-minus. The breadth courses must not duplicate the subjects chosen for the examination and must be completed within the fourth semester of graduate study.

Students take a qualifying examination and a comprehensive examination. Then they must successfully complete a research program that includes a minimum of 18 s.h. of Ph.D. research and culminates in the preparation of a thesis. Finally, the candidate must present a successful oral defense of the thesis.

Following successful completion of the qualifying examination and invitation to the Ph.D. program, a student must complete the two-part comprehensive examination. The first part is a written research proposal that includes a thorough literature survey providing the motivation and background for the proposal. The second part is an oral examination.

Students must pass the qualifying examination before they may take the comprehensive exam, and they must complete the comprehensive exam no later than three calendar years after passing the qualifying exam. Students who fail to meet this deadline must retake the qualifying exam. The qualifying exam and the comprehensive exam may not be taken in the same semester.

The final requirement for completion of the Ph.D. program is the preparation and successful defense of the thesis. This must be completed no sooner than six months but no longer than three years after completion of the comprehensive examination.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must have a g.p.a. of at least 3.25 on all electrical and computer engineering, mathematics, and physics coursework.

Each application is reviewed individually. Extenuating circumstances may permit deviations from the usual standards.

## Financial Support

A number of fellowships, traineeships, assistantships, scholarships, and industrial grants are available to graduate students who qualify. These are awarded on a competitive basis.

## Career Advancement

Engineering is a well-respected profession that is used as a foundation for a variety of careers in industry, medicine, law, government, and consulting. Graduates consistently rank among the most sought after and highest-paid technology professionals.

Engineering Career Services develops and promotes experiential education and professional opportunities for



students. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair and other career-development programming each semester. Engineering Career Services also offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, and job offer evaluation.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Electrical and Computer Engineering, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ENGR:7270	Engineering Ethics <sup>b</sup>	1
ECE required course <sup>c</sup>		3
ECE required course <sup>c</sup>		3
ECE required course <sup>c</sup>		3
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>d</sup>	0
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
ECE required course <sup>c</sup>		3
ECE required course <sup>c</sup>		3
ECE required course <sup>c</sup>		3
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>d</sup>	0
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>e</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
ECE required course <sup>c</sup>		3
ECE required course <sup>c</sup>		3
ECE required course <sup>c</sup>		3
Other required course <sup>c</sup>		3
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>d</sup>	0
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
ECE required course <sup>c</sup>		3
Other required course <sup>c</sup>		3

Other required course <sup>c</sup>		3
Other required course <sup>c</sup>		3
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>d</sup>	0
<b>Hours</b>		<b>12</b>

#### Third Year

<b>Fall</b>		
ECE:7999	Research: Electrical and Computer Engineering Ph.D. Thesis	3
Other required course <sup>c</sup>		3
Elective course <sup>f</sup>		3
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>d</sup>	0
<b>Hours</b>		<b>9</b>

#### Spring

ECE:7999	Research: Electrical and Computer Engineering Ph.D. Thesis	3
Elective course <sup>f</sup>		2
Elective course <sup>f</sup>		3
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>d</sup>	0
<b>Hours</b>		<b>8</b>

#### Fourth Year

##### Any Semester

Comprehensive Exam <sup>g</sup>		
<b>Hours</b>		<b>0</b>

##### Fall

ECE:7999	Research: Electrical and Computer Engineering Ph.D. Thesis	6
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>d</sup>	0
<b>Hours</b>		<b>6</b>

##### Spring

ECE:7999	Research: Electrical and Computer Engineering Ph.D. Thesis	6
ECE:5000	Graduate Seminar: Electrical and Computer Engineering <sup>d</sup>	0
<b>Hours</b>		<b>6</b>

##### Final Exam <sup>h</sup>

<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>72</b>

a At least 45 s.h. must be earned in formal coursework (not in thesis work or other independent study), including 30 s.h. from an approved list of Electrical and Computer Engineering courses. Work with faculty advisor to determine appropriate graduate coursework and sequence.

b Must be completed during first semester.

c Work with faculty advisor to determine appropriate coursework and sequence.

d Required attendance every semester until degree completion.

e Typically completed no later than the end of second year spring semester; consists of two parts: an examination and a course breadth requirement. See the department website for more specifics.

f Work with academic advisor to determine appropriate elective coursework and sequence.

g Includes both written and oral components. See the department website for more specifics.

h Dissertation defense.

# Industrial and Systems Engineering

## Chair

- Geb W. Thomas

**Undergraduate major:** industrial engineering (B.S.E.)

**Graduate degrees:** M.S. in industrial engineering; Ph.D. in industrial engineering

**Faculty:** <https://engineering.uiowa.edu/people/ise-people>

**Website:** <https://ise.engineering.uiowa.edu>

The Department of Industrial and Systems Engineering offers undergraduate and graduate degrees and research programs in industrial and systems engineering.

Industrial and systems engineering encompasses analysis, design, and implementation of systems through optimal use of resources—human, material, energy, information, and financial. Systems may range from small units to extremely large operations. The industrial engineer must be skilled in mathematics, physical sciences, management, and human relations; and understands and designs solutions for the complexities of manufacturing, computer systems, economics, optimization, human behavior, and systems analysis and design.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Industrial Engineering (Bachelor of Science in Engineering) [p. 1648]

### Graduate Programs of Study

#### Majors

- Master of Science in Industrial Engineering [p. 1654]
- Doctor of Philosophy in Industrial Engineering [p. 1657]

## Facilities

The following facilities and laboratories are operated by faculty in the Department of Industrial and Systems Engineering, and may employ undergraduate and graduate students. For information about laboratories affiliated with core courses coordinated by other College of Engineering departments, see those departmental Catalog sections.

### Additive Manufacturing-Integrated Product Realization Laboratory

Researchers at Additive Manufacturing-Integrated Product Realization Laboratory (AMPRL) focus on studying how material forming processes that occur in nature can be utilized to enable next-generation additive manufacturing (AM) technologies. Current research includes the design and development of next-generation AM technologies, AM process modeling and optimization, and the advancement of novel applications of new AM technologies. The lab applies its technological developments in a diverse array of fields, including tissue engineering, sensing, energy harvesting, and robotics. The lab is furnished with state-of-the-art material preparation, processing, and characterization equipment, as

well as several custom 3D printers invented and developed by the group.

### Design for Manufacturing Laboratory

The Design for Manufacturing Laboratory provides students with experience in computer-aided design and computer-aided manufacturing (CAD/CAM) systems. It is equipped with 4-axis computer numerical control (CNC) mills (Haas and Tormach), CNC router (Techno-CNC), CNC metal lathe (Haas and Techno-CNC), drill press, plastic injection molder, thermoforming machine, band saw, disc sander, bench grinder, polishing wheel, hand drill, sandblasting cabinet, press, foot shear, and welding station. The lab has the latest software technology, including Pro/ENGINEER and Rhinoceros.

### Graphical Representation of Knowledge Lab (GROK)

The GROK Lab develops technologies to help scientists and doctors improve their understanding and control of complex systems such as robots, distributed sensor networks, and augmented-reality systems. The lab designs and builds software, electronic circuits, and mechanical devices that create or modify complex systems and that extend scientists' understanding of how to make these systems perform their intended tasks better.

The lab has a variety of software development platforms and manufacturing tools, including computer numerical control (CNC) machines and supplies for casting and molding, as well as a suite of equipment for circuit design, testing, and assembly. The GROK lab has developed technologies used by NASA to control robots exploring South America and Mars. Its most recent projects have focused on using distributed wireless sensor networks to monitor factory-related health hazards and on developing surgical simulators to better train orthopedic surgeons.

### Human Analytics Laboratory

The Human Analytics Laboratory (HAL) investigates human behavioral operations in complex systems with the developmental foci of human factors metrology, behavioral data analytics, and operations management. The HAL lab seeks discovery and application of knowledge of human behavior to improve systems, learning, operations, and performance.

### Information and Cognitive Systems Research Group

Research in the Information and Cognitive Systems Research Group focuses on design and analysis of cognitive work and information systems in real-world domains. Current emphasis is on cognitive work in health care systems.

The research group conducts studies in usability testing, process mapping, cognitive walkthroughs, dynamic systems simulation, and interface design, prototyping, and evaluation. The research facility houses state-of-the-art qualitative field data collection equipment and data analysis tools, programming tools for dynamic systems simulations, and design, prototyping, and usability testing hardware and software tools for interface and display design. The facility also employs data modeling tools and diagramming tools.

### Intelligent Systems Laboratory

The Intelligent Systems Laboratory conducts research in data science and computational intelligence leading to applications in manufacturing, energy, service industry,

and health care. The current project focuses on smart manufacturing, digital industry, cloud and edge modeling, service manufacturing, and autonomous systems. Many of the intelligent manufacturing concepts pursued globally have originated in the laboratory. The pioneering research has been marked with publication of the textbook *Intelligent Manufacturing Systems* (Prentice Hall) and the Journal of Intelligent Manufacturing.

### Laboratory for IoT-Enabled Data Analytics and System Informatics

The lab utilizes high performance computing workstations to model uncertainty quantifications and complex variable relationships. The aim is to develop engineering-guided statistical techniques to facilitate the interpretability, real-time monitoring, root cause analysis of complex systems. The lab focuses on developing and applying data analytics tools to various promising areas including advanced manufacturing systems, driver simulation and monitoring systems, and water and hydrology modeling systems. The research in the group requires algorithm development, hardware design, theoretic analysis, and simulation and emulation.

### National Advanced Driving Simulator

The National Advanced Driving Simulator (NADS) laboratory is home to the nation's first and largest public simulator of its kind in the world. For the last 25 years, the University of Iowa has conducted advanced research and development in support of saving lives, improving quality of life, advancing technology, and improving efficiency and productivity of the automotive and supporting industries. Most importantly, NADS serves as a place where students can learn firsthand about how innovation occurs in science and engineering.

From drug research to automated vehicles, NADS is dedicated to engaging in a broad, holistic approach. Faculty, staff, and students at NADS collaborate with nearly all UI colleges in their automotive safety research. Human factors research at NADS is funded by government agencies and industry leaders for the public and private sectors. NADS supports undergraduate, graduate, and doctoral students in driving research studies. Many of these studies include the use of the NADS miniSimTM, a portable, high performance driving simulator based on NADS state-of-the-art driving simulation technology developed through decades of research. In-house workstations and computers equipped with software such as MATLAB, Visual Studio, R, and SAS are available to students with approved access to the facility.

Automated vehicle technology is revolutionizing transportation and mobility unlike any other technology of the past several decades. Vehicles, and their underlying technologies, are changing at a rapid pace. Many of the advanced driver assistance technologies and vehicle safety systems have been in research and development programs at the UI. The UI specializes in driver performance and behavior and how to optimally design the user interface of such systems. As vehicles become increasingly automated, the College of Engineering is leading a number of advanced research projects in automated and connected vehicles, funded by government and industry. Together with industry partners, the automated vehicles division is being built with a broad range of capabilities. These vehicles will be used to collect data for research programs funded through industry and government contracts.

### Operator Performance Laboratory

The Operator Performance Laboratory (OPL) is a flight test organization at the University of Iowa. The lab specializes in civilian and military flight testing and assessment of technologies in operational contexts, such as flight in degraded visual environments (DVE) and GPS-denied environments. Quantification of data link and sensor performance for manned and unmanned aircraft in such operational context is an area of focus. OPL develops, tests, and evaluates helmet-mounted displays (HMDs), synthetic vision systems (SVS), live virtual constructive (LVC) training systems, physiological-based workload measurement systems, pilot spatial orientation enhancement systems, and embedded flight simulation capabilities.

Unmanned aircraft operations include test flights supporting commercial unmanned aircraft systems (UAS) autonomy, 5th- and 6th-generation manned-unmanned teaming (MUMT) concepts and the extension of LVC toward MUMT. The OPL team developed the Cognitive Assessment Tool Set (CATS), which is able to accurately quantify human cognitive workload using a flight-approved sensor package. CATS has been used in many flight tests as the data collection and analysis tool for pilot behavior in real-world flight environments. OPL pioneered the development and testing of LVC technology that blends ground-based battlespace simulations with airborne testbeds equipped with radar and weapons simulators that can employ simulated ordnance for effect in distributed simulation environments. This capability has been demonstrated many times, including at the Interservice/Industry Training Simulation Education Conference (I/ITSEC). In 2004, the OPL team developed and tested a synthetic vision system that was subsequently commercialized by Dynon Avionics under the brand name Skyview. This system has sold over 10,000 units and is flying in thousands of aircraft.

OPL has performed many flight test projects on its fleet of aircraft, exceeding a total 2,400 flight hours of developmental test and evaluation (DT&E) and operational test and evaluation (OT&E) data collection. OPL has 10 instrumented research aircraft. These include two L-29 fighter jet trainers, two MI-2 twin-turbine helicopters, one A-36 Bonanza, one Cessna 172, three TBM 3M UAS (62lbs), and one Vapor 55 (55 lbs). The OPL L-29's are the only tactical jet research aircraft that are equipped with the F-35 helmet-mounted display (HMD). The OPL MI-2 is a one-of-a-kind sensor platform with a conformal HMD using full-color symbology showing threats and obstacles acquired by its suite of onboard sensors. Each OPL aircraft also is a flight simulator. Additionally, the OPL has a Boeing 737-800 full flight deck simulator, an unmanned aerial vehicle (UAV) Ground Control Station (GCS) simulator, a fast jet simulator, and deployable command and control (C2) bus as well as a C2 high mobility multipurpose wheeled vehicle (HMMWV) for use as a forward command node in rugged terrain. OPL has an extensive telemetry infrastructure that is deployable. OPL's flight support system also is deployable using mobile tool control, spares, jigs, and jacks, among other means.

## Courses

### Industrial and Systems Engineering Courses

#### **ISE:0000 Industrial Engineering Internship/Co-op 0 s.h.**

Industrial engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to Cooperative Education Program.

#### **ISE:1000 First-Year Seminar 0-1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### **ISE:2000 Industrial Engineering Sophomore Seminar 0 s.h.**

Curriculum and profession; ethics and professionalism in classroom and workplace. Requirements: sophomore or transfer standing in engineering.

#### **ISE:2360 Design for Manufacturing 3 s.h.**

Fundamentals of design, engineering graphics, and manufacturing processing; computer graphics using Pro/ENGINEER for CAD and CAM; typical industrial processes, including casting, welding, machining, forming; laboratory exercises and projects. Corequisites: ENGR:2720.

#### **ISE:2500 Engineering Economy 3 s.h.**

Basic concepts of engineering economy: time value of money, cash flow equivalence, depreciation, tax considerations, continuous cash flows, cost accounting overview; main analysis techniques—present worth, uniform annual cost, rate of return, benefit/cost ratio, replacement and break-even analysis. Corequisites: STAT:2020.

#### **ISE:3000 Professional Seminar: Industrial Engineering 0 s.h.**

Professional aspects of industrial engineering presented through lectures and discussions by guest speakers, field trips, films, panel discussions. Requirements: junior standing.

#### **ISE:3300 Manufacturing Systems 3 s.h.**

Manufacturing and logistics systems, supply chain management, MRP/ERP systems, lean manufacturing, concurrent engineering, value stream mapping and six sigma. Offered spring semesters. Prerequisites: ISE:2360 and ISE:3700.

#### **ISE:3350 Process Engineering 3 s.h.**

Methodologies, algorithms, and tools for processing modeling, analysis, and reengineering; modeling issues in product and component design, product and process modularity, quality, reliability, and agility. Prerequisites: ISE:3700.

#### **ISE:3400 Human Factors 3 s.h.**

Design of human-machine systems; development of optimum work environments by applying principles of behavioral science and basic knowledge of human capacities and limits. Offered fall semesters. Prerequisites: PSY:1001.

#### **ISE:3450 Ergonomics 3 s.h.**

Ergonomic design of jobs and products in an industrial and consumer market setting; principles of good design, examples of poor design; consequences of poor job and product design; principles of work sampling, usability studies, performance rating, sizing and planning of workstations, hand tool design, ergonomic design in transportation; related group project.

#### **ISE:3500 Information Systems Design 3 s.h.**

Structure and design of computer-based information systems; concepts of information systems, decision making; computer hardware, software, data structures; methods for determining system requirements; designing, implementing, evaluating, managing information systems; applied projects. Prerequisites: ENGR:1300.

#### **ISE:3600 Quality Control 3 s.h.**

Basic techniques of statistical quality control; application of control charts for process control variables; design of inspection plans and industrial experimentation; modern management aspects of quality assurance systems. Offered fall semesters. Prerequisites: STAT:2020 or BAIS:9100 or (STAT:3100 and STAT:3101 and STAT:3200). Same as CEE:3142, STAT:3620.

#### **ISE:3610 Stochastic Modeling 3 s.h.**

Fundamental probabilistic models and applications of industrial engineering; overview of probability and distributions, stochastic processes and Markov chains, queuing theory, inventory theory, decision theory under uncertainty, and elements of risk management. Prerequisites: STAT:2020. Corequisites: ISE:3700.

#### **ISE:3660 Data Analytics with R 3 s.h.**

Basics of data analytics and data mining; how to implement a variety of popular data mining methods in R to tackle business and engineering problems; focus on process of turning raw data into intelligent decisions and algorithms commonly used to build predictive models and find relevant patterns in data. Prerequisites: STAT:2020.

#### **ISE:3700 Operations Research 3 s.h.**

Operations research models and applications; emphasis on deterministic model (linear programming, duality). Offered fall semesters. Prerequisites: MATH:2550. Corequisites: STAT:2020.

#### **ISE:3750 Digital Systems Simulation 3 s.h.**

Simulation modeling and analysis; emphasis on construction of models, interpretation of modeling results; input and output analysis; hands-on usage of ARENA simulation software, manufacturing, health care, and service. Offered spring semesters. Prerequisites: ISE:3610 and ISE:3700.

#### **ISE:3760 Applied Linear Regression 3 s.h.**

Regression analysis with focus on applications; model formulation, checking, and selection; interpretation and presentation of analysis results; simple and multiple linear regression; logistic regression; ANOVA; polynomial regression; tree models; bootstrapping; hands-on data analysis with computer software. Prerequisites: STAT:2020 or STAT:2010 or STAT:3120. Same as IGPI:3200, STAT:3200.

#### **ISE:3998 Individual Investigations: Industrial Engineering arr.**

Independent projects in industrial engineering for undergraduate students, including laboratory study, an engineering design project, analysis and simulation of an engineering system, computer software development, CAD/CAM applications, or research.

#### **ISE:4116 Manufacturing Processes Simulations and Automation 3 s.h.**

Material processing, metal cutting theories, forming, micro/nano fabrication, programmable logic controller, computer numerical controllers, discrete control system, DC and AC servo motors, Command generation. Prerequisites: ME:2300 or ISE:2360. Same as ME:4116.

**ISE:4172 Big Data Analytics 3 s.h.**

Principles of data mining and machine learning in context of big data; basic data mining principles and methods—pattern discovery, clustering, ordering, analysis of different types of data (sets and sequences); machine learning topics including supervised and unsupervised learning, tuning model complexity, dimensionality reduction, nonparametric methods, comparing and combining algorithms; applications of these methods; development of analytical techniques to cope with challenging and real "big data" problems; introduction to MapReduce, Hadoop, and GPU computing tools (Cuda and OpenCL). Prerequisites: STAT:2020 or BAIS:9100. Requirements: basic programming skills in C, C++, Java, or Python; knowledge of Matlab, Octave, or R; and knowledge of a word processor. Recommendations: ISE:3760 and CS:4400 and CS:3330 and MATH:2550.

**ISE:4175 Safety Engineering 3 s.h.**

Systems safety principles and methods, occupational safety, product safety and liability, accident investigation and prevention methods and analysis, hazard analysis, and standards and regulations.

**ISE:4550 Wind Power Management 3 s.h.**

Principles of wind power production, wind turbine design, wind park location and design, turbine and wind park control, predictive modeling, integration of wind power with a grid.

**ISE:4600 Industrial Engineering Design Project 1-4 s.h.**

Projects involving product and related operational system design in an industrial or service organization; associated entrepreneurial or intrapreneurial planning. Corequisites: ISE:2500 and ISE:3300 and ISE:3350 and ISE:3400 and ISE:3450 and ISE:3500 and ISE:3600 and ISE:3750, if not taken as prerequisites. Requirements: completion of all ISE coursework.

**ISE:4620 Design of Experiments for Quality Improvement 3 s.h.**

Development of skills necessary to efficiently and effectively design and analyze experiments for quality improvement; topics include experiment planning, design, and statistical analysis of the results; experimentation is beneficial in all phases of industrial processes including new product design, process development, and manufacturing process improvement; students develop successful experiments that can lead to reduced development lead time, enhanced process performance, and improved product quality. Prerequisites: STAT:2020. Requirements: junior (third year) standing.

**ISE:4900 Introduction to Six Sigma 3 s.h.**

Six Sigma techniques for the DMAIC cycle (Define, Measure, Analyze, Improve, Control); what is needed for data collection (process inputs and outputs, measurement tools), conduct analysis (hypothesis testing, process capability studies), and conduct process improvement studies (design of experiments, response surface methodology); overview of Six Sigma, process and project management skills; application of the DMAIC model to a real-life improvement projection (a "learn-by-doing" approach). Prerequisites: ISE:3600.

**ISE:5000 Graduate Seminar: Industrial Engineering 1 s.h.**

Recent advances and research in industrial engineering presented by guest lecturers, faculty, students. Requirements: graduate standing.

**ISE:5310 Advanced Computational Design and Manufacturing 3 s.h.**

Provides understanding and practical experience in application of computational techniques to solve design and manufacturing problems; introduction to underlying concepts behind 3D geometry representations, algorithms, and underlying mathematical foundations essential to solving a wide variety of problems in computer-aided design (CAD), computer-aided manufacturing (CAM), and computer-aided engineering (CAE); hands-on computational skills working on team-based course projects. Requirements: knowledge of basic C/C++ programming concepts.

**ISE:5420 Automated Vehicle Systems 3 s.h.**

Overview of vehicle technologies (HAV) and advanced driver assistance systems (ADAS) including a historical perspective, testing, policy and regulation, algorithm design, and human factors. Recommendations: ISE:3400.

**ISE:5460 User Experience Design 3 s.h.**

Introduction to user experience (UX) research and design fundamentals; UX design as a critical first step in user research, designing products and services for users (e.g., digital, physical, hybrid), and validating products and services; UX theory, methods, and design; examination of user research techniques to facilitate UX design; UX design to achieve user engagement when using products and services; how demand for UX professionals has increased; lectures, readings, hands-on UX design activities, and UX design project.

**ISE:5520 Renewable Energy 3 s.h.**

Introduction to different sources of renewable energy generation including wind, solar, fuel cells, and bioenergy; design of energy solutions for different stand-alone applications (i.e., factories, data centers, hospitals) and system-wide solutions powering transportation systems, cities, or states; application-specific topics such as energy storage, control of energy generators, operations and maintenance, performance optimization, equipment health monitoring, predictive engineering, and integration of renewable energy with a grid.

**ISE:5620 Design of Experiments 3 s.h.**

Principles and methods of statistical design of experiments for product and process improvement; students develop skills necessary for planning, analysis, and optimization of experimental data, which can be applied across various fields of research including engineering, medicine, and the physical sciences. Prerequisites: STAT:2020.

**ISE:5650 Mechatronics Engineering for Smart Device Design 3 s.h.**

Introduction to basic mechatronics system components and design principles using mechatronics to meet functionality requirements of products, processes, and systems; lab-oriented assignments and team-based projects presented with innovative case studies in diverse application domains; labs require students to use a micro-controller kit to finish hardware development assignments; for students who plan to have a career in areas such as product development, robotics, design and manufacturing automation, technology management and innovations. Prerequisites: ENGR:2120 and ISE:2360.

**ISE:5730 Digital Industry 3 s.h.**

Modeling methodologies, analysis, and optimization of digital enterprise models; autonomous building of models from data stores; introduction to different application-as-a-service models embedded in edge, fog, and cloud architectures and solutions; science of process modeling and analysis illustrated with case studies. Prerequisites: ISE:3700.

- ISE:5740 Design and Analysis of Computer Experiments** 3 s.h.  
Introduction to basic concepts of computer experiments; differences between computer and physical experiments; three technical contents including parametric and nonparametric prediction/inference models for computer experiments, space filling design for computer experiments, and criterion-based experiment design. Requirements: coding capability in at least one popular software (e.g., R, MATLAB, Python). Recommendations: STAT:4540, BAIS:9100 or MBA:8150, ISE:6790, or coding capability in R, MATLAB, or Python.
- ISE:5860 Health Informatics** 3 s.h.  
Technological tools that support health care administration, management, and decision making. Same as HMP:5370, IGPI:5200, MED:5300, SLIS:5900.
- ISE:5995 Contemporary Topics in Industrial Engineering** arr.  
New topics or areas of study not offered in other industrial engineering courses; topics based on faculty/student interest.
- ISE:5998 Individual Investigations: Industrial Engineering** arr.  
Individual projects for industrial engineering graduate students: laboratory study, engineering design, analysis and simulation of an engineering system, computer software development, research. Requirements: graduate standing.
- ISE:5999 Research: Industrial Engineering M.S. Thesis** arr.  
Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in industrial engineering. Requirements: graduate standing.
- ISE:6211 Human Factors in Healthcare Systems** 3 s.h.  
Solving human factors problems in health care work systems; cognitive systems engineering, interface design, health care productivity, patient safety; specific research including decision making, information transfer, and communication; discrete event and dynamic systems simulation modeling; human computer interaction; health information technology/systems; usability; business models of organizational, technical, and social elements of health care systems.
- ISE:6220 Cognitive Engineering** 3 s.h.  
Cognitive engineering principles; decision making and judgment; distributed cognition; cognitive work; human system interaction; cognitive work analysis; situated action and ecological models; mental models and representation; cognitive engineering methods and applications.
- ISE:6300 Innovation Science and Studies** 3 s.h.  
Innovative typology and sources, classical innovation models, measuring innovation, innovation discovery from data, evolutionary computation in innovation, innovation life cycle.
- ISE:6350 Computational Intelligence** 3 s.h.  
Concepts, models, algorithms, and tools for development of intelligent systems; data mining, expert systems, neural networks for engineering, medical and systems applications. Same as NURS:6900.
- ISE:6380 Deep Learning** 3 s.h.  
Basic principles of deep neural networks for various engineering applications; skill sets to design and implement deep learning algorithm for engineering applications; essential topics of deep learning for its practical use and exploring diverse methods and architectures for different types of applications.
- ISE:6410 Research Methods in Human Factors Engineering** 3 s.h.  
Logic and methods for research and for analysis and evaluation of complex human-machine systems; advanced techniques for enhancement of human interaction with advanced information technology; emphasis on cognitive task analysis techniques for innovative design, understanding of how technology affects safety, performance, user acceptance.
- ISE:6420 Human/Computer Interaction** 3 s.h.  
Development of projects using human factors principles in the design of computer interfaces.
- ISE:6450 Human Factors in Aviation** 3 s.h.  
Measuring, modeling, and optimizing human visual performance; display design for optimal legibility, research in visibility, legibility, conspicuity, and camouflage; visibility model development.
- ISE:6460 The Design of Virtual Environments** 3 s.h.  
Development of techniques for designing and creating three-dimensional representations of information for simulation, scientific visualization, and engineering; emphasis on human factors issues, software.
- ISE:6480 Unmanned Aircraft Systems** 3 s.h.  
Applications and research in unmanned aircraft systems (UAS) with focus on engineering aspects; new era of aviation and how UAS are fast emerging as a disruptive technology in aviation; applications ranging from film production, photography, precision agriculture, remote sensing, and infrastructure inspections to military applications; problem space of UAS from a variety of angles including engineering controls design, data links, UAS types, human factors, regulatory aspects.
- ISE:6600 Linear Programming** 3 s.h.  
Mathematical programming models; linear and integer programming, transportation models, large-scale linear programming, network flow models, convex separable programming. Requirements: calculus and linear algebra. Same as BAIS:6600, IGPI:6600.
- ISE:6650 Human Analytics and Behavioral Operations** 3 s.h.  
Introduction to several quantitative applications related to determining workforce size, skills-sets, and multifunctionality in service and manufacturing systems, based on measurable quality and productivity performance at the intersection of human factors engineering and production planning; modeling and solving problems in a context of speed and accuracy trade-off; models include learning, forgetting, teamwork, fatigue, procrastination, and individual difference measures.
- ISE:6760 Pattern Recognition for Financial Data** 3 s.h.  
Modeling and harvesting useful information and patterns for financial data; topics include basic concepts of financial data, financial data visualization, modeling and forecasting of financial time series, seasonal models, volatility models, value at risk, principal component analysis, and factor models.

**ISE:6780 Financial Engineering and Optimization 3 s.h.**

Quantitative methods of modeling various financial instruments (i.e., stocks, options, futures) and tools for measurement and control of risks inherent to financial markets; fundamentals of interest rates; options and futures contract valuation, including weather and energy derivatives; risk management and portfolio optimization; emphasis on modeling and solution techniques based on optimization and simulation approaches traditional to industrial engineering and operations research. Recommendations: basic knowledge of probability and statistics, numerical methods, and optimization.

**ISE:6790 Advanced Data Analytics and Informatics 3 s.h.**

Advanced analytics techniques (i.e., linear mixed effects model, Gaussian process model, Bayesian analytics); team project on selected data analytics topics from Kaggle using real industrial data for performance demonstration; emphasis on understanding methodology and technology applications; application of each analytics technique on various industrial data context. Recommendations: STAT:4540 or MBA:8150; working knowledge of important discrete and continuous distributions, joint distributions, linear regression, random process, hypotheses testing, and analysis of variance; and programming capability in any language (e.g., Matlab, R, Python).

**ISE:6810 Advanced Topics on Additive Manufacturing 3 s.h.**

Review of critical challenges facing 3D printing; emphasis on techniques and practical experience in developing novel additive manufacturing processes and applications; topics include 3D content creation and preparation, CAD systems for additive manufacturing, additive manufacturing processes, fabrication speed and improvements, rapid tooling and indirective processes.

**ISE:7998 Special Topics in Industrial Engineering arr.****ISE:7999 Research: Industrial Engineering Ph.D. Dissertation arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. in industrial engineering.

# Industrial Engineering, B.S.E.

The major in industrial engineering requires a strong foundation of courses in engineering science, mathematics, design, manufacturing, social science, and humanities. Advanced work includes specialty courses in human factors and ergonomics, management, information systems, manufacturing, quality control, and operations research. Design is an integral part of the undergraduate program; all students complete a comprehensive design experience.

The Department of Industrial and Systems Engineering offers a host of options for each engineering student. From the undergraduate engineering degree, a dual Undergraduate to Graduate (U2G) degree, focus areas, and extracurricular activities, there are many options available to explore and develop professional skills. The industrial and systems engineering undergraduate program emphasizes a broad education in engineering fundamentals and the opportunity for in-depth learning in a focus area.

## Focus Areas and Specialized Opportunities

As part of the mission to help students be engineers and something more, the Department of Industrial and Systems Engineering offers a variety of focus area options so that students can pursue specialized interests. Industrial engineering focus areas include big data analytics, computer and information systems, design and manufacturing, entrepreneurship, human factors and ergonomics, management, and an option to tailor a focus area to an individual student's interests.

### Big Data Analytics

Big data analytics is the process of examining big data in an effort to uncover hidden patterns, unknown correlations, and other useful information. Ninety-five percent of the data in the world today has been created in the last two years alone. This data comes from everywhere: sensors used to gather climate information, posts to social media sites, digital pictures and videos, purchase transaction records, and cell phone GPS signals to name a few.

### Computer and Information Systems

Industrial engineers have a natural role to play in this field by using quantitative system analysis, manufacturing system knowledge, and human factors skills to help design and refine computer systems that are becoming ever more complex. The field offers substantial opportunities for technical skill development, travel, and interaction with a diverse range of professionals.

### Design and Manufacturing

Many graduates find careers in manufacturing industries that include the use of computer-aided design and manufacturing, virtual and physical prototyping, 3D design, design and simulation of manufacturing processes, and manufacturing systems. They find employment in diverse industries, including the supplier manufacturing industry (e.g., John Deere, Caterpillar, Rockwell Collins, Raytheon, Boeing), health care (e.g., Johnson & Johnson, Zimmer), software, and the information industry (e.g., Pro/Engineer, CATIA, SolidWorks, AutoCAD).

## Entrepreneurship

Entrepreneurship allows engineering students to explore venture capital, marketability of products, and technology transfer. They gain exposure to understanding sound business practice, acquire team-building skills in both small and large companies, understand the entrepreneurial approach to acquiring and managing resources, learn how to create a business plan, and obtain valuable contacts and networking opportunities with businesses and industries.

## Human Factors and Ergonomics

The human factors and ergonomics focus area represents an increasingly important engineering specialty. The dramatic increase in netcentric computer technology makes system performance increasingly dependent on the match between system characteristics and human capabilities. Graduates find employment in diverse industries that include health care (e.g., GE, Medtronic, Guidant), original equipment manufacturer (OEM) and supplier manufacturing industry (e.g., Rockwell Collins, Boeing, Deere, Caterpillar), computer systems (e.g., Microsoft, Intel, IBM), the government (e.g., NHTSA, NTSB, NASA, the Department of Defense), and consulting (e.g., Accenture, Battelle). Human factors considers cognitive characteristics, and ergonomics considers physical characteristics. This focus area provides advanced education in psychology, systems, statistics, and biomechanics.

## Management

Industrial engineers are often assigned managerial tasks, project management, and financial assessments as they relate to project budgets, cost calculations, and optimization criteria. This focus area prepares students for a career in business management.

## Tailored

Students work with an advisor to tailor a program that is specific to their individual needs. For more information about guidelines for tailored focus areas, see EFAs and Specialized Opportunities on the Department of Industrial and Systems Engineering website.

## Student Organizations

Student organizations can have an enormous impact on an undergraduate student's career. The College of Engineering is home to a number of student organizations and clubs. Popular organizations for industrial and systems engineering students include the Institute of Industrial and Systems Engineers (IISE) and the Human Factors and Ergonomics Society (HFES).

## Undergraduate Resources

Undergraduate resources are available to students to pursue research, access professional services available in the college and across the university, and participate in or view sports and arts events on campus and around town.

## Scholarships

A variety of engineering scholarships and funding opportunities are available to industrial and systems engineering students.

## Accreditation

The undergraduate program in industrial engineering is accredited by the Engineering Accreditation Commission



of the Accreditation Board for Engineering and Technology (ABET).

## Educational Objectives

The following educational objectives of the program are defined in conjunction with the accreditation process.

Within a few years of graduation, industrial engineering graduates will:

- continue learning,
- lead and inspire others, and
- engage in the community and society.

## Requirements

The Bachelor of Science in Engineering with a major in industrial engineering requires a minimum of 129 s.h. of credit, including three 0 s.h. seminars. Students must have a g.p.a. of at least 2.00 in all college work used to satisfy degree requirements as well as on all coursework attempted at the University of Iowa.

All B.S.E. students are required to take the same collegiate curriculum. For information about these collegiate requirements, see the Bachelor of Science in Engineering, B.S.E. [p. 1551] in the Catalog. Students completing the major in industrial engineering fulfill the collegiate statistics requirement by completing STAT:2020 Probability and Statistics for the Engineering and Physical Sciences. Students within the department also are required to take PSY:1001 Elementary Psychology to fulfill part of the B.S.E. collegiate curriculum General Education Component approved course subjects requirement.

The major in industrial engineering requires the following coursework.

Code	Title	Hours
	Collegiate Curriculum	50
	Major Requirements (includes three 0 s.h. seminars)	55
	Focus Area	24-29
	<b>Total Hours</b>	<b>129-134</b>

## Major Requirements

Major requirements include a set of common courses (40 s.h.), at least 11 s.h. in engineering fundamentals elective courses, three departmental seminars (0 s.h.), and one capstone design course (4 s.h.).

## Common Courses

Code	Title	Hours
All of these:		
ISE:2360	Design for Manufacturing	3
ISE:2500	Engineering Economy	3
ISE:3300	Manufacturing Systems	3
ISE:3350	Process Engineering	3
ISE:3400	Human Factors	3
ISE:3450	Ergonomics	3
ISE:3500	Information Systems Design	3
ISE:3600	Quality Control	3
ISE:3610	Stochastic Modeling	3
ISE:3660	Data Analytics with R	3
ISE:3700	Operations Research	3

ISE:3750	Digital Systems Simulation	3
PHYS:1612	Introductory Physics II (with lab)	4

## Engineering Fundamentals

Code	Title	Hours
At least 11 s.h. from these:		
ENGR:2110	Statics	2
ENGR:2120	Electrical Circuits	3
ENGR:2130	Thermodynamics	3
ENGR:2710	Dynamics	3
ENGR:2720	Materials Science	3
ENGR:2750	Mechanics of Deformable Bodies	3

## Departmental Seminars

Students typically complete ISE:3000 Professional Seminar: Industrial Engineering in the spring semester in each of the third and fourth years, for a total of three departmental seminars.

Code	Title	Hours
Both of these:		
ISE:2000	Industrial Engineering Sophomore Seminar	0
ISE:3000	Professional Seminar: Industrial Engineering (taken twice for 0 s.h. each)	0

## Capstone Design Course

Code	Title	Hours
This course:		
ISE:4600	Industrial Engineering Design Project	4

## Focus Area

Students must select focus area courses according to guidelines established by the Department of Industrial and Systems Engineering. Focus areas include big data analytics [p. 1649], computer and information systems [p. 1650], design and manufacturing [p. 1650], entrepreneurship [p. 1651], human factors and ergonomics [p. 1651], management [p. 1652], and an option to tailor a focus area to an individual student's interests. For more information about focus area options and guidelines for tailored focus areas, see EFAs and Specialized Opportunities on the Department of Industrial and Systems Engineering website.

Focus areas in the industrial engineering major include content area courses and electives, including a systems elective course; carefully selected elective courses may contribute to earning a minor and/or certificate.

## Big Data Analytics

Students in the big data analytics focus area complete four required courses (12 s.h.), two focus area electives (6-7 s.h.), one math or science elective (3-4 s.h.), and one systems elective (3 s.h.).

## Required Big Data Analytics Courses

Code	Title	Hours
One of these:		
BAIS:3500	Data Mining	3

ECE:5450/IGPI:5450	Machine Learning	3
All of these:		
ENGR:2730	Computers in Engineering	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
STAT:4580/ IGPI:4580	Data Visualization and Data Technologies	3

## Big Data Analytics Electives

Code	Title	Hours
Two of these:		
ISE:4172	Big Data Analytics	3
ISE:6380	Deep Learning	3
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
CS:5110/IGPI:5110	Introduction to Informatics	3
ECE:3330/IGPI:3330	Introduction to Software Design	3
STAT:4740/ CS:4740/IGPI:4740/ MATH:4740	Large Data Analysis	3

## Math or Science Elective

Code	Title	Hours
One of these:		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
MATH:3550	Engineering Mathematics V: Vector Calculus	3
MATH:3800/ CS:3700	Introduction to Numerical Methods	3
PHYS:2704	Physics IV	3-4
STAT:3210	Experimental Design and Analysis	3

## Systems Elective

Code	Title	Hours
One of these:		
ISE:4172	Big Data Analytics	3
ISE:4175	Safety Engineering	3
ISE:4900	Introduction to Six Sigma	3
A course with prefix ISE numbered 5000 or above		

## Computer and Information Systems

Students in the computer and information systems focus area complete five required courses (16 s.h.), two focus area electives (6-7 s.h.), and one systems elective (3 s.h.).

### Required Computer and Information Systems Courses

Code	Title	Hours
All of these:		
ECE:3330/IGPI:3330	Introduction to Software Design	3
CS:2210	Discrete Structures	3
CS:2230	Computer Science II: Data Structures	4
ENGR:2730	Computers in Engineering	3

MATH:3800/ CS:3700	Introduction to Numerical Methods	3
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## Computer and Information Systems Electives

Code	Title	Hours
Two of these:		
CS:2630	Computer Organization	4
CS:3330	Algorithms	3
CS:3820	Programming Language Concepts	3
CS:4400	Database Systems	3
CS:5800/ECE:5800	Fundamentals of Software Engineering	3

## Systems Elective

Code	Title	Hours
One of these:		
ISE:4172	Big Data Analytics	3
ISE:4175	Safety Engineering	3
ISE:4900	Introduction to Six Sigma	3
A course with prefix ISE numbered 5000 or above		

## Design and Manufacturing

Students in the design and manufacturing focus area complete two required courses (6 s.h.), three focus area electives (9-12 s.h.), one math or science elective (3-4 s.h.), one advanced engineering elective (3-4 s.h.), and one systems elective (3 s.h.).

### Required Design and Manufacturing Courses

Code	Title	Hours
Both of these:		
ARTS:1020	Elements of 3D Design	3
TDSN:2240/ CEE:2240	Digital Drafting with AutoCAD	3

## Design and Manufacturing Electives

Code	Title	Hours
Three of these:		
ISE:4116/ME:4116	Manufacturing Processes Simulations and Automation	3
ISE:4900	Introduction to Six Sigma	3
ISE:5310	Advanced Computational Design and Manufacturing	3
ISE:5620	Design of Experiments	3
ISE:5650	Mechatronics Engineering for Smart Device Design	3
BME:2500	Biomaterials and Biomechanics	4
BME:2710	Engineering Drawing, Design, and Solid Modeling	3
BME:5101	Biomaterials and Implant Design	3
ME:4112/CEE:4512	Engineering Design Optimization	3
ME:5167/CEE:5137	Composite Materials	3
MTLS:4910	Mixed Media and Professional Practices	3-4
TDSN:2250	Digital Prototyping	3

TDSN:3285	Fabrication and Design: Hand-Built Bicycle	4
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### Math or Science Elective

Code	Title	Hours
One of these:		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
MATH:3550	Engineering Mathematics V: Vector Calculus	3
MATH:3800/ CS:3700	Introduction to Numerical Methods	3
PHYS:2704	Physics IV	3-4

### Advanced Engineering Elective

Students select one course numbered 3000 or above from any department in the College of Engineering (prefix BME, CBE, CEE, ECE, ISE, or ME).

### Systems Elective

Code	Title	Hours
One of these:		
ISE:4172	Big Data Analytics	3
ISE:4175	Safety Engineering	3
ISE:4900	Introduction to Six Sigma	3
ENGR:2730	Computers in Engineering	3
A course with prefix ISE numbered 5000 or above		

### Entrepreneurship

Students in the entrepreneurship focus area complete three required courses (9 s.h.), two technological entrepreneurship courses (6 s.h.), one advanced entrepreneurship elective (3 s.h.), one math or science elective (3-4 s.h.), and one systems elective (3 s.h.).

### Required Entrepreneurship Courses

Code	Title	Hours
All of these:		
ISE:4900	Introduction to Six Sigma	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3

### Technological Entrepreneurship Certificate Courses

Students select two courses that count toward the Certificate in Technological Entrepreneurship [p. 1686] for a total of 6 s.h.

### Advanced Entrepreneurship Elective

Code	Title	Hours
One of these:		
A course numbered 3000 or above with prefix BME, CBE, CEE, ECE, ISE, or ME		
A course numbered 3000 or above with prefix ACCT, BAIS, BUS, ECON, ENTR, FIN, MGMT, or MKTG		

### Math or Science Elective

Code	Title	Hours
One of these:		
BIOL:1411	Foundations of Biology	4

CHEM:1120	Principles of Chemistry II	4
MATH:3550	Engineering Mathematics V: Vector Calculus	3
MATH:3800/ CS:3700	Introduction to Numerical Methods	3
PHYS:2704	Physics IV	3-4
STAT:3210	Experimental Design and Analysis	3

### Systems Elective

Code	Title	Hours
One of these:		
ISE:4172	Big Data Analytics	3
ISE:4175	Safety Engineering	3
ENGR:2730	Computers in Engineering	3
A course with prefix ISE numbered 5000 or above		

### Human Factors and Ergonomics

Students in the human factors and ergonomics focus area complete three required courses (10 s.h.), one math or science elective (3 s.h.), one engineering elective (3-4 s.h.), two general electives (6-7 s.h.), and one systems elective (3 s.h.).

### Required Human Factors and Ergonomics Courses

Code	Title	Hours
All of these:		
PSY:2601	Introduction to Cognitive Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:2811	Research Methods and Data Analysis in Psychology I	3

### Math or Science Elective

Code	Title	Hours
One of these:		
STAT:3200	Applied Linear Regression	3
STAT:3210	Experimental Design and Analysis	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

### Engineering Elective

Code	Title	Hours
One of these:		
ISE:4175	Safety Engineering	3
ISE:5420	Automated Vehicle Systems	3
ISE:5460	User Experience Design	3
ISE:6220	Cognitive Engineering	3
ISE:6410	Research Methods in Human Factors Engineering	3
ISE:6450	Human Factors in Aviation	3
ISE:6460	The Design of Virtual Environments	3
BME:2500	Biomaterials and Biomechanics	4
BME:5640	Ergonomics of Occupational Injuries	3

## General Electives

Code	Title	Hours
Two of these:		
PSY:3040	Psychology of Learning	3
PSY:3620	Human Memory	3
PSY:4020	Laboratory in Psychology	4
OEH:4310	Occupational Ergonomics: Principles	3

## Systems Elective

Code	Title	Hours
One of these:		
ISE:4172	Big Data Analytics	3
ISE:4175	Safety Engineering	3
ISE:4900	Introduction to Six Sigma	3
ENGR:2730	Computers in Engineering	3
A course with prefix ISE numbered 5000 or above		

## Management

Students in the management focus area complete five required courses (15 s.h.), one math or science elective (3-4 s.h.), one advanced engineering elective (3 s.h.), and one systems elective (3 s.h.).

### Required Management Courses

Code	Title	Hours
All of these:		
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
MKTG:3000	Introduction to Marketing Strategy	3

## Math or Science Elective

Code	Title	Hours
One of these:		
BIOL:1411	Foundations of Biology	4
CHEM:1120	Principles of Chemistry II	4
MATH:3550	Engineering Mathematics V: Vector Calculus	3
MATH:3800/ CS:3700	Introduction to Numerical Methods	3
PHYS:2704	Physics IV	3-4
STAT:3210	Experimental Design and Analysis	3

## Advanced Engineering Elective

Students select one course numbered 3000 or above from any department in the College of Engineering (prefix BME, CBE, CEE, ECE, ISE, or ME).

## Systems Elective

Code	Title	Hours
One of these:		
ISE:4172	Big Data Analytics	3
ISE:4175	Safety Engineering	3
ISE:4900	Introduction to Six Sigma	3

ENGR:2730	Computers in Engineering	3
A course with prefix ISE numbered 5000 or above		3

## Tailored

Students work with their advisor to tailor a program that is specific to their individual needs.

## Combined Programs

### B.S.E./M.S. in Industrial Engineering

The College of Engineering offers a combined Bachelor of Science in Engineering/Master of Science program for industrial engineering undergraduate students who intend to earn a M.S. in industrial engineering.

Undergraduate students at the University of Iowa who have completed more than 80 s.h. and have a g.p.a. higher than 3.25 may apply for admission to the Undergraduate to Graduate (U2G) program designed to accelerate the attainment of an M.S. in industrial engineering degree. Students typically complete their M.S. degree within one year of their B.S.E. degree.

Students meet with their academic advisor, complete a plan, and submit an application for the M.S. program of study to the Graduate College. Graduate Record Examination (GRE) General Test scores are not required for University of Iowa students. Students continue to follow the industrial and systems engineering curriculum as planned with their advisor.

Students may take up to 15 s.h. of graduate coursework and count 12 s.h. toward both degrees, attend the program's graduate seminar, and optionally work with a faculty member on a master's thesis project while they are still undergraduates.

Interested students should discuss the Undergraduate to Graduate (U2G) program with their advisor during their third year of study. Applications should be submitted to the department before the start of their fourth year.

## Career Advancement

Industrial and systems engineers have many opportunities for employment and service in industrial, government, research, and public service organizations. Employment opportunities are among the most varied in the engineering field. Industrial and systems engineers hold positions as advisors to management or may participate directly in management decisions. Representative job titles include industrial engineer, manufacturing engineer, systems analyst, quality specialist, operations research analyst, internal consultant, human factors specialist, supervisor, and manager. Industrial and systems engineers are employed by manufacturing and energy firms, wind turbine manufacturers, government agencies, and service organizations such as airlines, banks, hospitals, health care groups, and consulting companies.

People are often surprised to learn the impact and breadth of the industrial engineering profession, which is one of the three largest areas of engineering employment, according to the Bureau of Labor Statistics. Yet, less than five percent of all engineers are trained specifically for this specialty, according to the American Society of Engineering Educators. It is one of the more gender diverse engineering degrees: 31.3 percent

of industrial engineering degrees are awarded to women, compared to 21.7 percent of all engineering degrees.

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including engineering career fairs and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

# Industrial Engineering, M.S.

## Research and Study

The M.S. in industrial engineering program supports two major paths: one focusing on courses and one on research and a thesis. The first path is intended primarily for students who wish to advance their technical knowledge and move toward a career in industry. The second path also is a good choice for students interested in industry, but it is targeted more toward developing independent research skills and writing, and it also can support future graduate work.

Both paths expect some diversity of technical skills in three major areas which include systems, human factors, and analytics. The systems area emphasizes the design, construction, and analysis of complex systems with interdependent parts that include people and machines. The human factors area emphasizes the interaction of people with systems, and includes the study and analysis of people's cognitive and physical limitations. The analytics area emphasizes the application of mathematical formula, including statistical approaches, as well as algorithmic and computational approaches to deriving knowledge from data. Each area is supported by several faculty members and many faculty members support multiple areas; see Facilities [p. 1642] in the Department of Industrial and Systems Engineering section of the Catalog to learn more about each research lab and its activities.

## Learning Outcomes

### Without Thesis

Students will:

- demonstrate broad knowledge of the field of industrial and systems engineering and deep knowledge in their specific area of study;
- identify and analyze problems of value to industry and society;
- apply contemporary methodologies for solving problems valued by industry and society;
- demonstrate project and team management skills and initiative; and
- demonstrate ethical and professional behavior.

### With Thesis

Students will:

- demonstrate broad knowledge of the field of industrial and systems engineering and deep knowledge in their specific area of study;
- identify and analyze problems of value to industry and society;
- transform knowledge into applications valued by industry and society;
- demonstrate collaborative and communication skills;
- demonstrate project and team management skills; and
- demonstrate ethical and professional behavior.

## Requirements

The Master of Science program in industrial engineering requires a minimum of 30 s.h. of graduate credit. Students must maintain a cumulative g.p.a. higher than 3.25 to earn the degree.

Students must enroll in ENGR:7270 Engineering Ethics, typically in the first or second semester of enrollment. ISE:5000 Graduate Seminar: Industrial Engineering must be taken in the first two consecutive semesters of enrollment, and one semester (fall or spring) in subsequent academic years. More information about graduate seminar requirements can be found in the Graduate Student Handbook on the Department of Industrial and Systems Engineering Graduate Program website. Credit in ISE:5000 Graduate Seminar: Industrial Engineering and ENGR:7270 Engineering Ethics may not be applied toward the 30 s.h. of required coursework.

## Breadth Requirement

All students must successfully complete at least one approved graduate-level course in each of three focus areas—analytics, human factors, and systems. Those with relevant academic background in these areas may be excused from this requirement by the director of graduate studies.

For more detailed information about program requirements and focus area courses, see the Graduate Student Handbook on the Department of Industrial and Systems Engineering website.

## Analytics

Code	Title	Hours
One of these:		
ISE:3610	Stochastic Modeling	3
ISE:3660	Data Analytics with R	3
ISE:3700	Operations Research	3
ISE:4172	Big Data Analytics	3
ISE:5730	Digital Industry	3
ISE:5740	Design and Analysis of Computer Experiments	3
ISE:6300	Innovation Science and Studies	3
ISE:6380	Deep Learning	3
ISE:6650	Human Analytics and Behavioral Operations	3
ISE:6760	Pattern Recognition for Financial Data	3
ISE:6780	Financial Engineering and Optimization	3
ISE:6790	Advanced Data Analytics and Informatics	3

## Human Factors

Code	Title	Hours
One of these:		
ISE:3400	Human Factors	3
ISE:3450	Ergonomics	3
ISE:4175	Safety Engineering	3
ISE:5420	Automated Vehicle Systems	3
ISE:5460	User Experience Design	3

ISE:6211	Human Factors in Healthcare Systems	3
ISE:6220	Cognitive Engineering	3
ISE:6410	Research Methods in Human Factors Engineering	3
ISE:6420	Human/Computer Interaction	3
ISE:6450	Human Factors in Aviation	3
ISE:6460	The Design of Virtual Environments	3
ISE:6480	Unmanned Aircraft Systems	3

## Systems

Code	Title	Hours
One of these:		
ISE:3300	Manufacturing Systems	3
ISE:3350	Process Engineering	3
ISE:3500	Information Systems Design	3
ISE:3600	Quality Control	3
ISE:3750	Digital Systems Simulation	3
ISE:4620	Design of Experiments for Quality Improvement	3
ISE:4900	Introduction to Six Sigma	3
ISE:5310	Advanced Computational Design and Manufacturing	3
ISE:5520	Renewable Energy	3
ISE:5620	Design of Experiments	3
ISE:5650	Mechatronics Engineering for Smart Device Design	3
ISE:6350	Computational Intelligence	3
ISE:6810	Advanced Topics on Additive Manufacturing	3

## Master of Science Degree Without Thesis

The M.S. in industrial engineering without thesis requires at least 21 s.h. in Department of Industrial and Systems Engineering courses (prefix ISE), including at least 12 s.h. of graduate-level courses at the 5000 level or above. Courses offered by other College of Engineering departments or courses from other colleges may be selected with consent of the academic advisor.

## Master of Science with Thesis

Nonthesis students may petition for entry into the M.S. thesis program or the Ph.D. program by requesting a change of status through the department. Typically, students make this request at the invitation of a faculty member who is ready to serve as a student's research advisor. The request is then reviewed by the Graduate Admissions Committee. The committee forwards approved requests to the department chair, who may authorize a change of status petition from the department to the Graduate College.

Students are encouraged to write their thesis as a publishable journal article and submit the article for publication. The thesis option consists of a minimum of 21 s.h. of coursework and up to 9 s.h. of research. Students pursuing the thesis option are permitted to enroll in ISE:5999 Research: Industrial Engineering M.S. Thesis. Up to 9 s.h. in the thesis course may count toward the graduate-level course requirement. In addition, students must submit the Final Examination:

Advanced Degree form, complete a Report of Thesis Approval, and submit a copy of their thesis to the Graduate College by following the published guidelines and deadlines.

## Admission

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations on the Graduate College website.

Admission to the graduate program is competitive and based on an applicant's previous coursework, research, and industrial experience. The general admission standards are intended to maintain the quality of the graduate program and to ensure sufficient preparation required for timely degree completion. Specific admission standards may be waived by the Graduate Admissions Committee when other evidence of competence is compelling. These standards are minimum standards, and meeting these standards does not ensure admission to the program; admitted students typically exceed these standards.

Applicants are expected to have a minimum cumulative g.p.a. of 3.00 on a 4.00 scale, and have earned a B.S.E. in industrial engineering degree or in a related science or engineering discipline. Applicants are not required to submit the results of their Graduate Record Examination (GRE) General Test.

International applicants whose first language is not English are required to submit the results of their Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Duolingo English Test (DET). Applicants who have completed a post-secondary degree at an English-speaking institution may request a waiver of this requirement. A minimum TOEFL score of 100, a minimum IELTS score of 7, or a minimum DET score of 105 is required for admission.

Applicants must arrange to have three letters of recommendation sent to the department online through the University of Iowa Office of Admissions website. The letters should be completed by persons who are well acquainted with the applicant and the ability of the applicant to undertake graduate work in industrial or systems engineering.

While the department considers applications at any time, first consideration is given to students who have their application materials, including their application, transcripts, English language test scores (DET, IELTS, or TOEFL), and the required letters of recommendation, completed by the admission priority deadline as found on the Iowa Graduate Admissions website. The director of graduate admissions is responsible for overseeing the graduate recruiting activities and the admissions procedures in the department. The director serves as the point of initial contact between prospective graduate students and the department, and maintains a record of each qualified applicant in the departmental office. The director, in consultation with the Graduate Admissions Committee and the department chair, screens applicants and ultimately determines which applicants are extended offers of admission.

## Applicants with Degrees Not in Industrial or Systems Engineering

The department encourages students with degrees in other scientific disciplines, such as in computer science, mathematics, physics, or other engineering disciplines,

to apply for admission. Some students may have already completed M.S. degrees; however, these students are expected to attain a proficiency in specified core areas of industrial and systems engineering equivalent to entering graduate students who hold a B.S.E. degree in industrial engineering. The background of each student admitted to the program with a degree other than in industrial or systems engineering is reviewed by the faculty members. These proficiencies are intended to ensure that each admitted graduate student is able to fully participate in all industrial and systems engineering discipline areas at some level, even while advanced courses in certain areas may not be immediately accessible to all graduate students. The director of graduate studies specifies in writing any remedial courses that are required of a student.

## Degree Program Selection

Unless otherwise specified, graduate students in the Department of Industrial and Systems Engineering are enrolled in the M.S. nonthesis program. If a student and faculty member have jointly agreed a student may pursue the M.S. with thesis option, the student may be admitted into the thesis track.

## Financial Support

Many graduate students who are actively engaged in research receive financial support through a combination of research and teaching assistantships and fellowships. Decisions about research assistantships are made by the individual faculty members and the department. Support is available on a semester or academic year basis. Stipends are approximately \$25,000 (half-time or 20 hours per week) for an academic year of graduate study. Other levels of support are possible. If an award is made, nonresident students usually qualify for tuition at the resident rate, at approximately \$10,000 per academic year. Normally stipends are not immediately awarded to international applicants, but after admission and enrollment, an application can be made. Preference for graduate student support is given to Ph.D. students.

Students should direct questions about availability of financial support to faculty members in their primary area of study. Awards and reappointments are highly competitive and are based upon a student's academic record, prior performance, the ability to serve, and upon an assessment of the student's potential contribution to the research and teaching goals of the program.

For more information about departmental scholarships and funding opportunities, see Graduate Scholarships on the Department of Industrial and Systems Engineering website.

## Career Advancement

Industrial and systems engineers have many opportunities for employment and service in industrial, government, research, and public service organizations such as airlines, banks, hospitals, health care groups, and consulting companies. Employment opportunities are among the most varied in the engineering field. Industrial and systems engineers hold positions as advisors to management or may participate directly in management decisions. Representative job titles include industrial engineer, manufacturing engineer, systems analyst, quality specialist, operations research analyst, internal consultant, human factors specialist, supervisor, and manager.



# Industrial Engineering, Ph.D.

## Research and Study

The Ph.D. in industrial engineering program is intended for students who wish to prepare themselves for a career creating and cultivating new knowledge. In addition to a broad selection of technical research courses, the program emphasizes original research under the close supervision of a faculty member. Students develop an individualized research project that typically includes the design and analysis of experimental or theoretical work or the invention of new processes, techniques, or devices, which ultimately leads to original publications in the academic literature. The training is appropriate for people seeking a career in academia or in research and development in industry.

The coursework requires some diversity of technical skills in three major areas which include systems, human factors, and analytics. The systems area emphasizes the design, construction, and analysis of complex systems with interdependent parts that include people and machines. The human factors area emphasizes the interaction of people with systems, and includes the study and analysis of people's cognitive and physical limitations. The analytics area emphasizes the application of mathematical formula, including statistical approaches, as well as algorithmic and computational approaches to deriving knowledge from data. Each area is supported by several faculty members, and many faculty members support multiple areas; see Faculties [p. 1642] in the Department of Industrial and Systems Engineering section of the Catalog to learn more about each research lab and its activities.

## Learning Outcomes

Students will:

- demonstrate broad knowledge of the field of industrial and systems engineering and deep knowledge in their specific area of study;
- identify and solve problems of value to industry and society;
- demonstrate independent thinking and forge new paths to discovery;
- make meaningful and novel contributions to knowledge in a single or multiple domains;
- disseminate research results to the research and application community;
- demonstrate the ability to lead interdisciplinary teams in pursuit of research; and
- demonstrate ethical and professional behavior.

## Requirements

The Doctor of Philosophy program in industrial engineering requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.50 to earn the degree. At least 36 s.h. must be taken in Department of Industrial and Systems Engineering courses (prefix ISE), including at least 24 s.h. in graduate-level courses numbered ISE:5000 and above.

Students must enroll in ENGR:7270 Engineering Ethics, typically in the first or second semester of

enrollment. ISE:5000 Graduate Seminar: Industrial Engineering must be taken in the first two consecutive semesters of enrollment, and one semester (fall or spring) in subsequent academic years. More information about Graduate Seminar requirements can be found in the Graduate Student Handbook on the Department of Industrial and Systems Engineering Graduate Program website. Credit in ISE:5000 Graduate Seminar: Industrial Engineering and ENGR:7270 Engineering Ethics may be applied toward the 72 s.h. of required coursework.

Students must successfully complete coursework in each of three focus areas: see "Breath Requirement" below. The academic advisor and/or examining committee may decide a student must complete other requirements such as additional coursework or the acquisition of specific skills. The actual amount of coursework required is determined with the advice and consent of the academic advisor. Students who earned an M.S. at the University of Iowa may have satisfied this requirement.

Students are typically expected to have completed three academic years of residence at the University of Iowa, or two years if they already hold a recognized M.S. degree. For students who earned their M.S. degree at the University of Iowa, no more than 36 s.h. from the M.S. degree may be counted toward the Ph.D. degree. For students who earned their M.S. from another institution, a maximum of 30 s.h. may be transferred toward the doctoral program. The director of graduate studies reviews the transcripts of new students to determine which requirements have been met from previous coursework.

Excellence in research is the principal requirement for the degree. It is expected that the Ph.D. dissertation research project represents an original and significant contribution to the body of knowledge in the field. At least one accepted research article in a peer-reviewed journal as first author with the research advisor as a co-author, in addition to presentation of the research in a departmental seminar, are requirements. Submission of three, first-authored papers and at least one research presentation at a national conference is typical. In addition, students must fulfill the qualifying requirement, pass the comprehensive examination, submit the Final Examination: Advanced Degree form, complete a Report of Thesis Approval, and submit a copy of their thesis to the Graduate College by following the published guidelines and deadlines.

## Breadth Requirement

Students must successfully complete at least 6 s.h. in approved courses numbered 5000 or above offered by the Department of Industrial and Systems Engineering in each of the three focus areas—analytics, human factors, and systems. Students with relevant academic background in these areas may be excused from the breadth requirement with approval of the director of graduate studies. Approved courses are listed below.

## Analytics

Code	Title	Hours
Two of these:		
ISE:5730	Digital Industry	3
ISE:5740	Design and Analysis of Computer Experiments	3
ISE:6300	Innovation Science and Studies	3

ISE:6380	Deep Learning	3
ISE:6650	Human Analytics and Behavioral Operations	3
ISE:6760	Pattern Recognition for Financial Data	3
ISE:6780	Financial Engineering and Optimization	3
ISE:6790	Advanced Data Analytics and Informatics	3

## Human Factors

Code	Title	Hours
Two of these:		
ISE:5420	Automated Vehicle Systems	3
ISE:5460	User Experience Design	3
ISE:6211	Human Factors in Healthcare Systems	3
ISE:6220	Cognitive Engineering	3
ISE:6410	Research Methods in Human Factors Engineering	3
ISE:6420	Human/Computer Interaction	3
ISE:6450	Human Factors in Aviation	3
ISE:6460	The Design of Virtual Environments	3
ISE:6480	Unmanned Aircraft Systems	3

## Systems

Code	Title	Hours
Two of these:		
ISE:5310	Advanced Computational Design and Manufacturing	3
ISE:5520	Renewable Energy	3
ISE:5620	Design of Experiments	3
ISE:5650	Mechatronics Engineering for Smart Device Design	3
ISE:6350	Computational Intelligence	3
ISE:6810	Advanced Topics on Additive Manufacturing	3

## Qualifying Exam

Students interested in pursuing a Ph.D. are initially admitted as M.S. nonthesis students until they have completed the qualifying examination. This is typically achieved within their first three semesters if beginning the program without an M.S. degree, or within the first two semesters if beginning the program with an M.S. degree. Once the exam is passed, students are formally admitted to the Ph.D. program. The purpose of this qualifier is to determine a student's proficiency in research and scholarship.

## Comprehensive Examination

The general rules for the administration of the Ph.D. comprehensive examination are contained in the policies and procedures of the Graduate College. The tradition in the department is for the comprehensive examination to consist of a written and oral component. Students write and submit a comprehensive examination document, usually called the dissertation research proposal, to each member of the examination committee two weeks before the examination date. During the examination, students make a roughly 30-minute presentation on the content of the research proposal.

Committee members may ask questions regarding the proposal before, during, or after the oral presentation. Having satisfactorily completed the comprehensive examination, students are accepted as a candidate for the Ph.D. degree.

## Final Examination (Dissertation Defense)

Each student must defend the completed dissertation in the final examination, which is conducted by the examining committee.

## En Passant Option

Students admitted to the Ph.D. program may elect to earn their M.S. degree through the *en passant* option, with the permission of their Ph.D. committee. This option allows students to write an English-language manuscript as the first author and submit it to a peer-reviewed research journal in lieu of writing the M.S. thesis. With this option, students, in conjunction with their academic advisor, author a paper that serves as the foundation for the Ph.D. research. The decision to select this option must be made before the qualifying examination. The committee may determine, based on the published or submitted scholarship to peer-reviewed journals, that the presentation of a separate research thesis is not necessary. In this case, up to 9 s.h. in ISE:5999 Research: Industrial Engineering M.S. Thesis may be counted towards the nonthesis option. Students choosing the *en passant* option generally receive an M.S. degree without the thesis designation.

For more detailed information about program requirements, see Graduate Student Handbook or Graduate Program on the Department of Industrial and Systems Engineering website.

## Admission

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations on the Graduate College website.

Admission to the graduate program is competitive and based on an applicant's previous coursework, research, and industrial experience. The general admission standards are intended to maintain the quality of the graduate program and to ensure sufficient preparation required for timely degree completion. Specific admission standards may be waived by the Graduate Admissions Committee when other evidence of competence is compelling. These standards are minimum standards, and meeting these standards does not ensure admission to the program; admitted students typically exceed these standards.

Applicants are expected to have a minimum cumulative g.p.a. of at least 3.00 on a 4.00 scale, and have earned a B.S.E. in industrial engineering degree or in a related science or engineering discipline. Applicants are not required to submit the results of the Graduate Record Examination (GRE) General Test.

International applicants whose first language is not English are required to submit the results of their Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Duolingo English Test (DET). Applicants who have completed a post-secondary degree at an English-speaking institution may request a waiver of this requirement. A minimum TOEFL score of 100, a minimum

IELTS score of 7, or a minimum DET score of 105 is required for admission.

Applicants must arrange to have three letters of recommendation sent to the department online through the University of Iowa Office of Admissions website. The letters should be completed by persons who are well acquainted with the applicant and the ability of the applicant to undertake graduate work in industrial or systems engineering.

While the department considers applications at any time, first consideration is given to students who have their application materials, including their application, transcripts, English language test scores (DET, IELTS, or TOEFL), and the required letters of recommendation, completed by the admission priority deadline as found on the Iowa Graduate Admissions website. The director of graduate admissions is responsible for overseeing the graduate recruiting activities and the admissions procedures in the department. The director serves as the point of initial contact between prospective graduate students and the department, and maintains a record of each qualified applicant in the departmental office. The director, in consultation with the Graduate Admissions Committee and the department chair, screens applicants and ultimately determines which applicants are extended offers of admission.

## Applicants with Degrees Not in Industrial or Systems Engineering

The department encourages students with degrees in other scientific disciplines, such as in computer science, mathematics, physics, or other engineering disciplines, to apply for admission. Some students may have already completed M.S. degrees; however, these students are expected to attain a proficiency in specified core areas of industrial and systems engineering equivalent to entering graduate students who hold a B.S.E. degree in industrial engineering. The background of each student admitted to the program with a degree other than in industrial or systems engineering is reviewed by the faculty members. These proficiencies are intended to ensure that each admitted graduate student is able to fully participate in all industrial and systems engineering discipline areas at some level, even while advanced courses in certain areas may not be immediately accessible to all graduate students.

## Financial Support

Many graduate students who are actively engaged in research receive financial support through a combination of research and teaching assistantships and fellowships. Decisions about research assistantships are made by the individual faculty members and decisions about teaching assistantships are made by the department. Support is available on a semester or academic year basis. Stipends are approximately \$25,000 (half-time or 20 hours per week) for an academic year of graduate study. Other levels of support are also possible. If an award is made, nonresident students usually qualify for tuition at the resident rate, at approximately \$10,000 per academic year. Normally stipends are not immediately awarded to international applicants, but after admission and enrollment, an application can be made. Preference for graduate student support is given to Ph.D. students.

Students should direct questions about availability of financial support to faculty members in their primary area of study. Awards and reappointments are highly competitive and are

based upon a student's academic record, prior performance, the ability to serve, and upon an assessment of the student's potential contribution to the research and teaching goals of the program.

For more information about departmental scholarships and funding opportunities, see Graduate Scholarships on the Department of Industrial and Systems Engineering website.

## Career Advancement

Industrial and systems engineers have many opportunities for employment and service in industrial, government, research, and public service organizations. Employment opportunities are among the most varied in the engineering field. Industrial and systems engineers are employed by manufacturing and energy firms, government agencies, and service organizations such as airlines, banks, hospitals, health care groups, and consulting companies.

The Ph.D. is a gateway toward careers of learning and creation. Employers typically hire people with doctorates to run laboratories, create research directions, and supervise other engineers at the boundaries of knowledge. Ph.D.-level researchers generally enjoy great freedom and tailored work environments as they explore and learn to help create new visions of tomorrow. A Ph.D. opens up academic, research, and entrepreneurial possibilities limited only by one's drive and creativity. Positions are often found through announcements in trade journals, international conferences, and specialized job-posting services. Students often work with faculty to identify and apply for appropriate positions. It is rare that students do not find an appropriate position before completing their thesis.

# Mechanical Engineering

## Chair

- Ching-Long Lin

**Undergraduate major:** mechanical engineering (B.S.E.)

**Graduate degrees:** M.S. in mechanical engineering; Ph.D. in mechanical engineering

**Faculty:** <https://me.engineering.uiowa.edu/people>

**Website:** <https://me.engineering.uiowa.edu>

The Department of Mechanical Engineering offers distinct undergraduate and graduate degrees and research programs in mechanical engineering. It also is the administrative home of the undergraduate Certificate in Naval Science and Technology, and the undergraduate and graduate Certificates in Artificial Intelligence, Modeling and Simulation in Engineering.

Mechanical engineering is broadly concerned with energy, manufacturing, and design of machines. Mechanical engineers conceive, plan, design, and direct the manufacture, distribution, and operation of a wide variety of devices, machines, and systems—including complex human-machine systems—for energy conversion, biofuel production, environmental control, materials processing, transportation, materials handling, and other purposes. Major subspecialties of mechanical engineering include thermal-fluids engineering and mechanical systems engineering.

Thermal-fluid phenomena occur in many engineering systems and devices such as aircraft; automobiles; off-road vehicles; ships; gas turbines; heat exchangers; material processes; heating, ventilating, air-conditioning, and refrigerating systems; hydraulic and wind turbines; airbag inflators; fuel cells; biofuel processes; environmental control devices; and biomedical systems.

Machines and mechanical systems are the foundations of human technology. Mechanical systems are found in mechanical engineering systems and devices such as manufacturing equipment, medical equipment, ground vehicles, heavy equipment, farm equipment, aircraft, ships, home appliances, packaging machinery, wind turbine blades and gearboxes, robots, and biomedical systems.

Mechanical engineers find a wide variety of career opportunities in industry, government, and education. Mechanical engineers form an integral part of most industries, including aerospace firms, energy companies, automobile manufacturers, health care providers, food- and metal-processing industries, petroleum refineries, electronic and computer manufacturers, heavy construction and agricultural vehicle manufacturers, wind turbine manufacturers, thermal comfort equipment firms, farm equipment firms, and consulting companies.

## Certificates

### Artificial Intelligence, Modeling and Simulation in Engineering

The Department of Mechanical Engineering offers the undergraduate and graduate certificate programs in Artificial Intelligence, Modeling and Simulation in Engineering; see Artificial Intelligence, Modeling and Simulation in Engineering [p. 1546] in the Catalog.

## Naval Science and Technology

The Department of Mechanical Engineering offers the undergraduate certificate program in Naval Science and Technology; see the Certificate in Naval Science and Technology [p. 1681] in the Catalog.

## Related Certificate: Transportation Planning

The Transportation Planning Program offers the graduate Certificate in Transportation Planning. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), Economics (Tippie College of Business), and the School of Planning and Public Affairs (Graduate College) participate in the program.

The certificate is coordinated by the School of Planning and Public Affairs; see the Certificate in Transportation Planning [p. 1802] in the Catalog.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Mechanical Engineering (Bachelor of Science in Engineering) [p. 1668]

### Graduate Programs of Study

#### Majors

- Master of Science in Mechanical Engineering [p. 1673]
- Doctor of Philosophy in Mechanical Engineering [p. 1676]

## Facilities

### Undergraduate Instruction

#### Departmental Instructional Facilities

The Department of Mechanical Engineering maintains five laboratories for undergraduate student learning, which consist of the Advanced Manufacturing Laboratory; the Control, Automation, and Robotics Laboratory; the Engineering Manufacturing Laboratory; the Ralph and Barbara Stephens Experimental Engineering Laboratory; and two design project laboratories developed to facilitate collaboration on senior design projects and communication with project sponsors.

#### Advanced Manufacturing Laboratory

The Advanced Manufacturing (AM) Laboratory supports the elective mechanical engineering undergraduate course ME:4116 Manufacturing Processes Simulations and Automation. The laboratory includes a variety of machine tools and instruments for students to practice nontraditional material processes and controls. Facilities and instrumentation include a three-axis CNC laser cutter (Bodor laser), an ultrasonic metal seam welder (Branson), an ultrasonic metal spot welder (Branson), and a 25 programmable logic controller (Divebiss). The facility uses the latest software technology, such as Abaqus, MATLAB, and EZ Ladder.

## Control, Automation, and Robotics Laboratory

The Control, Automation, and Robotics (CAR) Laboratory is located in the Seamans Center for the Engineering Arts and Sciences and is managed by the Department of Mechanical Engineering. It provides students with experience in advanced control, robotics, and autonomous systems. The lab is equipped with one industrial 6-axis robotic arm, two Kuka mobile robots (KMR iiwa and KMP) with collaborative robotic arms, a desktop computer, two Roboception cameras, one co-act and one suction grippers, and four Quanser rotary servo base units. The facility has the latest software technology, such as LabVIEW and KUKA.Sim. The Quanser units are used in the laboratory assignments in ME:3600 Control of Mechanical Engineering Systems, while the robotic systems are used in ME:4140 Modern Robotics and Automation. In fall 2019, two control laboratories were developed based on two Quanser base units. The control laboratories were developed and tested in CAR and set up to accommodate a large class size. Later, two additional base units and three accessory modules were purchased to expand the control laboratories. In addition, the robotics systems are used in ME:4111 Scientific Computing and Machine Learning and ME:4150 Artificial Intelligence in Engineering to assist the instruction of relevant course materials. The CAR laboratory also is used by students who have permission to work in the lab on honors and research projects.

## Design Project Laboratories

The department also maintains two design project laboratories to support student teamwork on capstone design projects: the Design Lab and the MEDP/PEDE room. The Design Lab supports students taking the ME:4086 Mechanical Engineering Design Project and ME:4186 Enhanced Design Experience sequence in the Program for Enhanced Design Experience (PEDE) and Virtual International Project Teams (VIPT), whereas the MEDP/PEDE room is occupied by students completing the single-semester ME:4086 Mechanical Engineering Design Project (MEDP) course, as well as for PEDE and VIPT students. The Design Lab contains four workstations with large monitors for collaborative design and analysis activities, as well as table and chairs for group discussions. An integrated teleconferencing room is enclosed with glass windows so students can communicate with project sponsors. The teleconferencing room contains a 4K LED smart TV connected to a desktop computer, as well as a video camera, microphone and speaker, and a speaker phone for video conferencing and phone calls. The MEDP/PEDE room contains six computer workstations with four large computer monitors and two large TV monitors. There are four additional tables without workstations, two mobile white boards, and sofa and mobile chairs for project design and collaborative activities.

## Engineering Manufacturing Laboratory

The Engineering Manufacturing Laboratory is located in the Seamans Center for the Engineering Arts and Sciences. The laboratory provides students with experience in advanced CAD/CAM systems. It is managed by the Department of Mechanical Engineering and the Department of Industrial and Systems Engineering. The lab is equipped with three-axis CNC mills (Haas and Tormach), CNC router (Techno-CNC), CNC lathe (Haas), drill press, plastic injection molder, thermoforming machine, band saw, disc sander, bench grinder, polishing wheel, hand drill, sandblasting cabinet, a press, and a three-in-one shear/break/roll machine. The facility has the latest software technology, such as Creo Parametric and Rhinoceros 4.0. The machinery is used in

laboratory assignments in ME:2300 Manufacturing Processes. The room is extensively used near the end of each semester for the course project. It also is used by students who have permission to work in the lab on their honors and research projects.

## Ralph and Barbara Stephens Experimental Engineering Laboratory

The Ralph and Barbara Stephens Experimental Engineering Laboratory supports required mechanical engineering undergraduate courses ME:3351 Engineering Instrumentation and ME:4080 Experimental Engineering.

## Collegiate Instructional Facilities

### Fluid Mechanics Laboratories

The College of Engineering and IIHR—Hydroscience & Engineering have a long history of excellence in fluid mechanics education dating back to the 1920s, when IIHR developed the fluids laboratory as a hands-on learning environment for fluids-related disciplines within the College of Engineering. The long success of the institute's education program is due in large part to a new curriculum emphasizing scientific principles rather than merely practice in manipulating equipment.

IIHR is now modernized, expanded, and was relocated to the laboratory facilities, which were distributed throughout IIHR research facilities at the south end of the campus to the new Seamans Center Annex, where it occupies a 3,300 square foot laboratory suite. The laboratory suite comprises three distinct, but connected laboratory spaces. The Fluids Fundamentals Laboratory houses experiments that directly support formal laboratory instruction in College of Engineering courses. Through the lab-development project, existing experimental facilities were modernized, refurbished, installed, and additional experiments were developed. The laboratory has a large, reconfigurable open space in which different experiments and furnishings can be set up to support a variety of instructional activities.

The Fluids Workshop is the venue through which students can advance to independent and inquiry-driven, course-related, and extracurricular projects. The lab also supports the activities of College of Engineering student organizations. Advanced measurement instrumentation, computational hardware, and resources for developing experiments are available to students in the lab. Tables around the perimeter of the room contain additional PCs and Linux workstations for numerical computations, data analysis, and visualization.

The Advanced Measurements Laboratory houses major facilities supporting both instructional and inquiry-driven student activities. It contains three facilities that have been upgraded and relocated through this project: the vertical wind tunnel, the visualization water channel, and a towing tank whose functionality has been expanded to also serve as an open channel flume. The laboratory, which is also designed to facilitate the safe use of laser-based instrumentation, is located behind the two front laboratories and is accessible from both rooms.

The fluids laboratories support formal laboratory activities for several courses, including ENGR:2510 Fluid Mechanics taken by students in the biomedical, civil and environmental, and mechanical engineering departments; CEE:3371 Principles of Hydraulics and Hydrology; CEE:5380 Fluid Flows in Environmental Systems; ME:4125 Biomimetic Fluid Dynamics; and ME:4176 Experimental Naval Hydrodynamics.

Additionally, it has been used as a resource in many other courses, including BME:4920 Biomedical Engineering Senior Design II, ECE:4890 Senior Electrical and Computer Engineering Design, ME:4080 Experimental Engineering, ME:4086 Mechanical Engineering Design Project, ME:4098 Individual Investigations: Mechanical Engineering, and ME:4186 Enhanced Design Experience.

## Graduate Facilities

### Fluid Mechanics

The program in fluid mechanics is conducted in close collaboration with IIHR—Hydroscience & Engineering. The equipment available to graduate students includes several wind tunnels and hydraulic flumes, an environmental flow facility, towing tank, two special low-temperature flow facilities for investigation of ice phenomena, hot-wire and laser anemometer systems, particle-image velocimetry systems, and computer-based data acquisition systems. Facilities available in the department include a flow visualization and imaging system with charge-coupled devices (CCD) camera and a low-speed wind tunnel. IIHR and College of Engineering shops provide the necessary support. In addition to using in-house workstations and computers, the department's faculty members and students make extensive use of supercomputers at national centers.

### Mechanical Systems

Computer-based simulation research activities in the mechanical systems area are carried out mainly in the Iowa Technology Institute. It maintains a variety of high performance computer systems in support of its technology research and development efforts. General computing services are supported by a number of Linux and Windows applications servers connected to centralized file servers. Computer-aided design/computer-aided engineering (CAD/CAE), software development, virtual prototyping, and virtual environment development applications are hosted on numerous high performance workstations. Standard desktop, multimedia, and office productivity applications are hosted on a network of more than 40 workstations.

### Thermal Sciences

Facilities for research in the thermal sciences and systems consist of a low-pressure combustion chamber, a high-pressure continuous flow combustion chamber, high-pressure chamber for atomization study, test rig for heat transfer to near supercritical fluids, diffusion flame test rig, enclosed laminar flame test rig, air atomization spray apparatus, test stands for melting and solidification studies, various optical measurement systems, and two fuel cell test rigs. Laser-based diagnostics (e.g., laser-induced fluorescence, imaging, and laser Doppler anemometry) are available for solidification, turbulent flow, heat transfer, and combustion studies. Flow visualization and imaging by CCD camera are available for the study of complex fluid motion and heat convection, and combustion flows.

## Courses

### Mechanical Engineering Courses

#### ME:0000 Mechanical Engineering Internship/Co-op0 s.h.

Mechanical engineering students participating in the Cooperative Education Program register in this course during work assignment periods; registration provides a record of participation in the program on the student's permanent record. Requirements: admission to the Cooperative Education Program.

#### ME:1000 First-Year Seminar 0-1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities). Requirements: first- or second-semester standing.

#### ME:2020 Mechanical Engineering Program Seminar 0 s.h.

Introduction to the mechanical engineering profession and curriculum; ethics and professionalism in classroom and workplace; mentorship program and professional societies; visits to laboratories and local companies.

#### ME:2200 Introduction to Mechanical Engineering Design 2 s.h.

Solid modeling, assemblies, drawings, and Geometric Dimensioning and Tolerancing (GD&T); basic engineering design process; introduction to engineering standards, product liability, and ethics. Prerequisites: ENGR:1100.

#### ME:2300 Manufacturing Processes 3 s.h.

Fundamentals of design, engineering graphics, and manufacturing processing; computer graphics using Pro/ENGINEER for CAD and CAM; typical industrial processes including casting, welding, machining, and forming; laboratory exercises and projects. Corequisites: ENGR:2720 and (ME:2200 or BME:2710).

#### ME:3040 Thermodynamics II 3 s.h.

Power and refrigeration cycles; mixtures of gases, psychrometric mixtures; availability; thermodynamics of combustion and chemical equilibrium. Prerequisites: ENGR:2130.

#### ME:3045 Heat Transfer 3 s.h.

Principles of heat transfer by conduction, convection, radiation; analytical and numerical methods of solution; applications to engineering problems. Prerequisites: MATH:3550 and ENGR:2510 and ENGR:1300.

#### ME:3052 Mechanical Systems 4 s.h.

Topics in mechanical behavior and failure of materials; materials selection in design; stress and deflection analysis; static failure theories; fatigue and durability in design; fracture, statistical, and reliability considerations; introduction to finite element analysis using commercial software packages; standards, product liability, engineering ethics. Prerequisites: ENGR:2750. Corequisites: ENGR:2720 and ME:2300 and STAT:2020.

#### ME:3091 Professional Seminar: Mechanical Engineering 0 s.h.

Professional aspects of mechanical engineering: presentations, student/faculty interaction, professional society involvement, panel discussions, plant trip. Prerequisites: ME:2020.

- ME:3351 Engineering Instrumentation** 2 s.h.  
Basic elements of measuring circuits (bridges, voltage dividers, shunts, transformers); laboratory instrumentation (oscilloscopes, multimeters, power supplies, signal generators); amplifiers; frequency response principles; sensors; data acquisition, signal processing, filtering using Labview. Prerequisites: PHYS:1612 and ENGR:2120.
- ME:3600 Control of Mechanical Engineering Systems** 3 s.h.  
Introduction to fundamental control theory and robot manipulators. Prerequisites: MATH:2560 and ENGR:2710.
- ME:4024 Product Design and Realization** 3 s.h.  
Design principles and methods to develop 3D part models and assemblies; emphasis on use of mechanical engineering design principles and functional requirements through the complete design process using PTC Creo Parametric; for students with a basic knowledge of computer-aided design (CAD). Prerequisites: ME:2200 or ME:2300. Corequisites: ENGR:2750.
- ME:4048 Energy Systems Design** 4 s.h.  
Principles and design of energy conversion systems, including solar, wind, and geothermal power systems; design of thermal-fluid system components, modeling and simulation of systems, optimization techniques; design projects. Prerequisites: ME:3045.
- ME:4055 Mechanical Systems Design** 3 s.h.  
Kinematics of mechanisms, dynamics and vibration of machines, cam and gear, machine elements, computer-aided analysis of machines. Prerequisites: ENGR:2710 and ME:3052.
- ME:4080 Experimental Engineering** 4 s.h.  
Principles of physical measurements; standards calibration, estimation of error; static and dynamic performance of measuring systems; laboratory experience, experiment planning, report writing. Prerequisites: ME:3351. Corequisites: ME:3045 and ME:3052.
- ME:4086 Mechanical Engineering Design Project** 3 s.h.  
Application of mechanical, thermal, fluid systems design; student or team design projects initiated at various levels in the design process and carried through to higher levels; emphasis on synthesis, written and oral communication. Corequisites: ME:4048 or ME:4055.
- ME:4098 Individual Investigations: Mechanical Engineering** arr.  
Individual projects for mechanical engineering undergraduate students; laboratory study; engineering design project; analysis, synthesis, simulation of an engineering system; computer software development, research.
- ME:4110 Computer-Aided Engineering** 3 s.h.  
Computational engineering modeling and simulation, geometric modeling, grid generation, finite-element and finite-volume methods, uncertainty analysis, optimization, engineering applications. Prerequisites: ENGR:2750. Corequisites: ME:3052. Same as CEE:4515.
- ME:4111 Scientific Computing and Machine Learning** 3 s.h.  
Numerical methods in scientific computing; root problems and optimization; linear algebraic equations; eigenvalue problems; numerical differentiation and integration; interpolation and curve-fitting; initial value and boundary value problems; machine learning in regression, classification, and clustering problems; Python programming and packages. Prerequisites: MATH:2560. Same as CEE:4511.
- ME:4112 Engineering Design Optimization** 3 s.h.  
Engineering design projects involving modeling, formulation, and analysis using optimization concepts and principles; linear and nonlinear models, optimality conditions, numerical methods. Prerequisites: ENGR:2110 and MATH:2550. Requirements: junior standing. Same as CEE:4512.
- ME:4116 Manufacturing Processes Simulations and Automation** 3 s.h.  
Material processing, metal cutting theories, forming, micro/nano fabrication, programmable logic controller, computer numerical controllers, discrete control system, DC and AC servo motors, Command generation. Prerequisites: ME:2300 or ISE:2360. Same as ISE:4116.
- ME:4117 Finite Element Analysis** 3 s.h.  
Trusses and frames; Rayleigh-Ritz methods; 2D and 3D elasticity problems; heat transfer, thermo-mechanical coupling; transient problems; use of commercial software for applications in analysis and design of mechanical engineering systems. Prerequisites: ENGR:2750.
- ME:4120 Advanced Linear Control Systems** 3 s.h.  
Overview of system modelling and classical control design tools and methods, and bridges those with state-space approach for analysis and control of linear systems in the time domain; topics include linearization, root locus, Bode diagrams, Nyquist criteria, robustness margins, lead-lag compensators, observability and controllability, state-space realizations, internal stability and input-output stability, pole-placement, observers and reduced order observers, separation principle, performance limitations, linear quadratic regulator and its guaranteed margins, and optimal estimation. Prerequisites: ME:3600.
- ME:4125 Biomimetic Fluid Dynamics** 3 s.h.  
Study and development of engineered systems that mimic the structure and function of biological systems; overview of the fluid dynamic principles that govern locomotion by swimming or flapping flight; equations of motion, fundamentals of aerodynamics; analytical models of force generation for swimming and flight; parameters governing effective locomotion; experimental and numerical studies to understand the present state of the art, challenges, and important questions. Prerequisites: ENGR:2510.
- ME:4140 Modern Robotics and Automation** 3 s.h.  
Introduction to basics of robotics and automation; mechanical design development and manufacturing of smart and automated devices, components, and systems; principles of robotic motion and kinematics; introduction to process automation through system requirement identification, equipment integration, sensors, actuation, and logical control; fundamentals of design, analysis, and manufacturing to meet functionality requirements of products, devices, and systems using the principles of mechatronics to develop smart and automated products. Prerequisites: ENGR:2710.
- ME:4145 Industrial Internet of Things (IIoT)** 3 s.h.  
Introduction to process automation through system requirement identification, equipment integration, sensors, actuation, and logical control; fundamentals of design, analysis, and manufacturing to meet functionality requirements of products, devices, and systems using principles of mechatronics to develop smart and automated products; integration of advanced networking and monitoring into device control and automaton. Corequisites: ME:3351.

- ME:4150 Artificial Intelligence in Engineering** 3 s.h.  
Artificial intelligence, computational intelligence, data science and engineering, machine intelligence, digital manufacturing and design, intelligent machining, fault diagnosis, autonomy, robotics; applications in mechanical engineering. Prerequisites: ME:4111.
- ME:4153 Fundamentals of Vibrations** 3 s.h.  
Vibration of linear discrete and continuous mechanical and structural systems; harmonic, periodic, and arbitrary excitation; modal analysis; applications. Prerequisites: ENGR:2750. Same as CEE:4532.
- ME:4160 Engines and Power Plants** 3 s.h.  
Fundamental principles of thermodynamics applied to areas of particular interest in mechanical engineering; power plants and refrigeration cycles, internal combustion engine cycles, gas mixtures and combustion, mixing processes and pollutant formation, and hybrid power systems. Prerequisites: ENGR:2130.
- ME:4175 Computational Naval Hydrodynamics** 3 s.h.  
Simulations based on relevant vessels and propellers will be used to introduce the use of computational fluid dynamics for the analysis of surface and underwater marine craft performance, while also introducing naval hydrodynamics concepts related to resistance, propulsion, maneuvering, and seakeeping; an educational version of the naval hydrodynamics code REX will be freely distributed and used in the class. Prerequisites: ENGR:2510.
- ME:4176 Experimental Naval Hydrodynamics** 3 s.h.  
Introduction to experimental methods for measurement of propeller thrust performance and resistance of surface vessels and underwater marine craft; present and expand on fundamental concepts related to fluid mechanics, measurement methods, and uncertainty analysis in a context that focuses on naval science and technology challenges; students work with models of relevant vessels and propellers in a dedicated towing tank facility. Prerequisites: ENGR:2510.
- ME:4186 Enhanced Design Experience** 2-3 s.h.  
Experience working in teams on industry-sponsored design and product development projects scheduled for production; emphasis on practical experience with the complete design process, from conceptualization through prototyping, evaluation, testing, and production; written and oral communication. Prerequisites: ME:4086.
- ME:4200 Modern Engineering Materials for Mechanical Design** 3 s.h.  
Overview of design approaches for different engineering materials (i.e., metals, polymers, ceramics); topics include manufacturing processes, smart and advanced functionalities for applications in emerging engineering fields, theoretical models describing mechanical behavior, failure mechanisms, and design criteria; introduction to composite materials; computer lab activities focus on finite element method (FEM) simulations of materials with different mechanical properties. Prerequisites: ME:3052.
- ME:5113 Mathematical Methods in Engineering** 3 s.h.  
Linear ordinary differential equations, series solutions of differential equations, special functions, Laplace transforms, Fourier series, matrices, linear systems, eigenvalue problems, second-order partial differential equations. Prerequisites: MATH:2550 and MATH:2560. Same as CBE:5140, CEE:5513.
- ME:5114 Nonlinear Control in Robotic Systems** 3 s.h.  
Nonlinear analysis and control systems theory; focus on Lyapunov-based analysis methods and associated design techniques; introduction to definitions of stability for autonomous and nonautonomous systems leading to a Lyapunov framework, and based on the developed Lyapunov-based analysis tools, basic and advanced design tools for contemporary engineering problems are presented, including state-of-the-art techniques. Prerequisites: ME:3600 or ME:4120 or CBE:4105 or ECE:3600.
- ME:5120 Vehicle System Dynamics** 3 s.h.  
Introduction to principles and basic procedures used in analysis of vehicle system dynamics and design; topics include tire mechanics, longitudinal and cornering tire force characteristics, steady-state and transient vehicle cornering responses, vehicle stability control, ride comfort, suspension design, off-road vehicle mobility, tire-soil interaction, and vehicle performance evaluations. Prerequisites: ENGR:2710.
- ME:5143 Computational Fluid and Thermal Engineering** 3 s.h.  
Governing equations of fluid flow and heat transfer; basic numerical techniques for solution of the governing equations; estimation of accuracy and stability of the approximations; boundary conditions; grid generation; applications to flows and heat transfer in engineering systems; familiarity with software for analysis and design of thermo-fluids systems. Prerequisites: ME:3045.
- ME:5145 Intermediate Heat Transfer** 3 s.h.  
Steady and unsteady conduction; forced and natural convection; surface and gaseous radiation; condensation and evaporation; analytical and numerical methods and applications. Prerequisites: ME:3045.
- ME:5146 Modeling of Materials Processing** 3 s.h.  
Manufacturing processes for metals, polymers, semiconductors; processing by casting, solidification, crystal growth, polymer molding and extrusion, welding, heat treating, application of optical (laser) and electromagnetic energy; processes that use momentum, heat, mass transfer principles; measurement and instrumentation for materials processing; current topics in materials processing. Corequisites: ME:3045.
- ME:5149 Propulsion Engineering** 3 s.h.  
Opportunity to develop basic understanding and knowledge of rocket and airbreathing propulsion systems; relevant terminology and analysis techniques, parameteric cycle analysis for ideal engines, off-design analysis methods, problem-solving methodology. Prerequisites: ENGR:2130. Requirements: graduate standing.
- ME:5150 Intermediate Mechanics of Deformable Bodies** 3 s.h.  
Application of equilibrium analyses, strain-displacement relations, and constitutive relationships to practical structural systems and elementary plane elasticity problems. Prerequisites: ENGR:2750. Same as CEE:5540.
- ME:5154 Intermediate Kinematics and Dynamics** 3 s.h.  
Kinematic and dynamic analysis of mechanical systems; computational kinematics, Lagrangian dynamics, principle of virtual work in dynamics, constrained dynamics, spatial dynamics. Prerequisites: ENGR:2710.



- ME:5159 Fracture Mechanics** 3 s.h.  
Three-dimensional stress states, definition and criteria for failure, nominal and local yield phenomena, linear elastic and elastic plastic fracture mechanics, plane stress and plane strain fracture toughness, J-Integral, crack opening displacement, environmental assisted cracking, fatigue crack growth, fail safe, and damage tolerant design. Prerequisites: ENGR:2750. Corequisites: ME:3052. Same as CEE:5549.
- ME:5160 Intermediate Mechanics of Fluids** 3 s.h.  
Basic concepts and definitions; pressure distribution in a fluid; governing equations and boundary conditions; integral and differential analysis; dimensional analysis and similarity; experimental analysis; laminar and turbulent internal and external flows; potential flows; engineering applications. Prerequisites: ENGR:2510. Same as CEE:5369.
- ME:5162 Experimental Methods in Fluid Mechanics and Heat Transfer** 3 s.h.  
Hands-on experience in methodology of conducting experiments in fluid mechanics and heat transfer from design to data acquisition and processing; essential theoretical elements, experimental methodologies, data acquisition systems, uncertainty analysis; wide variety of instruments for fundamental and applied experimentation; work in small groups; design, implement, test, and report an experiment in area of interest. Same as CEE:5372.
- ME:5167 Composite Materials** 3 s.h.  
Mechanical behavior of composite materials and their engineering applications; composite constituents (fibers, particles, matrices) and their properties and behavior; macromechanical behavior of composite laminae; micromechanical predictions of composite overall properties; classical lamination theory; composite beams and plates. Prerequisites: ENGR:2750. Same as CEE:5137.
- ME:5170 Data-Driven Analysis in Engineering Mechanics** 3 s.h.  
Exposure to machine learning approach of problem solving; modular course structure containing four or five modules, each concentrating on a particular class of problem; theories and techniques relevant to a class of problems taught in corresponding module. Prerequisites: ENGR:2750 and ME:4111.
- ME:5179 Continuum Mechanics** arr.  
Mechanics of continuous media; kinematics of deformation, concepts of stress and strain; conservation laws of mass, momentum and energy; constitutive theories; boundary and initial value problems. Prerequisites: ENGR:2750 or ENGR:2510. Same as CEE:5179.
- ME:5195 Contemporary Topics in Mechanical Engineering** arr.  
New topics in fluid and thermal sciences and mechanical systems not covered in other courses; topic and coverage determined by student/faculty interest. Requirements: junior standing.
- ME:5210 Intermediate Thermodynamics** 3 s.h.  
Fundamental principles of thermodynamics as applied to phase equilibrium; properties of fluids, first and second law, variable composition systems, behavior of real fluids, mathematical techniques for solution thermodynamics. Requirements: CBE:3105 or ME:3040 or graduate standing. Same as CBE:5110.
- ME:5300 Uncertainty Quantification and Design Optimization** 3 s.h.  
Analytical and computational methods for uncertainty quantification for a design optimization of mechanical and structural systems; brief review of probability theory, second-moment analysis, reliability analysis, robust design optimization, and reliability-based design optimization; use of commercially available software suites. Prerequisites: ENGR:2750 and STAT:2020. Corequisites: ME:3052.
- ME:6115 Cooperative Autonomous Systems** 3 s.h.  
How to enable ground, marine, and aerial robotic platforms to perform cooperative tasks autonomously in complex real-world environments; theoretical topics include numerical approximation, optimal control, nonlinear analysis and control, game theory, and graph theory; project-based activities in a laboratory environment; focus on design and implementation of motion planning, tracking, collision avoidance, and cooperative control algorithms for autonomous vehicles. Prerequisites: ME:3600 or ME:4120 or CBE:4105 or ECE:3600.
- ME:6120 Mechatronics, Measurement, and Wearable Robotics** 3 s.h.  
From accelerometers in phones, heart rate monitors in watches, fitness trackers, and smart clothing to robotic surgery and assistive devices, wearable sensors and robotics are increasingly all around us; introduction to different sensors, signals, and processing techniques needed to study movement; practical applications and scientific principles of sensors and actuators; work with real-world data; development of key research skills in literature review and experiment design through theoretical, programming, and hands-on coursework, presentations, and projects. Prerequisites: ME:3351 and ME:3600 and ME:5154.
- ME:6130 Novel Artificial Muscles and Sensors for Evolving Robotics** 3 s.h.  
Overview of novel smart materials-based actuators (i.e., artificial muscles) and sensors used in modern robotics (i.e., soft robotics, bio-inspired robotics, assistive robotics); evolution from conventional actuators/sensors to novel actuators/sensors based on smart, flexible, and compliant materials; working mechanism, theoretical models, manufacturing, and applications for each type of artificial muscle/sensor; lab demonstrations and activities involve manufacturing and testing of some artificial muscles and smart sensors.
- ME:6191 Graduate Seminar: Mechanical Engineering** 1 s.h.  
Presentation and discussion of recent advances and research in mechanical engineering by guest lecturers, faculty, students.
- ME:6198 Individual Investigations: Mechanical Engineering** arr.  
Individual project in mechanical engineering, for department graduate students; laboratory study, engineering design project, analysis and simulation of an engineering system, computer software development, research.
- ME:6199 Research: Mechanical Engineering M.S. Thesis** arr.  
Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for M.S. with thesis in mechanical engineering.

- ME:6214 Analytical Methods in Mechanical Systems** 3 s.h.  
Vector and function spaces; functionals and operators in Hilbert spaces; calculus of variations and functional analysis with application to mechanics; Ritz and Galerkin methods. Prerequisites: ME:5113. Same as CEE:6310.
- ME:6215 Finite Element II** 3 s.h.  
Computer implementation; plate and shell elements; mixed and hybrid formulations; nonlinear analysis; recent development; introduction to boundary element method. Prerequisites: CEE:4533. Same as CEE:6532, IGPI:6216.
- ME:6216 Laser Materials Processing** 3 s.h.  
Proficient engineering background involved in laser processing and manufacturing; fundamentals and operation principles for various types of laser systems, laser optics, principles of laser-matter interactions, laser-induced thermal and thermo-mechanical effects; emerging areas of laser applications (e.g., microscale and nanoscale laser processing, ultrafast laser processing) and related energy transport analyses; video demonstrations. Prerequisites: ME:3045 and MATH:3550.
- ME:6217 Advanced Modeling and Simulation for Manufacturing** 3 s.h.  
How materials often behave in a complicated manner involving deeply coupled effects among stress/strain, temperature, and microstructure during a manufacturing process; modeling and prediction of material processes based on a metallo-thermomechanical coupled analysis; focus on heat transfer modeling in material processes, fundamental mechanics aspects required for material processing analysis, and microstructural evolution modeling in material processes. Prerequisites: CEE:4533 and ME:3045.
- ME:6240 Probabilistic Inference and Estimation for Mechanical Systems** 3 s.h.  
Theory and application of common techniques for probabilistic inference and estimation including types of estimators; Bayesian, Kalman, and Particle filtering; various motion and measurement models; and algorithms for simultaneous localization and mapping (SLAM). Prerequisites: ME:4120. Requirements: some level of exposure to probability and statistics, linear algebra, and 3D rigid body dynamics.
- ME:6245 Diffusive Transport** 3 s.h.  
Diffusive transport of heat, mass, and momentum; phenomenological laws and analogies; analytical and numerical solution techniques; inverse heat conduction; multiphase and multicomponent systems. Prerequisites: ME:5145. Same as CBE:6145.
- ME:6247 Contact Mechanics** 3 s.h.  
Varied aspects of contact mechanics and engineering applications, including stationary contacts, sliding, rolling, impact, and fretting fatigue; emphasis on theoretical basis of solutions of contact mechanics problems; mathematical methods of solving contact problems using Green's function method; complex potentials and integral transform methods. Prerequisites: ME:5113 and ME:5150.
- ME:6255 Multiscale Modeling** 3 s.h.  
Computational modeling of engineering materials ranging from molecular to continuum scales, molecular dynamics and Monte Carlo methods, nanoscale continuum modeling, scale-coupling methods. Prerequisites: ME:5143 or CEE:4533. Same as CEE:7549.
- ME:6260 Viscous Flow** 3 s.h.  
Equations of viscous flow; classical analytical and numerical solutions; flow regimes and approximations; laminar boundary layers—equations, solution methods, applications; stability theory and transition; incompressible turbulent flow—mean-flow and Reynolds-stress equations, modeling, turbulent boundary layers and free shear flows. Requirements: for ME:6260—ME:5160; for CEE:6376—CEE:5369. Same as CEE:6376.
- ME:6261 Multibody System Dynamics** 3 s.h.  
Introduction to principles of analytical and computational dynamics for rigid and flexible multibody systems; spatial kinematics and dynamics of rigid body systems, numerical solution procedures for multibody dynamics analysis, and flexible multibody dynamics. Prerequisites: ME:5154.
- ME:6262 Inviscid Flow** 3 s.h.  
Derivation of governing equations for fluid flow; general theorems for motion of inviscid, incompressible flows; solution techniques for two- and three-dimensional irrotational flows; forces and moments acting on immersed bodies; vortex kinematics and dynamics; steady and unsteady aerodynamic theory. Prerequisites: ME:5160.
- ME:6263 Compressible Flow** arr.  
Compressible flow behavior; 1D unsteady flow and appropriate use of x-t diagrams; 2D flows and use of the method of characteristics; Burgers' Equation and its properties.
- ME:6265 Multiscale Computational Science and Engineering** 3 s.h.  
Introduction to basic concepts of numerical techniques at nano/micro/macro scales in various science and engineering disciplines; emphasis on recently developed hierarchical and concurrent multiscale methods; exposure to forefront of computational science and engineering. Prerequisites: ME:4117.
- ME:6275 Advanced Heat Transfer** 3 s.h.  
Conservation laws, forced and natural convection; surface and gaseous radiation; analytical and numerical methods; applications. Prerequisites: ME:5145.
- ME:6278 Nonlinear Elasticity** 3 s.h.  
Nonlinear elasticity theory; modern applications in biomechanics; vectors and tensors, constitutive theory of elastic material, some exact solutions of boundary value problems, inverse deformation relations, stability of elastic material, theories of tissue adaptive response. Prerequisites: ME:5150. Requirements: elementary linear elasticity.
- ME:6300 Control of Networked Autonomous Systems** 3 s.h.  
Introduction to state-of-the-art research in networked autonomous robotic systems; graph theory based network models, decentralized control, multi-agent cooperation, and mobile sensor networks. Corequisites: ME:5115 or ME:5114.
- ME:6320 Fluid-Structure Interactions** 3 s.h.  
Foundations of fluid-structure interactions (FSI) with focus on hydro-electric responses of flexible structures in dense fluids; structural dynamics and fluid dynamics are too often characterized as distinct disciplines and this dichotomous mindset fails to recognize the important effects that dynamics fluid loads exert upon structural vibrations and vice-versa; students are equipped with knowledge to approach modern FSI problems; foundations of theoretical FSI, experimental methods, and computational approaches. Prerequisites: (ME:5160 or ME:4125) and (ME:4153 or ME:5154).

**ME:7248 Combustion Theory 3 s.h.**

Laminar flame theory; turbulent combustion; spray combustion; thermal ignition; pollutant formation, oxidation; combustion diagnostics. Prerequisites: ME:5145 and ME:5160.

**ME:7250 Advanced Fracture Mechanics 3 s.h.**

Fracture of modern engineering materials; linear-elastic fracture; computational methods; functionally graded materials; elastic-plastic fracture; multiscale fracture and fatigue crack initiation. Prerequisites: ME:5113 and (ME:5159 or CEE:4533). Same as CEE:7250.

**ME:7256 Computational Solid Mechanics 3 s.h.**

Advanced computational methods for nonlinear and dynamic analysis of solids, structures; new space- and time-discretization methods for problems, including highly nonlinearities, large deformation, contact/impact conditions. Prerequisites: ME:5113 and CEE:4533.

**ME:7257 Probabilistic Mechanics and Reliability 3 s.h.**

Stochastic and reliability analysis of mechanical systems; computational methods for structural reliability; random eigenvalue problem; random field and stochastic finite element methods. Prerequisites: CEE:4533 and ME:5113.

**ME:7266 Interfacial Flows and Transport Processes 3 s.h.**

Physics of fluid interfaces and numerical techniques to simulate interface dynamics; interfacial flow coupled with thermal-fluid transport, from molecular interactions to continuum approximations; development of computer code segments to track and represent interface-flow interactions. Prerequisites: ME:5145 and ME:5160.

**ME:7267 Multiphase Flow and Transport 3 s.h.**

Thermodynamic and mechanical aspects of interfacial phenomena and phase transitions; nucleation, phase-change, species transport, particulate flows, liquid-vapor systems, solidification, porous media. Prerequisites: ME:5145 and ME:5160.

**ME:7268 Turbulent Flows 3 s.h.**

Origin; need for modeling, averages, Reynolds equations, statistical description; experimental methods and analysis; turbulence modeling; free shear layers and boundary layers; complex shearflows; development of computational strategies; recent literature on theory and applications, chaos phenomena. Prerequisites: ME:5160.

**ME:7269 Computational Fluid Dynamics and Heat Transfer 3 s.h.**

Development of numerical and algebraic approximations for elliptic, parabolic, hyperbolic partial differential equations; finite-volume, spectral, pseudo-spectral, Galerkin techniques; stability of numerical methods; CFL condition; stiff problems; adaptive grid generation and boundary-fitted coordinates; numerical solutions for one- and two-dimensional compressible and incompressible fluid flow and heat transfer problems. Prerequisites: ME:4111 and ME:5160.

**ME:7299 Research: Mechanical Engineering Ph.D. Dissertation arr.**

Experimental and/or analytical investigation of an approved topic for partial fulfillment of requirements for Ph.D. in mechanical engineering.

# Mechanical Engineering, B.S.E.

The major in mechanical engineering lays a foundation in the basic disciplines of mathematics, physics, and chemistry and in the engineering sciences of statics, dynamics, thermodynamics, mechanics of deformable bodies, mechanics of fluids and transfer processes, materials science, and electrical sciences. An understanding of these sciences enables mechanical engineers to design parts of systems and understand whole systems, plan the production and use of energy, plan and operate industrial manufacturing facilities, and design automatic control systems for machines and other mechanical systems.

Mechanical engineering students develop an awareness of social and humanistic issues relating to business, environment, government, history, language, religion, and international relations. They also acquire an appreciation of professional and ethical responsibilities.

## Educational Objectives

Within a few years of graduation, graduates of the mechanical engineering program will:

- have successful careers in engineering and beyond and will have assumed professional roles of increasing responsibility and impact;
- have acquired new knowledge and expertise through professional development opportunities or advanced education; and
- be engaged in workplace, professional, or civic communities.

Graduates from the Department of Mechanical Engineering B.S.E. program will be prepared to effectively contribute as engineers in a diverse and multidisciplinary work environment. They will have an ability to:

- identify, formulate, and solve complex engineering problems by applying principles of engineering, science, and mathematics;
- apply engineering design to produce solutions that meet specified needs with consideration of public health, safety, and welfare as well as global, cultural, social, environmental, and economic factors;
- communicate effectively with a range of audiences;
- recognize ethical and professional responsibilities in engineering situations and make informed judgments which consider the impact of engineering solutions in global, economic, environmental, and societal contexts;
- function effectively on a team whose members together provide leadership, create a collaborative and inclusive environment, establish goals, plan tasks, and meet objectives;
- develop and conduct appropriate experimentation, analyze and interpret data, and use engineering judgment to draw conclusions; and
- acquire and apply new knowledge as needed, using appropriate learning strategies.

## Requirements

The Bachelor of Science in Engineering with a major in mechanical engineering requires a minimum of 130 s.h. of

credit. Students must have a g.p.a. of at least 2.00 on all college work used to satisfy degree requirements as well as in all coursework attempted at the University of Iowa.

All B.S.E. students are required to take the same collegiate curriculum. For information about these collegiate requirements, see the Bachelor of Science in Engineering, B.S.E. [p. 1551] in the Catalog. Students completing the major in mechanical engineering fulfill the collegiate statistics requirement by completing STAT:2020 Probability and Statistics for the Engineering and Physical Sciences.

The major in mechanical engineering requires the following coursework.

Code	Title	Hours
	Collegiate Curriculum	50
	Major Requirements (includes two 0 s.h. seminars)	59
	Focus Area	21
<b>Total Hours</b>		<b>130</b>

## Major Requirements

Major requirements include a set of common courses (56 s.h.), two departmental seminars (0 s.h.), and one capstone design course (3 s.h.).

Code	Title	Hours
All of these:		
ME:2200	Introduction to Mechanical Engineering Design	2
ME:2300	Manufacturing Processes	3
ME:3045	Heat Transfer	3
ME:3052	Mechanical Systems	4
ME:3351	Engineering Instrumentation	2
ME:3600	Control of Mechanical Engineering Systems	3
ME:4048	Energy Systems Design	4
ME:4055	Mechanical Systems Design	3
ME:4080	Experimental Engineering	4
ENGR:2110	Statics	2
ENGR:2120	Electrical Circuits	3
ENGR:2130	Thermodynamics	3
ENGR:2510	Fluid Mechanics	4
ENGR:2710	Dynamics	3
ENGR:2720	Materials Science	3
ENGR:2750	Mechanics of Deformable Bodies	3
MATH:3550	Engineering Mathematics V: Vector Calculus	3
PHYS:1612	Introductory Physics II (with lab)	4

## Departmental Seminars

Code	Title	Hours
Both of these:		
ME:2020	Mechanical Engineering Program Seminar	0
ME:3091	Professional Seminar: Mechanical Engineering	0

## Capstone Design Course

Code	Title	Hours
This course:		
ME:4086	Mechanical Engineering Design Project	3

## Focus Area

Students must select focus area courses according to guidelines established by the Department of Mechanical Engineering. The mechanical engineering program offers a variety of focus area options, including standard focus areas developed and maintained by the program and flexible focus areas tailored to individual student interests.

Standard focus areas are offered in energy and environment [p. 1669], manufacturing [p. 1669], mechanical engineering design [p. 1670], and robotics and autonomous systems [p. 1670]. For guidelines regarding tailored focus areas, see ME Focus Areas on the Department of Mechanical Engineering website.

Focus areas in mechanical engineering consist of required courses, focus area electives, and additional electives; carefully selected elective courses may contribute to earning a minor and/or certificate.

## Energy and Environment

Students in the energy and environment focus area complete one required course (3 s.h.), two focus area electives (6 s.h.), and four additional electives (12 s.h.).

### Required Energy and Environment Course

Code	Title	Hours
One of these:		
ME:5145	Intermediate Heat Transfer	3
ME:5160/CEE:5369	Intermediate Mechanics of Fluids	3

### Energy and Environment Electives

Code	Title	Hours
Two of these:		
ME:4111/CEE:4511	Scientific Computing and Machine Learning	3
ME:5145	Intermediate Heat Transfer	3
ME:5149	Propulsion Engineering	3
ME:5160/CEE:5369	Intermediate Mechanics of Fluids	3
CEE:4107/CBE:4410	Sustainable Systems	3

### Additional Electives

Code	Title	Hours
12 s.h. from these:		
ME:4024	Product Design and Realization	3
ME:4125	Biomimetic Fluid Dynamics	3
ME:4175	Computational Naval Hydrodynamics	3
ME:4186	Enhanced Design Experience	2-3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5210/CBE:5110	Intermediate Thermodynamics	3

CBE:5405	Green Chemical and Energy Technologies	3
CBE:5415/IGPI:5415	Satellite Image Processing and Remote Sensing of Atmosphere	3
CBE:5417/IGPI:5417	Physical Meteorology and Atmospheric Radiative Transfer	3
CEE:3371	Principles of Hydraulics and Hydrology	3
CEE:4102	Groundwater	3
CEE:4159/ CBE:4459/IGPI:4159	Air Pollution Control Technology	3
CEE:5380	Fluid Flows in Environmental Systems	3
ECE:5620	Electric Power Systems	3
ISE:2500	Engineering Economy	3
An additional content area course		
May include one of these:		
EES:1080/ ENVS:1080	Introduction to Environmental Science	3
EES:1290	Energy and the Environment	3

## Manufacturing

Students in the manufacturing focus area complete two required courses (6 s.h.), two focus area electives (6 s.h.), and three additional electives (9 s.h.).

### Required Manufacturing Courses

Code	Title	Hours
This course:		
ME:4111/CEE:4511	Scientific Computing and Machine Learning	3
And one of these:		
ME:4116/ISE:4116	Manufacturing Processes Simulations and Automation	3
ME:4140	Modern Robotics and Automation	3
ME:5146	Modeling of Materials Processing	3

### Manufacturing Electives

Code	Title	Hours
Two of these:		
ME:4024	Product Design and Realization	3
ME:4116/ISE:4116	Manufacturing Processes Simulations and Automation	3
ME:4140	Modern Robotics and Automation	3
ME:4145	Industrial Internet of Things (IIoT)	3
ME:4200	Modern Engineering Materials for Mechanical Design	3
ME:5146	Modeling of Materials Processing	3
ME:5167/CEE:5137	Composite Materials	3
ME:5170	Data-Driven Analysis in Engineering Mechanics	3

## Additional Electives

Code	Title	Hours
9 s.h. from these:		
ME:4110/CEE:4515	Computer-Aided Engineering	3
ME:4112/CEE:4512	Engineering Design Optimization	3
ME:4117	Finite Element Analysis	3
ME:4150	Artificial Intelligence in Engineering	3
ME:4153/CEE:4532	Fundamentals of Vibrations	3
ME:4186	Enhanced Design Experience	2-3
ME:5114	Nonlinear Control in Robotic Systems	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5145	Intermediate Heat Transfer	3
ME:5159/CEE:5549	Fracture Mechanics	3
ME:5300	Uncertainty Quantification and Design Optimization	3
BME:5620	Introduction to Applied Biomedical Finite Element Modeling	3
ECE:5550	Internet of Things	3
ISE:3300	Manufacturing Systems	3
ISE:3600/CEE:3142/STAT:3620	Quality Control	3
ISE:3700	Operations Research	3
ISE:4620	Design of Experiments for Quality Improvement	3
ISE:4900	Introduction to Six Sigma	3
An additional content area course		3

## Mechanical Engineering Design

Students in the mechanical engineering design focus area complete two required courses (6 s.h.), two focus area electives (6 s.h.), and three additional electives (9 s.h.).

### Required Design Courses

Code	Title	Hours
Both of these:		
ME:4111/CEE:4511	Scientific Computing and Machine Learning	3
ME:4186	Enhanced Design Experience	3

### Design Electives

Code	Title	Hours
Two of these:		
ME:4024	Product Design and Realization	3
ME:4110/CEE:4515	Computer-Aided Engineering	3
ME:4112/CEE:4512	Engineering Design Optimization	3
ME:4117	Finite Element Analysis	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5170	Data-Driven Analysis in Engineering Mechanics	3

ME:5300	Uncertainty Quantification and Design Optimization	3
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## Additional Electives

Code	Title	Hours
9 s.h. from these:		
ME:4116/ISE:4116	Manufacturing Processes Simulations and Automation	3
ME:4120	Advanced Linear Control Systems	3
ME:4125	Biomimetic Fluid Dynamics	3
ME:4140	Modern Robotics and Automation	3
ME:4145	Industrial Internet of Things (IIoT)	3
ME:4150	Artificial Intelligence in Engineering	3
ME:4153/CEE:4532	Fundamentals of Vibrations	3
ME:4175	Computational Naval Hydrodynamics	3
ME:4200	Modern Engineering Materials for Mechanical Design	3
ME:5114	Nonlinear Control in Robotic Systems	3
ME:5120	Vehicle System Dynamics	3
ME:5145	Intermediate Heat Transfer	3
ME:5149	Propulsion Engineering	3
ME:5150/CEE:5540	Intermediate Mechanics of Deformable Bodies	3
ME:5154	Intermediate Kinematics and Dynamics	3
ME:5159/CEE:5549	Fracture Mechanics	3
ME:5160/CEE:5369	Intermediate Mechanics of Fluids	3
ME:5167/CEE:5137	Composite Materials	3
ME:5179/CEE:5179	Continuum Mechanics	arr.
An additional content area course		3

## Robotics and Autonomous Systems

Students in the robotics and autonomous systems focus area complete two required courses (6 s.h.), two focus area electives (6 s.h.), and three additional electives (9 s.h.).

### Required Robotics and Autonomous Systems Courses

Code	Title	Hours
Both of these:		
ME:4111/CEE:4511	Scientific Computing and Machine Learning	3
ME:4120	Advanced Linear Control Systems	3

### Robotics and Autonomous Systems Electives

Code	Title	Hours
Two of these:		
ME:4116/ISE:4116	Manufacturing Processes Simulations and Automation	3
ME:4140	Modern Robotics and Automation	3

ME:4145	Industrial Internet of Things (IIoT)	3
ME:4150	Artificial Intelligence in Engineering	3
ME:4175	Computational Naval Hydrodynamics	3
ME:4176	Experimental Naval Hydrodynamics	3
ME:5114	Nonlinear Control in Robotic Systems	3
ME:5120	Vehicle System Dynamics	3
ME:5170	Data-Driven Analysis in Engineering Mechanics	3
ME:6115	Cooperative Autonomous Systems	3

### Additional Electives

Code	Title	Hours
9 s.h. from these:		
ME:4024	Product Design and Realization	3
ME:4110/CEE:4515	Computer-Aided Engineering	3
ME:4125	Biomimetic Fluid Dynamics	3
ME:4153/CEE:4532	Fundamentals of Vibrations	3
ME:4186	Enhanced Design Experience	2-3
ME:5150/CEE:5540	Intermediate Mechanics of Deformable Bodies	3
ME:5154	Intermediate Kinematics and Dynamics	3
ME:5300	Uncertainty Quantification and Design Optimization	3
ECE:5550	Internet of Things	3
ENGR:2730	Computers in Engineering	3
An additional content area course		3

## Combined Programs

### B.S.E./M.S. in Mechanical Engineering

A Bachelor of Science/Master of Science combined degree program is available for qualified University of Iowa undergraduate students. This allows students to complete a M.S. degree in two or three semesters after completion of their B.S.E. degree. Those in the combined degree program receive a B.S.E. degree when all requirements have been completed, and then become M.S. students in the Department of Mechanical Engineering (ME).

The Undergraduate to Graduate (U2G) combined degree program is primarily intended for students interested in pursuing the M.S. without thesis. However, the M.S. degree thesis option can be pursued in instances where students have been conducting research under the supervision of a ME faculty member since, at least, the summer following their junior year, and a ME faculty member is willing to advise them and serve as committee chair for their final exam.

Interested students should discuss the combined degree program with their advisor during their third year. Applications should be submitted during the second semester of their third year and before the start of their fourth year (two-semester blended model); see the U2G Program on the Department of

Mechanical Engineering website. However, single-semester admits are allowed and must adhere to the application deadlines and other program requirements.

Accepted students are expected to have a minimum University of Iowa cumulative g.p.a. of at least of 3.25, and maintain this grade-point average throughout their time in the program. Undergraduate students whose UI cumulative grade-point average falls below this minimum are removed from the combined program.

Students may contact any ME faculty member to inquire about participation in the U2G combined degree program, research opportunities, and financial support.

### Program Benefits

Students may apply up to 12 s.h. of graduate-level coursework toward both their B.S.E. and M.S. degrees. However, credit may not be applied to courses taken prior to admission to the combined degree program. Mechanical engineering courses eligible for graduate credit are numbered ME:4100 or above, except for ME:4186 Enhanced Design Experience. The courses selected must fulfill M.S. coursework requirements and be applicable to B.S.E. electives.

Students who select the thesis option can begin work on their M.S. thesis research with a faculty advisor during their fourth year of undergraduate studies.

Graduate Record Examination (GRE) General Test scores are not required for admission to the combined degree program. Students are assessed undergraduate tuition and fees until their B.S.E. degree has been conferred; then, students are assessed graduate tuition and fees, and they may be eligible for graduate assistantships.

### Financial Support

Departmental funding preference is given to Ph.D. students. Students can discuss financial support possibilities with their advisor.

### B.S.E./M.S. in Civil and Environmental Engineering

The combined B.S.E. in mechanical engineering/M.S. in civil and environmental engineering enables undergraduate students majoring in mechanical engineering to begin work toward the M.S. in civil and environmental engineering while completing the bachelor's degree. Students admitted to the program may count 9 s.h. of coursework toward both the B.S.E. and M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements before they have been awarded the B.S.E. degree. See the M.S. in civil and environmental engineering [p. 1611] in the Catalog.

### Career Advancement

Engineering is a well-respected profession that is used as a foundation for a variety of careers in industry, medicine, law, government, and consulting. Engineering majors consistently claim several of the top ten spots on the list of top-paid majors for bachelor's degree graduates, according to the National Association of Colleges and Employers (NACE). On average, 93-98 percent of graduates are employed in their field of study or pursuing advanced education within seven months of graduation.

Engineering Career Services develops and promotes experiential education and professional opportunities for

students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.



# Mechanical Engineering, M.S.

## Research

The mechanical engineering graduate program in the College of Engineering emphasizes in-depth learning and research. In collaboration with faculty across campus, the faculty are currently researching a diverse range of topics within the field. For more information, see the Department of Mechanical Engineering website.

## Design and Uncertainty Quantification

The Design and Uncertainty Quantification focus area is concerned with design optimization of complex mechanical systems in the presence of uncertainty. The focus area emphasizes developments of sound theoretical foundation, novel computational methods and algorithms, and modern software tools aimed at creating state-of-the-art engineering design of automotive, aerospace, naval, nuclear, and biomedical systems. Current areas of excellence include artificial muscles and smart materials design, ship hydrodynamics, design sensitivity analysis, uncertainty quantification, and reliability-based design optimization.

## Fluid Dynamics

The Fluid Dynamics focus area covers a wide variety of topics with flow of liquids and gases as the common denominator. The graduate program in fluid dynamics emphasizes fundamental principles and applications, and the numerical and experimental techniques used to obtain and analyze fluid flows. Areas of concentration include computational fluid dynamics, experimental fluid dynamics, medical flows, naval hydrodynamics, biologically inspired air and underwater vehicles, multiphase flows, cavitation and ventilation, and fluid-structure interaction and turbulence, among others.

## Heat Transfer and Combustion

The Heat Transfer and Combustion focus area applies to real-world systems in manufacturing and materials processing, propulsion, energy production, and other areas. The graduate program emphasizes fundamental principles and techniques required for experimental and theoretical research. Current areas of research include solidification of materials, metal casting, 3D printing, laser-materials interaction, power plants and propulsion devices such as automobile and aircraft engines, energy conservation and production, energy storage, complex reactive materials, and machine learning in computational modeling and simulation.

## Manufacturing and Materials

The Manufacturing and Materials focus area involves fundamental materials processing science, technological advancement in manufacturing applications, and development of new manufacturing processes and new material functions. Current and emerging thrust areas include solidification, metal casting, laser materials processing, micro- and nanofabrication, joining, ultrasonic welding, machining, microstructure evolution, manufacturing process modeling and simulation, artificial muscles, artificial camouflage, smart materials, and material characterizations. These research activities are well supported by federal and state agencies and the manufacturing industry.

## Robotics, Controls, and Autonomous Systems

Robotics, Controls, and Autonomous Systems (RCAS) are concerned with the modeling, analysis, design, and control of dynamic systems. The graduate program in RCAS emphasizes fundamental principles and techniques of robotics, control theory, and artificial intelligence. Areas of concentration include computational intelligence, dynamic autonomous systems, cyber-physical systems, and networked robotic systems with potential applications in self-driving cars; medical and assistive robots for surgery and rehabilitation; industrial co-robots for human-robot collaboration; and uncrewed aerial, ground, and underwater vehicles.

## Solid Mechanics and Multibody Dynamics

Solid Mechanics and Multibody Dynamics are concerned with the behavior of solid materials and flexible bodies, especially their deformation, motion, and stress responses under the action of applied loads. The graduate program in solid mechanics and multibody dynamics emphasizes the theoretical foundations and problem-solving techniques for engineering applications. Current research focuses of the faculty include multiscale mechanics of materials, biomechanics, vehicle dynamics, computational mechanics, multibody dynamics, and optimization.

## Learning Outcomes

Graduates will:

- have a broad knowledge of mechanical engineering topics and advanced knowledge in their specific area of study;
- be able to analyze engineering problems and apply their knowledge to solve them, and thesis option graduates able to solve research-oriented problems; and
- develop professional skills that include effective communication, leadership, and ethical conduct in professional, social, and scholarly activities.

## Requirements

The Master of Science program in mechanical engineering requires a minimum of 30 s.h. of coursework and research, including a minimum of 12 s.h. in mechanical engineering courses (prefix ME) numbered 5000 or above. Students must maintain a cumulative g.p.a. of at least 3.00 in graduate work used to satisfy their requirements to earn the degree. The course plan should be approved by their advisor prior to registration each semester. All students choose either a thesis or nonthesis program.

The requirements for the M.S. may be completed within one calendar year. However, students with assistantship duties or other constraints may take up to two calendar years to complete their degree. Students must complete ENGR:7270 Engineering Ethics during their first fall semester in the program. They must register for ME:6191 Graduate Seminar: Mechanical Engineering each fall and spring semester until successful completion of their final examination or thesis defense; credit in these courses does not substitute for regular coursework or research credit hours. For students who select the thesis option, normally 6 s.h., and no more than 9 s.h. of credit for thesis research is counted toward degree requirements in ME:6199 Research: Mechanical Engineering M.S. Thesis.

Thesis students must be successful in their final examination. The exam is administered by a student's committee, which consists of at least three faculty members, including at least one with a primary appointment in the Department of Mechanical Engineering. The nonthesis option does not include a final exam.

## Admission

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations on the Graduate College website.

Applicants who have earned a baccalaureate or master's degree in engineering curriculum or in the mathematical or physical sciences are eligible to be considered for admission to graduate study in mechanical engineering. To be considered for regular admission, applicants must have a g.p.a. of at least 3.00 on a 4.00 scale in all previous college-level work.

## Minimum Requirements for Admission

### Graduate Record Examination (GRE) General Test Requirements

GRE scores have been waived for applications to begin the program in the fall 2022 and spring 2023 semesters.

### International Student Requirements

Requirements include a TOEFL score of 550 or higher on the paper-based test (PBT) or a score of 81 or higher on the internet-based test (iBT). Alternatively, an International English Language Testing System (IELTS) score of 7 is required.

Newly admitted graduate students who present TOEFL scores below 600 on the PBT or below 100 on the iBT are required to complete an English Proficiency Evaluation on campus before their first registration for classes. IELTS test takers, regardless of score, are required to take an on-campus English Proficiency Evaluation.

There is no conditional admission for graduate students whose TOEFL scores are below 550 on the PBT, below 81 on the iBT, or below 6.5 on the IELTS.

Applicants with lower grade-point averages and/or GRE or TOEFL test scores may be considered for conditional admission under exceptional circumstances. Those admitted conditionally must achieve regular standing within one semester (excluding summer sessions) after admission by attaining a g.p.a. of at least 3.00 on their first 9 s.h. at the University of Iowa. The Graduate College cancels registration for the subsequent semester for students who have not submitted their GRE and/or TOEFL scores by the end of the first semester after admission.

Some of the requirements may be waived in select cases when other components of the application are particularly outstanding. Satisfaction of the requirements does not guarantee admission.

## Applying for Admission

Refer to the Graduate Admissions website for information about applying for graduate studies.

## Graduate Application Deadlines

Applications for fall: January 15 (application deadline), March 1 (admission decision).

Applications for spring: September 1 (application deadline), October 1 (admission decision).

All requirements must be fulfilled by the respective deadline dates. Applicants who apply after a deadline date must be sponsored by a mechanical engineering faculty member for a deadline waiver.

## Financial Support

Financial support is available to M.S. students, primarily through graduate assistantships in teaching or research from the Department of Mechanical Engineering, IHR—Hydrosience and Engineering, the National Advanced Driving Simulator, and the University of Iowa Technology Institute. These awards may be made on a semester, academic year, or calendar year basis. Awards and reappointments are competitive and are based on a student's potential contribution to the teaching and research goals of the department. Students who fulfill their assistantship responsibilities and continue to make satisfactory progress toward their degree objective receive preference in new assistantship awards. Decisions about research and teaching assistantships are made by individual faculty members. Students should direct questions about availability of financial support to faculty members in their primary area of study.

Students with assistantship appointments of one-quarter-time or more must register for a minimum of 9 s.h. during fall and spring semesters until they have completed 30 s.h. of coursework and research beyond the baccalaureate degree.

## Career Advancement

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Mechanical Engineering, M.S.

h Completion of degree requirements.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
30 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
ENGR:7270	Engineering Ethics <sup>c, d</sup>	1
ME required course <sup>e</sup>		3
ME required course <sup>e</sup>		3
ME required course or elective <sup>e, f</sup>		3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>c, g</sup>	1
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
ME required course <sup>e</sup>		3
ME required course <sup>e</sup>		3
Elective course <sup>f</sup>		3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>c, g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>c, g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
Elective course <sup>f</sup>		3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>c, g</sup>	1
Final Exam <sup>h</sup>		
<b>Hours</b>		<b>4</b>
<b>Total Hours</b>		<b>35</b>

a Students may design their program around a particular research and study area; see General Catalog and ME website for specifics. Work with faculty advisor to determine appropriate graduate level coursework and sequence.

b Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

c Credit for this course does not substitute for regular coursework or research credit hours.

d Must be completed during first semester.

e Minimum of 12 s.h. must be from Mechanical Engineering courses numbered 5000 or higher. Students may also select Mechanical Engineering courses numbered 4100 or higher except for ME:4186 which is not eligible for graduate credit.

f Work with academic advisor to determine appropriate elective coursework and sequence.

g Attendance required every fall and spring semester until degree completion.

# Mechanical Engineering, Ph.D.

## Research

The mechanical engineering graduate program in the College of Engineering emphasizes in-depth learning and research. In collaboration with faculty across campus, the faculty are currently researching a diverse range of topics within the field. For more information, see the Department of Mechanical Engineering website.

## Design and Uncertainty Quantification

The Design and Uncertainty Quantification focus area is concerned with design optimization of complex mechanical systems in the presence of uncertainty. The focus area emphasizes developments of sound theoretical foundation, novel computational methods and algorithms, and modern software tools aimed at creating state-of-the-art engineering design of automotive, aerospace, naval, nuclear, and biomedical systems. Current areas of excellence include artificial muscles and smart materials design, ship hydrodynamics, design sensitivity analysis, uncertainty quantification, and reliability-based design optimization.

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The Fluid Dynamics focus area covers a wide variety of topics with flow of liquids and gases as the common denominator. The graduate program in fluid dynamics emphasizes fundamental principles and applications, and the numerical and experimental techniques used to obtain and analyze fluid flows. Areas of concentration include computational fluid dynamics, experimental fluid dynamics, medical flows, naval hydrodynamics, biologically inspired air and underwater vehicles, multiphase flows, cavitation and ventilation, and fluid-structure interaction and turbulence, among others.

## Heat Transfer and Combustion

The Heat Transfer and Combustion focus area applies to real-world systems in manufacturing and materials processing, propulsion, energy production, and other areas. The graduate program emphasizes fundamental principles and techniques required for experimental and theoretical research. Current areas of research include solidification of materials, metal casting, 3D printing, laser-materials interaction, power plants and propulsion devices such as automobile and aircraft engines, energy conservation and production, energy storage, complex reactive materials, and machine learning in computational modeling and simulation.

## Manufacturing and Materials

The Manufacturing and Materials focus area involves fundamental materials processing science, technological advancement in manufacturing applications, and development of new manufacturing processes and new material functions. Current and emerging thrust areas include solidification, metal casting, laser materials processing, micro- and nanofabrication, joining, ultrasonic welding, machining, microstructure evolution, manufacturing process modeling and simulation, artificial muscles, artificial camouflage, smart materials, and material characterizations. These research activities are well supported by federal and state agencies and the manufacturing industry.

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Robotics, Controls, and Autonomous Systems (RCAS) are concerned with the modeling, analysis, design, and control of dynamic systems. The graduate program in RCAS emphasizes fundamental principles and techniques of robotics, control theory, and artificial intelligence. Areas of concentration include computational intelligence, dynamic autonomous systems, cyber-physical systems, and networked robotic systems with potential applications in self-driving cars; medical and assistive robots for surgery and rehabilitation; industrial co-robots for human-robot collaboration; and uncrewed aerial, ground, and underwater vehicles.

## Solid Mechanics and Multibody Dynamics

Solid Mechanics and Multibody Dynamics are concerned with the behavior of solid materials and flexible bodies, especially their deformation, motion, and stress responses under the action of applied loads. The graduate program in solid mechanics and multibody dynamics emphasizes the theoretical foundations and problem-solving techniques for engineering applications. Current research focuses of the faculty include multiscale mechanics of materials, biomechanics, vehicle dynamics, computational mechanics, multibody dynamics, and optimization.

## Learning Outcomes

Graduates will:

- have an extensive knowledge of mechanical engineering topics and a mastery of advanced concepts in their specific area of study;
- be able to identify, formulate, analyze, and solve research problems, thereby advancing knowledge through creative scholarship; and
- develop professional skills that include effective communication, leadership, and ethical conduct in professional, social, and scholarly activities.

## Requirements

The Doctor of Philosophy program in mechanical engineering requires 72 s.h. of graduate credit, including a minimum of 42 s.h. in mechanical engineering courses (prefix ME) with at least 12 s.h. selected from courses numbered ME:6000 or above. Students also must complete a minimum of 12 s.h. in thesis research in ME:7299 Research: Mechanical Engineering Ph.D. Dissertation. A maximum of 30 credits of transfer credit may be applied toward the degree and coursework requirements. Students must maintain a cumulative g.p.a. higher than 3.25 to earn the degree.

To be formally admitted to the Ph.D. program, students must pass the qualifying examination. Information regarding the details of the qualifying exam procedure can be obtained from the Department of Mechanical Engineering website.

Students must complete ENGR:7270 Engineering Ethics during their first fall semester of enrollment. They must register for ME:6191 Graduate Seminar: Mechanical Engineering each fall and spring semester until successful completion of their final examination or thesis defense; credit in these courses does not substitute for regular coursework or research credit hours. They must have their course plan approved by their advisor prior to registration each semester.

## Admission

Applicants must meet the admission requirements of the Graduate College; for detailed information about Graduate College policies, see the Manual of Rules and Regulations on the Graduate College website.

### Minimum Requirements for Admission

#### Graduate Record Examination (GRE) General Test Requirements

GRE scores have been waived for applications to begin the program in the fall 2022 and spring 2023 semesters.

#### International Student Requirements

Requirements include a TOEFL score of 550 or higher on the paper-based test (PBT) or a score of 81 or higher on the internet-based test (iBT). Alternatively, an International English Language Testing System (IELTS) score of 7 is required.

Newly admitted graduate students who present TOEFL scores below 600 on the PBT or below 100 on the iBT are required to complete an English Proficiency Evaluation on campus before their first registration for classes. IELTS test takers, regardless of score, are required to take an on-campus English Proficiency Evaluation.

There is no conditional admission for graduate students whose TOEFL scores are below 550 on the PBT, below 81 on the iBT, or below 6.5 on the IELTS.

Applicants with lower grade-point averages and/or GRE or TOEFL test scores may be considered for conditional admission under exceptional circumstances. Those admitted conditionally must achieve regular standing within one semester (excluding summer sessions) after admission by attaining a g.p.a. of at least 3.00 on their first 9 s.h. at the University of Iowa. The Graduate College cancels registration for the subsequent semester for students who have not submitted their GRE and/or TOEFL scores by the end of the first semester after admission.

Some of the requirements may be waived in select cases when other components of the application are particularly outstanding. Satisfaction of the requirements does not guarantee admission.

#### Other Requirements

Students must have earned a minimum g.p.a. of at least 3.00 on a 4.00 scale, submit three letters of recommendation, unofficial transcripts (with official transcripts submitted if accepted), and a statement of purpose.

### Applying for Admission

Refer to the University of Iowa Graduate Admissions website for information about applying for graduate studies.

#### Graduate Application Deadlines

Applications for fall: January 15 (application deadline), March 1 (admission decision).

Applications for spring: September 1 (application deadline), October 1 (admission decision).

All requirements must be fulfilled by the respective deadline dates. Applicants who apply after a deadline date must be sponsored by a mechanical engineering faculty member for a deadline waiver.

## Financial Support

Financial support is available to Ph.D. students, primarily through graduate assistantships in teaching or research from the Department of Mechanical Engineering, IIHR—Hydroscience and Engineering, the National Advanced Driving Simulator, and the University of Iowa Technology Institute. These awards may be made on a semester, academic year, or calendar year basis. Awards and reappointments are competitive and are based on a student's potential contribution to the teaching and research goals of the department. Students who fulfill their assistantship responsibilities and continue to make satisfactory progress toward their degree objective receive preference in new assistantship awards.

Students with assistantship appointments of one-quarter-time or more must register for a minimum of 9 s.h. during fall and spring semesters until they have completed 72 s.h. of coursework and research beyond the baccalaureate degree. Once they meet these minimums, students must register for a graduate seminar each semester until they have successfully completed their final examination or thesis defense. All registrations should accurately reflect the amount and type of work undertaken, the use of University facilities, and the amount of consultation with the faculty.

## Career Advancement

Engineering Career Services develops and promotes experiential education and professional opportunities for students in the College of Engineering. Professional staff coordinate the college's co-op and internship program, engage in employer outreach, and provide opportunities for students to network with employers, including an engineering career fair each semester and other programming related to career development.

Engineering Career Services offers individual advising and class presentations on résumé and cover letter preparation, job and internship search strategies, interviewing skills, job offer evaluation, and much more. Engineering Career Services partners with the Pomerantz Career Center to facilitate on-campus interviewing, postgraduation outcome collection, and the University's online recruiting system, Handshake.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Mechanical Engineering, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; a maximum of 30 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. a, b, c		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>d</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
ENGR:7270	Engineering Ethics <sup>e, f</sup>	1
	ME required course	3
	ME required course	3
	ME required course	3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>f, g</sup>	1
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
	ME required course	3
	ME required course	3
	Elective course <sup>h</sup>	3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>f, g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
	ME required course	3
	ME required course	3
	Elective course <sup>h</sup>	3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>f, g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
	ME required course	3
	ME required course	3
	Elective course <sup>h</sup>	3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>f, g</sup>	1
<b>Hours</b>		<b>10</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Dissertation Prospectus <sup>i</sup>		
Comprehensive Exam <sup>j</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
	ME required course	3
	Elective course <sup>h</sup>	3
ME:7299	Research: Mechanical Engineering Ph.D. Dissertation <sup>k</sup>	3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>f, g</sup>	1
<b>Hours</b>		<b>10</b>

### Spring

	ME required course	3
	Elective course <sup>h</sup>	3
ME:7299	Research: Mechanical Engineering Ph.D. Dissertation <sup>k</sup>	3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>f, g</sup>	1
<b>Hours</b>		<b>10</b>

### Fourth Year

#### Fall

	Elective course <sup>h</sup>	3
	Elective course <sup>h</sup>	3
ME:7299	Research: Mechanical Engineering Ph.D. Dissertation <sup>k</sup>	3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>f, g</sup>	1
<b>Hours</b>		<b>10</b>

#### Spring

	Elective course <sup>h</sup>	3
	Elective course <sup>h</sup>	3
ME:7299	Research: Mechanical Engineering Ph.D. Dissertation <sup>k</sup>	3
ME:6191	Graduate Seminar: Mechanical Engineering <sup>f, g</sup>	1
Final Exam <sup>l</sup>		
<b>Hours</b>		<b>10</b>
<b>Total Hours</b>		<b>81</b>

- a A minimum of 42 s.h. (not including thesis research) must be from courses taken beyond the B.S. degree. Of these a minimum of 12 s.h. must be from Mechanical Engineering courses numbered 6000 or higher. Students may also select Mechanical Engineering courses numbered 4100 or higher except for ME:4186 which is not eligible for graduate credit.
- b Students may design their program around a particular research and study area; see General Catalog and ME website for specifics. Work with faculty advisor to determine appropriate graduate level coursework and sequence.
- c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- d Complete two qualifying exam courses during first two semesters in the program; must take ME:5113 plus one graduate level course in a focus area with a grade of A- or higher in each. Focus area courses are chosen in consultation with the faculty advisor from a specified list. More information is found in the General Catalog and on department website.
- e Must be completed during first semester.
- f Credit for this course does not substitute for regular coursework or research credit hours.
- g Attendance required every fall and spring semester until degree completion.
- h Work with academic advisor to determine elective graduate coursework and sequence.
- i Submit dissertation prospectus to the exam committee not later than two weeks before the comprehensive exam.
- j Oral exam to be completed after passing the qualifying exam and upon completion of coursework in the specified area of study no later than 28 months after entering the doctoral program. The exam will focus on the dissertation prospectus and related areas.

- k Complete a minimum 12 s.h. of credit in thesis research.
- l Dissertation defense.

# Naval Science and Technology

## Chair, Department of Mechanical Engineering

- Ching-Long Lin

**Undergraduate certificate:** naval science and technology  
**Website:** <https://me.engineering.uiowa.edu/undergraduate/certificate-naval-st>

Naval science and technology has a tremendous impact upon defense, world commerce, and energy production. The U.S. Navy is expanding its fleet to the largest size in nearly 20 years. Approximately 90 percent of world trade is carried by sea. The number of offshore solar, wind, and wave energy installations continues to increase.

The underlying science and technology challenges demand a workforce with a strong foundation in the engineering sciences related to fluid flow, computational and experimental methods, autonomous systems, and control. The Certificate in Naval Science and Technology introduces students to the principles of naval hydrodynamics, including propulsion, resistance, maneuvering, and seakeeping, as well as the fundamentals of autonomous systems, including control systems, robotics, and artificial intelligence.

Students who complete the certificate will work in a unique learning community where they will have an opportunity to contribute to projects of interest to the Navy and its supporting industry, and learn about potential career paths.

The Certificate in Naval Science and Technology is administered by the Department of Mechanical Engineering [p. 1660].

## Learning Objectives

The Certificate in Naval Science and Technology is built on eight learning objectives. The first six learning objectives are focused on providing students with strong technical and leadership skills and an understanding of marine systems enabling them to work effectively in naval science and technology and other technology-intensive fields. Specifically, students will achieve the following.

- Demonstrate a foundation in the fundamentals of fluid mechanics and naval hydrodynamics.
- Use advanced numerical methods and/or measurement techniques to solve fluid-flow problems and design systems involving naval hydrodynamics.
- Demonstrate a foundation in the fundamentals of control theory and artificial intelligence, including optimal control, tracking, planning, machine learning, and reinforcement learning.
- Use simulators and experiments to evaluate, simulate, and design autonomous naval systems.
- Develop potential for continued growth and leadership in a complex and multidisciplinary technical environment.
- Demonstrate organization and communication skills needed to manage open-ended projects.

The final two learning objectives focus on understanding the challenges faced by the Navy and helping students to identify related career paths.

- Recognize and address current science and technology challenges faced by the Navy.
- Be able to make decisions about career paths in the Navy, its contractors, and supporting industry.

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Naval Science and Technology [p. 1681]



# Naval Science and Technology, Certificate

## Requirements

The undergraduate Certificate in Naval Science and Technology requires 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a UI graduate or professional degree program.

All of the certificate courses have prerequisites; students must complete all of a course's prerequisites before they may register for the course. Prerequisites do not count toward the 18 s.h. required for the certificate.

Mechanical engineering students may use the certificate as a tailored engineering focus area by adding an additional eligible course. In addition, mechanical engineering students may earn the Certificate in Naval Science and Technology while they complete either the design or the robotics and autonomous systems focus area for their major. For examples of combined plans of study, visit Naval Science and Technology Certificate on the Department of Mechanical Engineering website. College of Engineering students earning the certificate are advised by the Department of Mechanical Engineering.

The Certificate in Naval Science and Technology requires the following coursework.

## Naval Hydrodynamics Courses

In certain circumstances, if it is not possible for students to complete two of these courses, they may request permission to take ME:5143 Computational Fluid and Thermal Engineering instead of ME:4175 Computational Naval Hydrodynamics.

Code	Title	Hours
At least two of these:		
ME:4125	Biomimetic Fluid Dynamics	3
ME:4175	Computational Naval Hydrodynamics	3
ME:4176	Experimental Naval Hydrodynamics	3

## Autonomous Systems and Machine Learning Courses

Code	Title	Hours
At least two of these:		
ME:4111/CEE:4511	Scientific Computing and Machine Learning	3
ME:5114	Nonlinear Control in Robotic Systems	3
ME:6115	Cooperative Autonomous Systems	3

## Capstone Course

Students must complete either a capstone design project on an approved naval science and technology topic or an independent investigation involving research or testing of a system related to naval hydrodynamics. If a student

chooses, both courses may be completed for credit toward the certificate.

Code	Title	Hours
One or both of these:		
ME:4098	Individual Investigations: Mechanical Engineering (students must register for at least 3 s.h.)	arr.
ME:4186	Enhanced Design Experience (subject to approval of application for capstone design path; ME:4086 is a prerequisite course)	3

## Electives

Students select the remainder of the 18 s.h. required for the certificate from the following.

Code	Title	Hours
ME:4116/ISE:4116	Manufacturing Processes Simulations and Automation	3
ME:4120	Advanced Linear Control Systems	3
ME:4140	Modern Robotics and Automation	3
ME:4150	Artificial Intelligence in Engineering	3
ME:4200	Modern Engineering Materials for Mechanical Design	3
ME:5143	Computational Fluid and Thermal Engineering	3
ME:5160/CEE:5369	Intermediate Mechanics of Fluids	3

# Sustainable Water Development

## Chair, Department of Civil and Environmental Engineering

- A. Allen Bradley Jr.

**Graduate certificate:** sustainable water development

**Website:** <https://cee.engineering.uiowa.edu/graduate-program/sustainable-water-development-graduate-certificate>

The Certificate in Sustainable Water Development trains science, technology, engineering, and mathematics (STEM) graduate students to address future challenges of water scarcity and variability while also meeting the food and energy demands of Earth's growing population. The certificate leverages a unique learning environment focused on water sustainability that extends beyond any one discipline, department, or college.

The Certificate in Sustainable Water Development is administered by the Department of Civil and Environmental Engineering [p. 1593].

## Programs

### Graduate Program of Study Certificate

- Certificate in Sustainable Water Development [p. 1683]

# Sustainable Water Development, Graduate Certificate

## Requirements

The graduate Certificate in Sustainable Water Development requires 15 s.h. of credit, including at least 9 s.h. earned at the University of Iowa. The 5000-level courses required for the certificate must be taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.50 in work for the certificate. The certificate is open to graduate students currently enrolled at the University of Iowa who are completing a degree program.

The Certificate in Sustainable Water Development requires the following coursework.

## Required Courses

Code	Title	Hours
All of these:		
CEE:5096	Water, Energy, and Food Nexus Seminar (taken for two semesters)	0
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
URP:6209/ SDG:6000	Sustainable Communities Lab I	3

## Electives

Students take two elective courses selected from the following list. For more information about approved certificate electives, contact the Sustainable Water Development Program coordinator.

Code	Title	Hours
Two of these for at least 6 s.h.:		
CEE:4102	Groundwater	3
CEE:4104/EES:4660	Groundwater Modeling	3
CEE:4107/CBE:4410	Sustainable Systems	3
CEE:4118	Statistical Methods in Water and the Environment	3
CEE:4158/ OEH:4920	Solid and Hazardous Wastes	3
CEE:4187/ OEH:4540	Statistics for Experimenters	3
CEE:4370	Open Channel Flow and Sediment Transport	3
CEE:4385	International Perspectives in Water Sciences and Management	3
CEE:5156	Physical and Chemical Environmental Processes	3
CEE:6223	Environmental Boundary Layers	4
CEE:6253	Environmental Organic Chemistry	3

CEE:6255	Environmental Biotechnology and Bioremediation	3
ABRD:3445	India Winterim	arr.
ACCT:4300	Accounting Ethics and Law	3
ANTH:3110/ GHS:3110/ NAIS:3110	Colonialism and Indigenous Health Equity	3
BIOL:3663	Plant Response to the Environment	3
CBE:5140/ CEE:5513/ME:5113	Mathematical Methods in Engineering	3
CBE:5405	Green Chemical and Energy Technologies	3
CBE:5415/IGPI:5415	Satellite Image Processing and Remote Sensing of Atmosphere	3
CBE:5425/CEE:5115	Atmospheric Chemistry and Physics	3
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6205	Designing and Implementing Interventions	3
CHEM:4760	Radiochemistry: Energy, Medicine, and the Environment	3
CHEM:4873	Atmospheric and Environmental Chemistry	3
CPH:3500/ GHS:3500	Global Public Health	3
ECE:5630	Sustainable Energy Conversion	3
ECON:3345	Global Economics and Business	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3
ECON:3800	Law and Economics	3
ECON:4090	Natural Resource Economics	3
ECON:4140	Labor Economics	3
EES:3390	Integrated Watershed Analysis	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4500/ IGPI:4500	Advanced Remote Sensing	4
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
GEOG:4650	Simulation in Environmental Geography	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	3
GHS:3620	Global Health and Human Rights	2-3
LAW:8433	Environmental Law	2-3

LAW:8622	International Environmental Law	3
LAW:8992	Water Law	arr.
MATH:4740/ CS:4740/IGPI:4740/ STAT:4740	Large Data Analysis	3
ME:4048	Energy Systems Design	4
OEH:4240	Global Environmental Health	3
OEH:4260/ GHS:4260	Global Water and Health	3
OEH:5620	Occupational Health	3
OEH:6460	Quantitative Exposure Assessment: Study Design and Evaluation	3
OEH:6710	Human Toxicology and Risk Assessment	3
PHYS:5811	Classical Electrodynamics I	3
PHYS:5812	Classical Electrodynamics II	3
URP:6205/ PBAF:6205	Economics for Policy Analysis	1,3
URP:6225/ PBAF:6225	Applied GIS for Planning and Policy Making	1-3
URP:6227	Spatial Analysis in Planning and Policy Making	3
URP:6233/ PBAF:6233	Public Finance and Budgeting	3
URP:6242	Planning and City Administration	1
URP:6253/ PBAF:6253	Designing Sustainable and Healthy Cities	1-3
URP:6256/ PBAF:6256	Environmental Policy	3
URP:6257/ PBAF:6257	Environmental Management	3
URP:6258/ PBAF:6258	Systems and Scenario Thinking	3
URP:6273/ PBAF:6273	Community Development Through Creative Placemaking	3
URP:6295/ PBAF:6295	Economic Development Policy	3

Students receive an email after an admission decision has been made.

## Admission

Students must:

- be in a relevant science, technology, engineering, or mathematics (STEM) field;
- submit their University of Iowa transcript;
- have a graduate g.p.a. higher than 3.00 if in doctoral program or a g.p.a. higher than 2.75 if in master's program;
- submit their résumé or curriculum vitae;
- provide a statement of purpose of 500 words or less about their core research and training program, and why the certificate program will benefit their training and goals for career placement; and
- provide a letter of endorsement from their advisor.

Admission to the certificate program is competitive. Applications are accepted on a rolling basis and are reviewed by the Sustainable Water Development Program; applications can be submitted online along with pertinent materials.

# Technological Entrepreneurship

**Undergraduate certificate:** technological entrepreneurship

**Website:** <https://engineering.uiowa.edu/academics/first-year-students/programs-study-majors-minors-and-certificates/technological>

The College of Engineering partners with the John Pappajohn Entrepreneurial Center in the Tippie College of Business to offer the Certificate in Technological Entrepreneurship.

The program is intended for students who would like to develop an understanding of how to manage innovation in business environments as well as those who plan to start and operate their own businesses.

Students who complete the certificate program are able to:

- gain exposure to understanding sound business thinking;
- employ a more innovative and creative mindset in problem solving;
- learn how to create a business plan as skillfully as solving difficult engineering equations;
- understand the entrepreneurial approach to acquiring and managing resources;
- acquire team-building skills critical in both small and large companies;
- get insights in how to bridge engineering and business problems; and
- obtain valuable contacts and network opportunities with successful, thriving businesses and industries.

The Certificate in Technological Entrepreneurship is administered by the College of Engineering [p. 1539].

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Technological Entrepreneurship [p. 1686]

# Technological Entrepreneurship, Certificate

## Requirements

The undergraduate Certificate in Technological Entrepreneurship requires a minimum of 18 s.h. of credit. Students must complete at least 12 s.h. of the 18 s.h. required for the certificate at the University of Iowa or in approved study abroad courses. They must maintain a g.p.a. of at least 2.00 in work toward the certificate.

The certificate program is open to Bachelor of Science in Engineering students who have earned at least 45 s.h. of credit toward the B.S.E. and have a University of Iowa g.p.a. of at least 2.75. Students must be granted the B.S.E. and complete all certificate requirements in order to receive the certificate.

Students must declare their intention to pursue the certificate on MyUI and must apply for admission; visit Technological Entrepreneurship Certificate on the College of Engineering website for more information.

Certificate students study how the entrepreneurial process relates to technology-based businesses. The program is intended for students who would like to develop an understanding of how to manage innovation in business environments as well as those who plan to start and operate their own businesses.

The Certificate in Technological Entrepreneurship requires the following coursework.

## Foundation Course

Code	Title	Hours
This course:		
ISE:2500	Engineering Economy	3

## Entrepreneurship Core

Code	Title	Hours
Both of these:		
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3100	Entrepreneurial Finance	3

## Entrepreneurship Course in the Major

Code	Title	Hours
One of these, depending on a student's engineering major:		
BME:4910	Biomedical Engineering Senior Design I (biomedical engineering majors)	4
CBE:4109	Chemical Engineering Process Design I (chemical engineering majors)	2

CEE:4850	Project Design and Management in Civil Engineering (civil and environmental engineering majors)	3
ECE:4890	Senior Electrical and Computer Engineering Design (electrical and computer science engineering majors)	3
ISE:4600	Industrial Engineering Design Project (industrial engineering majors)	4
ME:4086	Mechanical Engineering Design Project (mechanical engineering majors)	3

## Entrepreneurship Electives

Students customize their programs with their choice of electives. They must earn sufficient elective credit to complete the 18 s.h. required for the certificate.

Code	Title	Hours
BME:4920	Biomedical Engineering Senior Design II	4
ENTR:3200	Entrepreneurial Marketing	3
ENTR:3350	Entrepreneurial Strategy	3
ENTR:3400	Strategic Management of Technology and Innovation	3
ENTR:3500	Social Entrepreneurship	3
ENTR:3550	Commercializing New Technology I	3
ENTR:3575	Commercializing New Technology II	3
ENTR:3595	Nonprofit Organizational Effectiveness I	3
ENTR:3600	E-Commerce Strategies for Entrepreneurs	3
ENTR:3700	Sustainable Product Innovation and Management	3
ENTR:4000	Topics in Entrepreneurship	3
ENTR:4100	International Entrepreneurship, Culture, and Social Impact	1-3
ENTR:4200	Entrepreneurship: Business Consulting	3
ENTR:4300	Entrepreneurship: Advanced Business Planning	3
ENTR:4400	Managing the Growth Business	3
ENTR:4460	Entrepreneurship and Global Trade	3
ENTR:4510	Arts Leadership Seminar	3
ENTR:4900	Academic Internship	1-9
Any entrepreneurship course (prefix ENTR), with certificate advisor's approval		

# Graduate College

## Dean

- Amanda H. Thein

## Associate Deans

- Michelle L. Campo, Steven M. Varga

## Assistant Deans

- Heidi Arbisi-Kelm, Jennifer Teitle

**Website:** <https://grad.uiowa.edu>

The University of Iowa has been a leading center of advanced study for more than a century. Presently, the Graduate College accounts for nearly one-fifth of the University's total enrollment. This high ratio reflects the breadth of the University's graduate programs and resources, the strength of a graduate faculty with a long tradition of personal and professional concern for students, and the opportunities afforded graduate students for involvement, recognition, and support.

The Graduate College is responsible for the review and approval of proposals for new graduate programs and for the periodic survey and evaluation of existing programs. Through its administration of scholarship, fellowship, and research assistantship funds, the college encourages research and strengthening of departments. Additionally, the college works with the other colleges and departments of the University to formulate policies concerning selection, supervision, and support of graduate students.

The faculty of the Graduate College is made up of all University tenure-track faculty members at the ranks of assistant professor, associate professor, and professor. The Graduate Council, elected from and by the graduate faculty, is the executive committee of the graduate faculty and is advisory to the dean of the Graduate College.

## Manual of Rules and Regulations

The current edition of the Manual of Rules and Regulations is available on the college's website.

## Office of Graduate Diversity, Equity, and Inclusion

The Office of Graduate Diversity, Equity, and Inclusion is dedicated to providing academic assistance to graduate students from underrepresented populations across graduate programs, building a sustainable practice of inclusion that nourishes and attracts underrepresented graduate students campuswide, and fostering community-building through individual and group activities focused on successful academic progress.

## Graduate Student Success

The Graduate College takes a holistic approach to graduate student and postdoctoral scholar preparation. Whether a student's goal is a career in academe, industry, government or elsewhere, professional development can expand one's options and make a student more marketable to employers. The Graduate Student Success Office can help graduate students in the realms of:

- communication
- research and publication
- diversity
- funding
- teaching
- leadership
- careers
- wellness

## Research Resources

Many of the University's diverse research activities are centrally administered by the Office of the Vice President for Research, which has a cooperative relationship with the Graduate College.

## Graduate Student Senate

The Graduate Student Senate is the University's graduate student body representative organization. Representatives are elected annually from each University department that has a graduate degree program. The senate's primary purpose is to serve the interests of the graduate student body in matters affecting its welfare. The senate advises the dean of the Graduate College on matters pertaining to the college.

## Programs

## Degrees Offered

The Graduate College confers the Master of Arts (M.A.), Master of Science (M.S.), Master of Accountancy (M.Ac.), Master of Arts in Teaching (M.A.T.), Master of Computer Science (M.C.S.), Master of Fine Arts (M.F.A.), Master of Health Administration (M.H.A.), Master of Public Affairs (M.P.Aff.), Master of Public Health (M.P.H.), Specialist in Education (Ed.S.), Master of Science in Nursing (M.S.N.), Master of Social Work (M.S.W.), Doctor of Philosophy (Ph.D.), Doctor of Education (Ed.D.), Doctor of Musical Arts (D.M.A.), Doctor of Nursing Practice (D.N.P.), Doctor of Physical Therapy (D.P.T.), and Doctor of Audiology (Au.D.) degrees.

The college currently confers degrees in the following major fields.

Accounting: M.Ac.<sup>2</sup>  
 Actuarial Science: M.S.<sup>2</sup>  
 African American World Studies: M.A.<sup>1</sup>  
 American Studies: M.A.<sup>1</sup>, Ph.D.  
 Anatomy and Cell Biology: M.S.<sup>3</sup>, Ph.D.<sup>3</sup> (see Biomedical Science)  
 Anthropology: M.A.<sup>1</sup>, Ph.D.  
 Applied Mathematical and Computational Sciences: Ph.D.  
 Art: M.A.<sup>1</sup>, M.F.A.<sup>1</sup>  
 Art History: M.A.<sup>1</sup>, Ph.D.  
 Asian Civilizations: M.A.<sup>1</sup>  
 Astronomy: M.S.<sup>1</sup>  
 Athletic Training: M.S.<sup>1</sup>  
 Biochemistry and Molecular Biology: M.S., Ph.D.  
 Biology: M.S.<sup>3</sup>, Ph.D.<sup>3</sup> (see Integrated Biology)  
 Biomedical Engineering: M.S.<sup>1</sup>, Ph.D.  
 Biomedical Science: M.S.<sup>1</sup>, Ph.D.  
 Biostatistics: M.S.<sup>1</sup>, Ph.D.  
 Book Arts: M.F.A.  
 Business Administration: M.A.<sup>1</sup>, Ph.D.  
 Business Analytics: M.S.  
 Chemical and Biochemical Engineering: M.S.<sup>1</sup>, Ph.D.  
 Chemistry: M.S.<sup>1</sup>, Ph.D.

Civil and Environmental Engineering: M.S.<sup>1</sup>, Ph.D.  
 Classics: M.A.<sup>1</sup>, Ph.D.  
 Clinical Investigation: M.S.<sup>1</sup>  
 Communication Studies: M.A.<sup>1</sup>, Ph.D.  
 Community and Behavioral Health: Ph.D.  
 Computer Science: M.S.<sup>1</sup>, M.C.S.<sup>2</sup>, Ph.D.  
 Counselor Education, M.A., Ph.D.  
 Criminology: Ph.D.  
 Dance: M.F.A.  
 Data Science: M.S.  
 Dental Public Health: M.S.  
 Economics: M.A.<sup>1</sup>, Ph.D.  
 Education: M.A.<sup>1</sup>, M.A.T.<sup>2</sup>, Ed.S.<sup>2</sup>, Ph.D.  
 Educational Policy and Leadership Studies: M.A.<sup>1</sup>, Ed.D.<sup>2</sup>, Ed.S.<sup>2</sup>, Ph.D.  
 Electrical and Computer Engineering: M.S.<sup>1</sup>, Ph.D.  
 Elementary Education: M.A., Ph.D.  
 Engineering and Information Science, M.S.<sup>2</sup>  
 English: M.A.<sup>1</sup>, M.F.A., Ph.D.  
 Epidemiology: M.S.<sup>1</sup>, Ph.D.  
 Exercise Science: M.S.<sup>3</sup>, Ph.D.<sup>3</sup>  
 Film and Video Production: M.A.<sup>1</sup>, M.F.A.  
 Film Studies: M.A.<sup>1</sup>, Ph.D.  
 Finance: M.S.<sup>1</sup>  
 Free Radical and Radiation Biology: M.S.<sup>3</sup>, Ph.D.<sup>3</sup> (see Biomedical Science)  
 French and Francophone World Studies: M.A.<sup>1</sup>, Ph.D.  
 Genetics: Ph.D.  
 Geography: M.A.<sup>1</sup>, Ph.D.  
 Geoscience: M.S.<sup>1</sup>, Ph.D.  
 German: M.A.<sup>1</sup>  
 Greek: M.A.<sup>1</sup>  
 Health and Human Physiology: M.S.<sup>1</sup>, Ph.D.  
 Health and Sport Studies: M.A.<sup>3</sup>, Ph.D.<sup>3</sup>  
 Health Management and Policy: M.H.A.<sup>2</sup>, Ph.D.<sup>3</sup>  
 Health Policy: M.S.  
 Health Services and Policy Research: M.S.<sup>2</sup>  
 Health Services and Policy: Ph.D.  
 History: M.A.<sup>1</sup>, Ph.D.  
 Human Toxicology: M.S., Ph.D.  
 Immunology: Ph.D.  
 Industrial Engineering: M.S.<sup>1</sup>, Ph.D.  
 Informatics: M.S.<sup>1</sup>, Ph.D.  
 Integrated Biology: M.S.<sup>1</sup>, Ph.D.  
 Integrative Physiology: Ph.D.<sup>3</sup> (see Health and Human Physiology)  
 Interdisciplinary Studies: M.A.<sup>1</sup>, M.F.A., M.S.<sup>1</sup>, Ph.D.  
 International Studies: M.A.<sup>3</sup>  
 Latin: M.A.<sup>1</sup>  
 Library and Information Science: M.A.<sup>1</sup>  
 Linguistics: M.A.<sup>1</sup>, Ph.D.  
 Literary Translation: M.F.A.  
 Mass Communication: M.A., Ph.D.  
 Mathematics: M.S.<sup>1</sup>, Ph.D.  
 Mechanical Engineering: M.S.<sup>1</sup>, Ph.D.  
 Microbiology: M.S., Ph.D.  
 Molecular and Cellular Biology: Ph.D.<sup>3</sup> (see Biomedical Science)  
 Molecular Biology: Ph.D.<sup>3</sup> (see Biomedical Science)  
 Molecular Physiology and Biophysics: M.S.<sup>3</sup>, Ph.D.<sup>3</sup> (see Biomedical Science)  
 Music: M.A.<sup>1</sup>, D.M.A., Ph.D.  
 Neuroscience: Ph.D.  
 Nursing: M.S.N.<sup>1</sup>, D.N.P., Ph.D.  
 Occupational and Environmental Health: M.S.<sup>1</sup>, Ph.D.  
 Operative Dentistry: M.S.<sup>3</sup>  
 Oral Science: M.S., Ph.D.  
 Orthodontics: M.S.

Pathology: M.S.  
 Pharmacology: M.S.<sup>3</sup>, Ph.D.<sup>3</sup> (see Biomedical Science)  
 Pharmacy: M.S.<sup>1</sup>, Ph.D.  
 Philosophy: M.A.<sup>1</sup>, Ph.D.  
 Physical Rehabilitation Science: M.A.<sup>1</sup>, Ph.D.  
 Physical Therapy: D.P.T.  
 Physics: M.S.<sup>1</sup>, Ph.D.  
 Political Science: M.A.<sup>1</sup>, Ph.D.  
 Psychological and Quantitative Foundations: M.A.<sup>1</sup>, Ed.S.<sup>2</sup>, Ph.D.  
 Psychology: M.A.<sup>1</sup>, Ph.D.  
 Public Affairs: M.P.Aff.<sup>2</sup>  
 Public Health: M.P.H.<sup>2</sup>  
 Religious Studies: M.A.<sup>1</sup>, Ph.D.  
 Science Education: M.S.<sup>1</sup>, M.A.T.<sup>2</sup>, Ph.D.  
 Second Language Acquisition: Ph.D.  
 Secondary Education: M.A., M.A.T., Ph.D.  
 Social Work: M.S.W.<sup>1</sup>, Ph.D.  
 Sociology: M.A.<sup>1</sup>, Ph.D.  
 Spanish: M.A.<sup>1</sup>, Ph.D.  
 Spanish Creative Writing: M.F.A.  
 Special Education: M.A.<sup>1</sup>, Ph.D.  
 Speech and Hearing Science: Ph.D.  
 Speech Pathology and Audiology: M.A.<sup>1</sup>, Au.D.  
 Sport and Recreation Management: M.A.  
 Statistical Genetics: Ph.D.<sup>3</sup>  
 Statistics: M.S.<sup>1</sup>, Ph.D.  
 Stomatology: M.S.<sup>3</sup>  
 Strategic Communication: M.A.<sup>2</sup>  
 Sustainable Development: M.S.  
 Teaching and Learning: M.A.<sup>1</sup>, M.A.T.<sup>2</sup>, Ph.D.  
 Theatre Arts: M.F.A.  
 Translational Biomedicine: M.S.<sup>2</sup>, Ph.D.<sup>3</sup>  
 Urban and Regional Planning: M.S.<sup>1</sup>  
 Women's Studies: Ph.D.<sup>3</sup>

<sup>1</sup> Degree offered with or without thesis

<sup>2</sup> Nonthesis degree

<sup>3</sup> Student entry suspended

## Interdisciplinary Degree Programs

The Graduate College participates in a number of University of Iowa interdisciplinary degree programs. Detailed information about the following master's and doctoral degree programs is provided later in these Graduate College sections of the Catalog: Applied Mathematical and Computational Sciences [p. 1699], Genetics [p. 1733], Human Toxicology [p. 1736], Immunology [p. 1739], Informatics [p. 1743], Molecular Medicine [p. 1770], Neuroscience [p. 1772], Sustainable Development [p. 1793], and Translational Biomedicine [p. 1797].

In addition to the degree programs listed above, the graduate faculty has authorized the awarding of interdisciplinary master's and doctoral degrees. Students seeking approval for interdisciplinary master's and doctoral programs must previously have been admitted to and enrolled in a departmental program in the Graduate College. See sections X.A. and XII.D. in the Manual of Rules and Regulations on the college's website.



## Combined Programs

### Combined Programs Offered Through the Graduate College

Various combined programs have been developed whereby students work simultaneously toward two degrees. Consult the appropriate Catalog sections for more information. Established combined graduate programs include, but may not be limited to:

#### **B.A. in Biology, Chemistry, Environmental Sciences, Physics/ M.A.T. (Science Education Subprogram)**

The combined B.A./M.A.T. program with a science education subprogram enables Bachelor of Arts students majoring in biology, chemistry, environmental sciences, or physics to begin work toward the M.A.T. while completing the bachelor's degree. Students admitted to the program may count 19 s.h. of credit toward both the B.A. and M.A.T. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Education; see Biology [p. 188], Chemistry [p. 220], Environmental Sciences [p. 486], or Physics and Astronomy [p. 933] and the Master of Arts in Teaching, M.A.T. [p. 1524] (science education subprogram) in the Catalog.

#### **B.A. in Biology/M.P.H. (Epidemiology Subprogram) or M.S. in Epidemiology**

The combined B.A. in biology/M.P.H. with an epidemiology subprogram and the combined B.A. in biology/M.S. in epidemiology enable Bachelor of Arts students majoring in biology to begin work toward the M.P.H. or M.S. while completing the bachelor's degree. Students admitted to the M.P.H. program may count 17 s.h. of credit toward both the B.A. and the M.P.H. degree requirements. Students admitted to the M.S. program may count 15 s.h. of credit toward both the B.A. and the M.S. degree requirements. Students admitted to either program may also maximize their selection of upper-level classes for advanced training in epidemiology. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Public Health; see the Master of Public Health, M.P.H. [p. 2078] (epidemiology subprogram) and the M.S. in epidemiology [p. 2117] in the Catalog.

#### **B.A. in Elementary Education (Special Education Subprogram)/ M.A. in Teaching and Learning (Special Education Subprogram)**

The combined B.A./M.A. program with a special education subprogram enables students to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.A. and M.A. degree requirements. Offered by the Graduate College and the College of Education; see the M.A. in teaching and learning [p. 1518] (special education subprogram) in the Catalog.

#### **B.A. in Geography (Geographic Information Science Track) or B.S. in Geography/M.S. in Informatics (Geoinformatics Subprogram)**

The combined B.A. in geography with a geographic information science track or B.S. in geography/M.S. in informatics with a geoinformatics subprogram enables undergraduate students majoring in geography to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. toward both the B.A. or B.S. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Geographical and Sustainability Sciences [p. 565] and the M.S. in informatics [p. 1749] (geoinformatics subprogram) in the Catalog.

#### **B.A. in German/M.A. in German**

The combined B.A./M.A. program in German enables undergraduate students majoring in German to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.A. and M.A. degree requirements. They also have the opportunity for early entrance into advanced courses in German. Offered by the Graduate College and the College of Liberal Arts and Sciences; see German [p. 601] in the Catalog.

#### **B.A. in Linguistics/M.A. in Linguistics (TESL Subprogram)**

The combined B.A./M.A. program in linguistics with a TESL (Teaching English as a Second Language) subprogram enables students majoring in linguistics to begin work toward the M.A. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of advanced coursework toward both the B.A. and M.A. degree requirements and may take selected graduate-level courses before they have been awarded the B.A. degree. They also may gain experience teaching English as a Second Language (ESL) at the college level early in their graduate careers. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Linguistics [p. 805] in the Catalog.

#### **B.A. in Mathematics/M.A.T. (Mathematics Education Subprogram)**

The combined B.A./M.A.T. program with a mathematics education subprogram enables Bachelor of Arts students majoring in mathematics to begin work toward the M.A.T. while completing the bachelor's degree. Students admitted to the program may count 18 s.h. of credit toward both the B.A. and M.A.T. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Education; see the Master of Arts in Teaching, M.A.T. [p. 1522] (mathematics education subprogram) in the Catalog.

#### **B.A. in Psychology/M.P.H. (Community and Behavioral Health Subprogram)**

The combined B.A. in psychology/M.P.H. program with a community and behavioral health subprogram enables Bachelor of Arts students majoring in psychology to begin work toward the M.P.H. while completing the bachelor's degree. Students admitted to the program may count 15 s.h. of credit toward both the B.A. and M.P.H. degree requirements. Offered by the Graduate College, the College

of Liberal Arts and Sciences, and the College of Public Health; see the Master of Public Health, M.P.H. [p. 2078] (community and behavioral health subprogram) in the Catalog.

### **B.A. or B.S. in Computer Science/M.C.S.**

The combined B.A. or B.S. in computer science/M.C.S. program enables undergraduate students majoring in computer science to begin work toward the M.C.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of coursework, typically advanced technical courses and electives, toward both the bachelor's and the M.C.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Computer Science [p. 319] in the Catalog.

### **B.A. or B.S. in Environmental Policy and Planning/M.S. in Urban and Regional Planning**

The combined B.A. or B.S. in environmental policy and planning/M.S. in urban and regional planning enables undergraduate students majoring in environmental policy and planning to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 18 s.h. of credit toward both the B.A. or B.S. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Environmental Policy and Planning [p. 471] and the M.S. in urban and regional planning [p. 1787] in the Catalog.

### **B.A. or B.S. in Informatics/M.S. in Informatics**

The combined B.A. or B.S. in informatics/M.S. in informatics enables students majoring in informatics to begin work toward the M.S. while completing the bachelor's degree. Offered by the Graduate College and the College of Liberal Arts and Sciences; see the M.S. in informatics [p. 1749] in the Catalog.

### **B.A. or B.S. in Public Health/M.P.H. (Policy Subprogram)**

The combined B.A. or B.S. in public health/M.P.H. program with a policy subprogram enables students majoring in public health to begin work toward the M.P.H. while completing the bachelor's degree. Students admitted to the program may count 15 s.h. of credit toward both the B.A. or B.S. and M.P.H. degree requirements. Offered by the Graduate College and the College of Public Health; see the Master of Public Health, M.P.H. [p. 2078] (policy subprogram) in the Catalog.

### **B.A. or B.S./M.A. in Library and Information Science**

The combined B.A. or B.S./M.A. in library and information science enables undergraduate students to begin work toward the M.A. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.A. or B.S. and M.A. degree requirements. Offered by the Graduate College; see the M.A. in library and information science [p. 1764] in the Catalog.

### **B.A. or B.S./M.P.Aff.**

The combined B.A. or B.S./M.P.Aff. enables undergraduate students to begin work toward the M.P.Aff. while completing the bachelor's degree. Students admitted to the program may count 15 s.h. of credit toward both the B.A. or B.S. and M.P.Aff. degree requirements. Offered by the Graduate

College; see the Master of Public Affairs, M.P.Aff. [p. 1783] in the Catalog.

### **B.A. or B.S./M.S. in Business Analytics (Career Subprogram)**

The combined B.A. or B.S./M.S. in business analytics with a career subprogram allows the following undergraduate students majoring in actuarial science (B.S.); applied physics (B.S.); biology (B.A. or B.S.); chemistry (B.A. or B.S.); computer science (B.A. or B.S.); criminology, law and justice (B.A. or B.S.); data science (B.S.); economics (B.A. or B.S.); English (B.A.); English and creative writing (B.A.); enterprise leadership (B.A.); ethics and public policy (B.A.); history (B.A.); informatics (B.A. or B.S.); interdepartmental studies (B.A.); journalism and mass communication (B.A.); linguistics (B.A.); mathematics (B.A. or B.S.); physics (B.A. or B.S.); political science (B.A. or B.S.); psychology (B.A. or B.S.); sociology (B.A. or B.S.); and statistics (B.S.) to begin work toward the M.S. in business analytics while completing their undergraduate degree. Students admitted to the program may count 14 s.h. of credit toward both the B.A. or B.S. and M.S. degree requirements. This provides students with the opportunity to complete both degrees in less time than it would take them to complete the degrees separately. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the Tippie College of Business; see the M.S. in business analytics (career) [p. 1233] in the Catalog.

### **B.A. or B.S./M.S. in Finance**

The combined B.A. or B.S./M.S. in finance allows the following undergraduate students majoring in actuarial science (B.S.); applied physics (B.S.); biology (B.A. or B.S.); chemistry (B.A. or B.S.); computer science (B.A. or B.S.); criminology, law and justice (B.A. or B.S.); data science (B.S.); English (B.A.); English and creative writing (B.A.); enterprise leadership (B.A.); ethics and public policy (B.A.); history (B.A.); informatics (B.A. or B.S.); interdepartmental studies (B.A.); journalism and mass communication (B.A.); linguistics (B.A.); mathematics (B.A. or B.S.); physics (B.A. or B.S.); political science (B.A. or B.S.); psychology (B.A. or B.S.); sociology (B.A. or B.S.); and statistics (B.S.) to begin work toward the M.S. in finance while completing their undergraduate degree. Students admitted to the program may count 16 s.h. of credit toward both the B.A. or B.S. and M.S. degree requirements. This provides students with the opportunity to complete both degrees in less time than it would take them to complete the degrees separately. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the Tippie College of Business; see the M.S. in finance [p. 1281] in the Catalog.

### **B.B.A./M.S. in Business Analytics (Career Subprogram)**

The combined B.B.A./M.S. in business analytics with a career subprogram enables undergraduate students majoring in accounting, business administration, economics, finance, management, business analytics and information systems, and marketing to begin work on the M.S. while completing the Bachelor of Business Administration degree. Students admitted to the program may count 14 s.h. of credit toward both the B.B.A. and M.S. degree requirements. Students can complete both degrees in less time than it would take them to complete them separately. Offered by the Graduate College and the Tippie College of Business; see the M.S. in business analytics (career) [p. 1233] in the Catalog.

## **B.B.A./M.S. in Finance**

The combined B.B.A./M.S. program in finance allows undergraduate students majoring in business administration to begin work toward the M.S. while completing the Bachelor of Business Administration degree. Students admitted to the program may count 16 s.h. of credit toward both the B.B.A. and M.S. degree requirements. The program provides students with the opportunity to complete both degrees in five years instead of six. Offered by the Graduate College and the Tippie College of Business; see the M.S. in finance [p. 1281] in the Catalog.

## **B.S. in Biochemistry/Ph.D. in Biochemistry**

The combined B.S. in biochemistry/Ph.D. program in biochemistry enables Bachelor of Science students majoring in biochemistry to begin work toward the Ph.D. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and Ph.D. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the Carver College of Medicine; see the Department of Biochemistry and Molecular Biology in the Catalog.

## **B.S. in Exercise Science/M.S. in Athletic Training**

The combined B.S. in exercise science/M.S. in athletic training enables students majoring in exercise science to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 21 s.h. of credit toward both the B.S. and M.S. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the Carver College of Medicine; see the M.S. in athletic training [p. 1924] in the Catalog.

## **B.S. in Microbiology/Ph.D. in Microbiology**

The combined B.S. in microbiology/Ph.D. in microbiology enables undergraduate students majoring in microbiology to begin work toward the Ph.D. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and Ph.D. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the Carver College of Medicine; see the Department of Microbiology and Immunology [p. 1890] in the Catalog.

## **B.S. in Statistics/M.P.H. (Biostatistics Subprogram) or M.S. in Biostatistics**

The combined B.S. in statistics/M.P.H. program with a biostatistics subprogram enables Bachelor of Science students majoring in statistics to begin work toward the M.P.H. while completing the bachelor's degree. Students admitted to the M.P.H. program may count 15 s.h. of credit toward both the B.S. and the M.P.H. degree requirements. Students admitted to the M.S. program may count 12 s.h. of credit toward both the B.S. and the M.S. degree requirements. Offered by the Graduate College, the College of Liberal Arts and Sciences, and the College of Public Health; see the B.S. in statistics [p. 1140], Master of Public Health, M.P.H. [p. 2078] (biostatistics subprogram), and M.S. in biostatistics [p. 2096] in the Catalog.

## **B.S. in Statistics/M.S. in Statistics**

The combined B.S./M.S. program in statistics enables undergraduate students majoring in statistics to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Statistics and Actuarial Science in the Catalog.

## **B.S. in Therapeutic Recreation/M.S. in Health and Human Physiology (Child Life Subprogram)**

The combined B.S. in therapeutic recreation/M.S. in health and human physiology with a child life subprogram enables undergraduate students majoring in therapeutic recreation to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S. and M.S. degree requirements. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Health and Human Physiology [p. 633] in the Catalog.

## **B.S.E. in Biomedical Engineering/M.P.H. (Occupational and Environmental Health Subprogram) or M.S. in Occupational and Environmental Health (Industrial Hygiene Subprogram)**

The combined B.S.E. in biomedical engineering/M.S. in occupational and environmental health with an industrial hygiene subprogram enables undergraduate students majoring in biomedical engineering to begin work toward the M.S. in occupational and environmental health while completing the bachelor's degree. Students admitted to the M.P.H. program may count 15 s.h. of credit toward both the B.S.E. and the M.P.H. degree requirements. Students admitted to the M.S. program may count 15 s.h. of credit toward both the B.S.E. and the M.S. degree requirements. Offered by the Graduate College, the College of Engineering, and the College of Public Health; see the B.S.E. in biomedical engineering [p. 1564], Master of Public Health, M.P.H. [p. 2078] (occupational and environmental health subprogram), and the M.S. in occupational and environmental health [p. 2142] (industrial hygiene subprogram) in the Catalog.

## **B.S.E. in Biomedical Engineering/M.S. in Biomedical Engineering**

The combined B.S.E./M.S. program in biomedical engineering enables undergraduate students majoring in biomedical engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of credit toward both the B.S.E. and M.S. degree requirements. They also may attend and participate in the departmental graduate seminar and work on a master's thesis or research project before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see the Roy J. Carver Department of Biomedical Engineering [p. 1557] in the Catalog.

### **B.S.E. in Chemical Engineering/M.S. in Chemical and Biochemical Engineering**

The combined B.S.E. in chemical engineering/M.S. in chemical and biochemical engineering enables undergraduate students majoring in chemical engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 12 s.h. of coursework, typically advanced chemistry sequences and electives, toward both the B.S.E. and M.S. degree requirements. Offered by the Graduate College and the College of Engineering; see Chemical and Biochemical Engineering [p. 1572] in the Catalog.

### **B.S.E. in Chemical Engineering/M.S. in Civil and Environmental Engineering**

The combined B.S.E. in chemical engineering/M.S. in civil and environmental engineering enables undergraduate students majoring in chemical engineering to begin work toward the M.S. in civil and environmental engineering while completing the bachelor's degree. Students admitted to the program may count 9 s.h. of coursework toward both the B.S.E. and M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see the B.S.E. in chemical and biochemical engineering [p. 1578] and the M.S. in civil and environmental engineering [p. 1611] in the Catalog.

### **B.S.E. in Civil Engineering/M.S. in Civil and Environmental Engineering**

The combined B.S.E. in civil engineering/M.S. in civil and environmental engineering enables undergraduate students majoring in civil engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 9 s.h. of coursework toward both the B.S.E. and M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements before they have been awarded the B.S.E. degree. They may attend and participate in the departmental graduate seminar and work on a master's thesis or research project before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Civil and Environmental Engineering [p. 1593] in the Catalog.

### **B.S.E. in Civil Engineering/M.S. in Urban and Regional Planning**

The combined B.S.E. in civil engineering/M.S. in urban and regional planning enables undergraduate students majoring in civil engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 18 s.h. of credit toward both the B.S.E. and M.S. degree requirements. They also may attend and participate in the departmental graduate seminar and work on a master's thesis or research project before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see the B.S.E. in civil and environmental engineering [p. 1602] and the M.S. in urban and regional planning [p. 1787] in the Catalog.

### **B.S.E. in Electrical Engineering/M.S. in Electrical and Computer Engineering**

The combined B.S.E. in electrical engineering/M.S. in electrical and computer engineering enables undergraduate students majoring in electrical engineering to begin work toward

the M.S. while completing the bachelor's degree. Students admitted to the program may count 9 s.h. toward both the B.S.E. and M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements and engage in thesis-level research before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Electrical and Computer Engineering [p. 1625] in the Catalog.

### **B.S.E. in Industrial Engineering/M.S. in Industrial Engineering**

The combined B.S.E./M.S. program in industrial engineering enables undergraduate students majoring in industrial engineering to begin work toward the M.S. while completing the bachelor's degree. Students admitted to the program may count 9 s.h. of coursework toward both the B.S.E. and M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements, attend one of the department's graduate seminars, and work on master's thesis research before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Industrial and Systems Engineering [p. 1642] in the Catalog.

### **B.S.E. in Mechanical Engineering/M.S. in Civil and Environmental Engineering**

The combined B.S.E. in mechanical engineering/M.S. in civil and environmental engineering enables undergraduate students majoring in mechanical engineering to begin work toward the M.S. in civil and environmental engineering while completing the bachelor's degree. Students admitted to the program may count 9 s.h. of coursework toward both the B.S.E. and M.S. degree requirements. They also may count an additional 3 s.h. toward the M.S. degree requirements before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see the B.S.E. in mechanical engineering [p. 1668] and the M.S. in civil and environmental engineering [p. 1611] in the Catalog.

### **B.S.E. in Mechanical Engineering/M.S. in Mechanical Engineering**

The combined B.S.E./M.S. program in mechanical engineering enables undergraduates majoring in mechanical engineering to begin work toward the M.S. degree while completing the bachelor's degree. Students admitted to the program may count 12 s.h. toward both the B.S.E. and M.S. degree requirements. They also may attend a graduate seminar and participate in master's thesis research before they have been awarded the B.S.E. degree. Offered by the Graduate College and the College of Engineering; see Mechanical Engineering [p. 1660] in the Catalog.

### **B.S.N. in Nursing (RN Subprogram)/D.N.P. in Nursing**

The combined B.S.N. in nursing (RN subprogram)/D.N.P. in nursing enables students to begin work toward the D.N.P. while completing the bachelor's degree. Students admitted to the program may count 9 s.h. of credit toward both the B.S.N. and D.N.P. degree requirements. Offered by the Graduate College and the College of Nursing, see the Bachelor of Science in Nursing, B.S.N. [p. 1998] (nursing-RN subprogram) and the Doctor of Nursing Practice, D.N.P. [p. 2008] in the Catalog.

## **Au.D./Ph.D. in Speech and Hearing Science**

The combined Au.D./Ph.D. program in speech and hearing science is designed for students who would like to practice audiology and hold a faculty position at a university. Students admitted to the program work concurrently toward the Doctor of Audiology and the Doctor of Philosophy; they may count 30 s.h. toward the requirements of both degrees. Offered by the Graduate College and the College of Liberal Arts and Sciences; see Communication Sciences and Disorders [p. 282] in the Catalog.

## **Graduate Degrees/Certificates in Business Fundamentals, Finance, Leadership, Marketing**

Students can pursue a professional Certificate in Business Fundamentals, Finance, Leadership, or Marketing concurrently with their graduate degree. With graduate program approval, students may count up to 9 s.h. from a professional certificate toward their graduate degree. With approval from the professional certificate program, students may count up to 3 s.h. from any graduate degree program toward their certificate. Offered by the Graduate College and Graduate Management Programs (Tippie College of Business), see the professional Certificates in Business Fundamentals [p. 1319], Finance [p. 1321], Leadership [p. 1325], or Marketing [p. 1326] in the Catalog.

## **J.D./Graduate Degrees**

The College of Law and several Graduate College programs and schools have developed combined programs in which students pursue the Juris Doctor (J.D.) degree and a graduate degree concurrently. Offered by the Graduate College and the College of Law; see the Manual of Rules and Regulations on the Graduate College website and the Juris Doctor, J.D. [p. 1821] in the Catalog.

## **M.A. in Library and Information Science/Certificate in Book Studies/Book Arts and Technologies**

The combined M.A. in library and information science and Certificate in Book Studies/Book Arts and Technologies prepares students for careers in special collections librarianship. Students admitted to the program receive training in the management of varied types of special collections, such as rare books, manuscripts, archives, graphics, music, and ephemera. Offered by the Graduate College; see the M.A. in library and information science [p. 1764] and the Certificate in Book Studies/Book Arts and Technologies [p. 1727] in the Catalog.

## **M.A. in Library and Information Science/M.F.A. in Book Arts**

The combined M.A. in library and information science/M.F.A. in book arts allows graduate students with strong interests in the physical book to acquire training in the book arts, book history, and material book studies. The earned expertise in the production and legacy of the book as a physical artifact combined with expertise in library and information science can be an asset for those focused on careers in special collections libraries and archives. Students in the combined program earn both degrees by completing fewer semester hours than if each degree was completed separately. Offered by the Graduate College; see the M.A. in

library and information science [p. 1764] and the M.F.A. in book arts [p. 1724] in the Catalog.

## **M.D./Ph.D. (Medical Scientist Training Program)**

The combined Doctor of Medicine/Doctor of Philosophy program prepares students for careers in academic medicine, with emphasis on basic and clinical research. Offered by the Graduate College and the Carver College of Medicine; see Medical Scientist Train [p. 1888]ing Program in the Catalog.

## **Certificates**

The Graduate College also participates with other University of Iowa colleges in offering the following graduate certificates.

### **Adult Gerontology Acute Care Nurse Practitioner**

The Certificate in Adult Gerontology Acute Care Nurse Practitioner is a program for post-master's Advanced Practice Registered Nurse degree students who would like to pursue a second specialty. See the Certificate in Adult Gerontology Acute Care Nurse Practitioner [p. 2024] in the Catalog.

### **Adult Gerontology Primary Care Nurse Practitioner**

The Certificate in Adult Gerontology Primary Care Nurse Practitioner is a program for post-master's Advanced Practice Registered Nurse degree students who would like to pursue a second specialty. See the Certificate in Adult Gerontology Primary Care Nurse Practitioner [p. 2025] in the Catalog.

### **African American Studies**

The Certificate in African American Studies is a program that increases intellectual knowledge and understanding of African American culture and experience. See the Certificate in African American Studies [p. 43] in the Catalog.

### **Aging and Longevity Studies**

The Aging and Longevity Studies Program is a multidisciplinary certificate program administered by the College of Liberal Arts and Sciences in cooperation with other University of Iowa colleges. The program is designed to complement graduate degree programs or to serve as a stand-alone nondegree program for students with academic, professional, research, or service career interests in aging. See the Certificate in Aging and Longevity Studies [p. 49] in the Catalog.

### **Agricultural Safety and Health**

The Certificate in Agricultural Safety and Health is a postbaccalaureate program for practicing health care professionals serving rural areas and for health professions students who intend to practice in rural areas. The program is designed to help rural health professionals address safety and health issues in farm settings. See the Certificate in Agricultural Safety and Health [p. 2092] in the Catalog.

### **Applied Behavior Analysis**

The Certificate in Applied Behavior Analysis develops skills in behavioral intervention and intensive instruction. The course sequence contributes to eligibility for certification as a

board-certified behavior analyst (BCBA). See the Certificate in Applied Behavior Analysis [p. 1386] in the Catalog.

## Artificial Intelligence, Modeling and Simulation in Engineering

The Certificate in Artificial Intelligence, Modeling and Simulation (AIMS) in Engineering offers graduate students enrolled in the College of Engineering an opportunity to specialize in artificial intelligence, machine learning, deep learning, modeling and simulation, and uncertainty quantification. UI graduate students from other disciplines also may apply. See the Certificate in Artificial Intelligence, Modeling and Simulation in Engineering [p. 1548] in the Catalog.

## Biostatistics

The Certificate in Biostatistics is open to students in University of Iowa graduate degree programs outside biostatistics and to individuals admitted to the Graduate College as nondegree students. The certificate program enables students to add a formal biostatistics emphasis to their degree programs. Students who complete the certificate in conjunction with a graduate degree may count a maximum of 6 s.h. of certificate credit toward their graduate degree. See the Certificate in Biostatistics [p. 2102] in the Catalog.

## Book Studies/Book Arts and Technologies

The Certificate in Book Studies/Book Arts and Technologies is designed to be completed in one year. The program is open to students who are enrolled in a graduate degree program at the University of Iowa as well as to students enrolled in the Graduate College with nondegree status. See the Certificate in Book Studies/Book Arts and Technologies [p. 1727] in the Catalog.

## Business Analytics

The Certificate in Business Analytics is open to students in University of Iowa graduate degree programs and to individuals admitted to the Graduate College as nondegree students. The certificate program is designed for working professionals and addresses a growing need to manage and analyze the rapidly increasing amount of data that is available to support business decision making. See the Certificate in Business Analytics [p. 1241] in the Catalog.

## Cognitive Science of Language

The Certificate in Cognitive Science of Language is designed to complement doctoral study. The certificate program is open to University of Iowa Ph.D. students in linguistics, neuroscience, psychology, and speech and hearing science. Ph.D. students in other disciplines may petition to be permitted to earn the certificate. Students must complete a formal application to enter the certificate program; they should contact the program's coordinator before they apply. See the Certificate in Cognitive Science of Language [p. 1729] in the Catalog.

## College Teaching

The Certificate in College Teaching complements discipline-oriented graduate programs and prepares students for careers in postsecondary education. The program is open to graduate students working toward a Ph.D. or other terminal graduate

degree. See the Certificate in College Teaching [p. 1732] in the Catalog.

## Emerging Infectious Disease Epidemiology

The Certificate in Emerging Infectious Disease Epidemiology is a postbaccalaureate program designed to meet the training needs in emerging infectious disease of international public health professionals as well as University of Iowa graduate students. Applicants to the program must hold a bachelor's degree. See the Certificate in Emerging Infectious Disease Epidemiology [p. 2109] in the Catalog.

## Family Nurse Practitioner

The Certificate in Family Nurse Practitioner is a program for post-master's Advanced Practice Registered Nurse degree students who would like to pursue a second specialty. See the Certificate in Family Nurse Practitioner [p. 2026] in the Catalog.

## Gender, Women's, and Sexuality Studies

The Certificate in Gender, Women's, and Sexuality Studies is open to students enrolled in graduate degree programs. See the Certificate in Gender, Women's, and Sexuality Studies [p. 564] in the Catalog.

## Global Health Studies

The Certificate in Global Health Studies is open to graduate and professional students, except for those in the College of Pharmacy who have earned the Pharm.D. degree—they are awarded the undergraduate certificate. Students must maintain a g.p.a. of at least 3.00 in work for certificate. See the Certificate in Global Health Studies [p. 631] in the Catalog.

## Health Systems

The Certificate in Health Systems is built on the foundational courses from the Doctor of Nursing Practice (D.N.P.) with a health systems subprogram. The certificate is available to post-master's degree students seeking additional preparation in the area of health systems/administration. See the Certificate in Health Systems [p. 2027] in the Catalog.

## Healthcare Management

The Certificate in Healthcare Management provides foundational business and leadership skills to physicians, nurses, and other clinicians, and managers. See the Certificate in Healthcare Management [p. 2137] in the Catalog.

## Informatics

The Certificate in Informatics requires a variable amount of graduate credit, depending on the student's choice of subprogram. The certificate program is designed for students enrolled in University of Iowa graduate degree programs who wish to study informatics as a complement to their degree program and for nondegree students who are interested in increasing their knowledge of informatics. See the Certificate in Informatics [p. 1756] in the Catalog.

## Institutional Research and Effectiveness

The Certificate in Institutional Research and Effectiveness (IRE) is offered with hybrid and conventional courses. The certificate program prepares professionals to use data for institutional decision making, reporting, and accountability in higher education and K-12 contexts. This certificate amends and complements students' competence in other areas (business affairs, information technology, student affairs, development, among other areas) to prepare them with the skills and capabilities to use data for educational improvement, accountability, quality, and equity. See the Certificate in Institutional Research and Effectiveness [p. 1432] in the Catalog.

## K-12 Equity and Inclusion

The Certificate in K-12 Equity and Inclusion is offered with hybrid and conventional courses. The certificate program offers educational professionals or nondegree-seeking students currently working in K-12 schools, districts, and area education agencies expertise in equity and inclusion to better support the needs and interests of a diversifying K-12 student population. See the Certificate in K-12 Equity and Inclusion [p. 1434] in the Catalog.

## Literary Translation

The Certificate in Literary Translation includes coursework in translation practice and techniques. Translation workshops and coursework in translation theory also are central to the certificate program as they are essential to the training of literary translators. See the Certificate in Literary Translation [p. 1195] in the Catalog.

## Native American and Indigenous Studies

The Native American and Indigenous Studies Program offers an interdisciplinary certificate program focusing on the histories, cultures, languages, arts, religious traditions, political and social organizations, economies, geographies, literatures, and contemporary legal and political concerns of Native Americans of the United States as well as other Indigenous peoples of the Western Hemisphere. See the Certificate in Native American and Indigenous Studies [p. 915] in the Catalog.

## Online Teaching

The Certificate in Online Teaching is designed to prepare students for the realities of online teaching and to help them expand their career options. The certificate is open to students in University of Iowa graduate degree programs and to individuals admitted to the Graduate College as nondegree students. See the Certificate in Online Teaching [p. 1436] in the Catalog.

## Pediatric Nurse Practitioner—Acute Care

The Certificate in Pediatric Nurse Practitioner—Acute Care is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty. See the Certificate in Pediatric Nurse Practitioner—Acute Care [p. 2028] in the Catalog.

## Pediatric Nurse Practitioner—Primary Care

The Certificate in Pediatric Nurse Practitioner—Primary Care is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty. See the Certificate in Pediatric Nurse Practitioner—Primary Care [p. 2029] in the Catalog.

## Psychiatric/Mental Health Nurse Practitioner

The Certificate in Psychiatric/Mental Health Nurse Practitioner is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty. See the Certificate in Psychiatric/Mental Health Nurse Practitioner [p. 2030] in the Catalog.

## Public Digital Humanities

The Certificate in Public Digital Humanities is open to all University of Iowa graduate students in good academic standing. Students take a theory and practice course, and select elective coursework to suit their disciplinary or technical needs. See the Certificate in Public Digital Humanities [p. 1792] in the Catalog.

## Public Health

The Certificate in Public Health is designed to improve public health practice and public health workforce capacity in Iowa and the upper Midwest. It is intended primarily for individuals in public health practice, those in the workforce, and those interested in strengthening their knowledge and skills in basic public health competencies. See the Certificate in Public Health [p. 2090] in the Catalog.

## Special Collections Librarianship

The Certificate in Special Collections Librarianship includes coursework that introduces students to the core theories supporting the collection and management of rare books, archival records, and manuscript collections. See the Certificate in Special Collections Librarianship [p. 1769] in the Catalog.

## Sustainable Water Development

The Certificate in Sustainable Water Development trains science, technology, engineering, and mathematics (STEM) graduate students to address future challenges of water scarcity and variability while also meeting the food and energy demands of Earth's growing population. See the Certificate in Sustainable Water Development [p. 1682] in the Catalog.

## Talent Development

The Certificate in Talent Development requires 14 s.h. of graduate credit. The certificate is open to students in University of Iowa graduate degree programs and to individuals admitted to the Graduate College as nondegree students. The purpose of the certificate is to increase understanding of talented individuals, the process of talent development and the creative process, and prepare advocates for talented individuals. In addition to coursework, students design a culminating original project aligned with a career objective or personal interest. Students may use the coursework embedded in the certificate to apply to the State of Iowa Gifted and Talented teaching endorsement. To

learn more or apply, see the Certificate in Talent Development [p. 1464] in the Catalog.

## Translational and Clinical Investigation

The Certificate in Translational and Clinical Investigation is designed for clinicians who seek advanced training in clinical methodology and applied patient-oriented research skills. Students in the certificate program must be practicing academic clinicians who have completed doctoral training. See the Certificate in Translational and Clinical Investigation [p. 2151] in the Catalog.

## Transportation Planning

The Certificate in Transportation Planning includes a choice of coursework in traffic engineering, transportation and land use planning, design of transportation systems, transportation demand analysis, transportation policy and planning, as well as other transportation areas. Students may earn the certificate in conjunction with an M.S. or Ph.D. in civil and environmental engineering or with an M.S. in urban and regional planning.

Individuals working toward degrees in other transportation-related disciplines are encouraged to apply to the Transportation Planning Program. Depending on a student's background, additional coursework in statistics, computer programming, simulation, mathematics, and operations research may be required for the certificate. Credit earned in these courses may not be applicable to the student's degree program. See the Certificate in Transportation Planning [p. 1802] in the Catalog.

## Financial Support

Approximately half of the University's graduate students receive some form of University-administered financial assistance. For eligibility requirements and application procedures, see "Section VII. Graduate Appointments" in the Manual of Rules and Regulations on the college's website. The following are the primary sources of assistance. For a more complete description of funding available to graduate students, see the Graduate College website.

## Teaching and Research Assistantships

Teaching and research assistantships are available in most departments, but they prioritize doctoral students. Assistantship stipends are awarded for quarter-time, one-third-time, and half-time academic-year appointments and quarter-time, one-third-time, and half-time fiscal-year appointments; assistantships of 25 percent or higher also are eligible for tuition scholarships. Assistants (one-quarter-time or more) pay resident tuition rates for fee purposes. See the Graduate College website for a more complete description of graduate assistantship benefits.

## Iowa Arts Fellowships

Iowa Arts Fellowships are for University of Iowa graduate students entering M.F.A. programs. Typical stipends are for the academic year, with all tuition and a percentage of mandatory fees paid, plus a health insurance allowance, for one academic year (the remaining years of support must be provided by the appointing program). There are no

departmental service obligations while holding the first-year fellowship.

## Iowa Performance Fellowships

Iowa Performance Fellowships are for first-year D.M.A. candidates in a performance area of music. Recipients are nominated by the School of Music. Awards include academic-year fellowships, summer fellowships, and tuition and a percentage of mandatory fees paid (fellow is responsible for the remainder of fees). The School of Music provides a one-quarter-time research assistantship in years two and three.

## Graduate College Iowa Recruitment Fellowships

Iowa Recruitment Fellowships program enhances departmental recruitment packages by offering the most accomplished new doctoral students a stipend supplement for up to five years and stipend support for up to four summer terms (academic year graduate assistants) or a stipend supplement for the entire fiscal year (fiscal year graduate assistants). Tuition scholarships are to be paid during the academic years (fall, spring) by the appointing unit, while the Graduate College provides up to 1 s.h. of tuition and benefits for the summer terms. Recipients are nominated by their department.

## Graduate College Summer Fellowships

Graduate College Summer Fellowships are for advanced doctoral students who have completed their comprehensive exams, are working to complete their dissertations, and do not otherwise have funding for the summer session. Awards provide a summer stipend and up to 1 s.h. of tuition. Awardees must enroll in a summer session. Students enrolled in the four-week summer session are not eligible to receive the fellowship.

## T. Anne Cleary International Research Fellowships

The T. Anne Cleary International Research Fellowships are for doctoral students who have completed all pre-dissertation requirements, including the comprehensive examination, and who will use the fellowship for international dissertation research. The monetary amounts may vary and are meant to supplement other research funds. Ph.D. students in any discipline may apply.

## Ballard and Seashore Dissertation-Year Fellowships

Ballard and Seashore Dissertation Fellowships are one semester fellowships for Ph.D. candidates who have completed all doctoral degree requirements except their dissertation. Recipients are nominated by their departments. Fellowships provide monetary amounts for the semester plus tuition and a percentage of mandatory fees paid for up to 2 s.h. and a health insurance allowance.

## Postcomprehensive Research Awards

The postcomprehensive research awards program provides an opportunity for advanced Ph.D. students to benefit from protected and supported time to pursue their scholarly



research activities. The award is intended to recognize students with distinguished academic achievement during their early graduate training. These achievements should be evident from a combination of outstanding academic performance in coursework, as well as early scholarly research activities. Students who have held teaching assistantships in the previous two semesters or do not have other sources of assistantship/fellowship funds will have priority. Awardees will receive a stipend. The Graduate College also supports up to 2 s.h. of tuition, a percentage of the mandatory fees, and a health insurance allowance. Recipients are nominated by their department.

## Scholarships

Scholarships typically provide partial tuition.

## Graduate Student Travel Awards

Graduate student travel awards provide reimbursement for travel by students who present research and scholarship results to professional conferences. Awards are competitive across disciplines and vary. Funds are administered by the Graduate Student Senate and the Graduate College.

## Other Sources

For other sources of financial support, contact the Office of Student Financial Aid.

Many departments offer additional support through traineeships, part-time employment in research, or part-time teaching appointments. The Office of the Vice President for Research maintains a library of information on public and private agencies that provide funds for research and graduate study. Much material has been collected concerning awards for overseas study.

## Courses

Most Graduate College courses are offered by the college's programs and schools. They are listed and described in the corresponding Catalog sections.

The college also offers the following nondepartmental courses.

## Graduate College Courses

**GRAD:0006 SROP Scholars Program** 0 s.h.

**GRAD:5225 Communicating Data Through Stories** 3 s.h.  
How to communicate science effectively and responsively with multiple audiences from peers and professors to potential employers, policymakers, and the lay public; focus on speaking about science clearly and vividly in ways that can engage varied audiences, especially those outside the student's own field; connecting and finding common ground with an audience, defining goals, identifying main points, speaking without jargon, explaining meaning and context, using storytelling techniques and multimedia elements. Same as CEE:5225, SDG:5225.

**GRAD:5800 Writing for National Fellowships** arr.  
Process of writing applications for nationally competitive fellowship opportunities; completion of a fellowship application portfolio for a specific fellowship opportunity.

**GRAD:6000 Ph.D. Postcomprehensive Registration** 1 s.h.

**GRAD:6001 Master's Final Registration** 1 s.h.  
Requirements: master's degree candidate.

**GRAD:6002 Doctoral Continuous Registration** 1 s.h.  
Requirements: doctoral degree candidate who has passed comprehensive examinations.

**GRAD:6003 Doctoral Final Registration** 1 s.h.  
Requirements: doctoral degree candidate in final session of enrollment.

**GRAD:6217 Seminar in College Teaching** 1-3 s.h.  
Preparation for college teaching; for graduate students planning to teach. Same as PSQF:6217.

**GRAD:6300 Writing for Learned Journals** 1-4 s.h.  
Seminar that supports graduate students in bringing written work to publishable form; analysis of target journals' audiences, interests, and citation politics; submission and the publication process; response to reader reports and criticism; best writing and research practices; discussion of knowledge cultures and discourses in disciplines and the contemporary academy. Same as AMST:6300, GWSS:6300, RHET:6330.

**GRAD:6313 Studio Summer Fellowship** 1 s.h.  
Investigation of and reflection on digital scholarly collaboration, production, and promotion. Same as ULIB:6313.

**GRAD:6500 Digital Humanities Independent Study** arr.  
Independent study for students working toward their public digital humanities certificate.

**GRAD:6510 Introduction to Programming** 1 s.h.  
How computer programming has quickly become a valuable skill across a diverse range of professions and academic disciplines; programming impacts on an increasingly large segment of professional activity—from analyzing text, visualizing data, creating maps, or developing web applications; knowledge of how to read and write code as a valuable literacy in modern mediated life; introduction to computer programming; students write simple programs of their own design (e.g., automate repetitive tasks, perform calculations on data, accept and process user input).

**GRAD:6520 Data Visualization Basics** 1 s.h.  
Hands-on introduction to basics of data visualization—working with data, analyzing and designing clear and functional visualizations, and developing simple data visualizations in Excel and Python or R; basic static plots (e.g., scatterplots, histograms, line graphs); brief introduction to geographic maps and network graphs.

**GRAD:6521 Scholarly Communication and Journal Publishing** 1 s.h.  
Process of publishing a scholarly journal; several scholarly journals are published locally through Iowa Research Online (IRO); for graduate students interested in academic journal publishing as well as scholarly communication more broadly.

**GRAD:6522 Digital Exhibits: Effective Design and Development** 1 s.h.  
Practical technical skills for building digital exhibits; theoretical concepts; how digital exhibits are distinct from physical exhibits; values included in digital storytelling; management of digital exhibit life cycle; main concepts and topics of effective digital exhibit development including storytelling, structuring materials, digitization, metadata application, copyright, and fair use; students gain experience using digital exhibit software, Omeka, for importing and managing content and creating collections and exhibits.

**GRAD:6530 Open Source Web Mapping for Beginners****1 s.h.**

Maps are high-impact visual representations that can make complex ideas more comprehensible and enhance persuasive power of academic arguments; wide range of open source data and scripting libraries that are increasingly available to scholars who wish to present their data in interactive online maps; introduction to basic workflows and scripting for open web mapping with JavaScript, HTML, and CSS.

**GRAD:6540 Careers Beyond Academia****1 s.h.**

Preparation to search for and apply to a variety of careers outside of academia that allow students to use their digital scholarship and digital skills training; opportunities and challenges faced when transitioning to careers adjacent to and beyond academic environments in which students have become familiar with in their graduate training.

**GRAD:6550 Design Fundamentals in Digital Scholarship****1 s.h.**

Exploration of the role of design in communication while empowering students to grow more comfortable verbalizing the visual; students more accurately describe design elements, produce basic promotional assets, and assess legibility, navigability, and accessibility.

**GRAD:6551 Promoting Your Scholarship****1 s.h.**

Exploration of ways to communicate research clearly and effectively; investigation of social media platforms as a means of promoting research; promotional material design basics; online portfolio design and differences between curriculum vitae and résumé; experimentation with scholarship presentation; introduction to a variety of forms from press releases and pitches to interdisciplinary conferences and social media.

**GRAD:6590 Digital Humanities Capstone****arr.**

Application and practice of classroom experience to a specific project under guidance from a faculty member and project team leader. Prerequisites: CLAS:7290 or SLIS:7290. Requirements: admission to public digital humanities certificate program, an approved certificate plan of study on file, completion of 12 s.h. of approved coursework, and good standing in all required certificate coursework. Same as SLIS:6590.

**GRAD:6800 CIC Scholar****arr.****GRAD:6801 Regents Exchange Program****arr.****GRAD:6997 Graduate/Professional Transfer****arr.****GRAD:6998 Undergraduate Transfer****arr.****GRAD:6999 Resident/Fellow/Post-Doctoral****0 s.h.****GRAD:7280 Obermann Center for Advanced Studies Special Topics Seminars****1-3 s.h.**

Active participation and engagement in a major program, such as the annual Humanities Symposium; readings on interdisciplinary histories, contexts, and theoretical perspectives that frame featured events; work of artists, scholars, and researchers participating in the program. Requirements: admission to Graduate College.

**GRAD:7285 Obermann Center Professional Development Seminar****1 s.h.**

Active participation and engagement in a series of classes dedicated to connecting public engagement, research, and teaching; readings and media viewings that frame course topics; production of a short film, marketing materials, grant, and syllabi relevant to public engagement project. Requirements: admission to Graduate College and completion of Obermann Graduate Institute on Engagement and the Academy.

**GRAD:7385 Teaching and Learning in Higher Education****3 s.h.**

Current theoretical and empirical literature on teaching and learning in higher education; focus on development of effective teaching practice. Same as CSED:7385, EDTL:7385, EPLS:7385, PSQF:7385.

**GRAD:7400 Practicum in College Teaching****arr.**

Supervised college teaching experience; teaching in collaboration with faculty, observation and critiques of teaching, participation in course planning and evaluation procedures; ethical and multicultural considerations. Requirements: admission to the graduate certificate in college teaching program.

**GRAD:7601 Postdoctoral Research Scholar****0 s.h.**

Requirements: postdoctoral standing.

**GRAD:7602 Postdoctoral Research Fellow****0 s.h.**

Requirements: postdoctoral standing.

# Applied Mathematical and Computational Sciences

## Chair

- Laurent O. Jay (Mathematics)

**Graduate degree:** Ph.D. in applied mathematical and computational sciences

**Faculty:** <https://amcs.uiowa.edu/faculty-research>

**Website:** <https://amcs.uiowa.edu/>

Applied mathematical scientists formulate scientific concepts and problems in mathematical terms; solve the resulting mathematical problems using analytical and computational methods; and discuss, interpret, and evaluate the solutions. They explore areas of mathematical application and develop mathematical theories in new areas.

## Programs

### Graduate Program of Study

#### Major

- Doctor of Philosophy in Applied Mathematical and Computational Sciences [p. 1700]

## Courses

### Applied Mathematical and Computational Sciences Courses

**AMCS:5900 Seminar: Applied Mathematical and Computational Sciences** arr.  
Current research by faculty, students, guests.

**AMCS:7990 Reading and Research** arr.

# Applied Mathematical and Computational Sciences, Ph.D.

The Ph.D. program in applied mathematical and computational sciences is autonomous, broadly based, and interdisciplinary. It is designed to help students achieve a command of theoretical and applied mathematics and obtain basic knowledge in another area (e.g., in physics, engineering, operations research, chemistry, computer science, economics, statistics, geography, or in the biological, medical, or social sciences). The program is flexible; students can concentrate on applied mathematics, such as differential equations and numerical analysis, or on other applicable techniques in mathematics. Scientific computing is an important part of applied mathematics, so it is often a part of student training and dissertation research. Prospective students should have a desire to apply mathematical techniques or theory to relevant problems in an outside area.

## Learning Outcomes

Students will gain:

- proficiency in core applied mathematics subjects and broad knowledge in mathematics,
- proficiency in computer programming/scientific computing,
- excellent knowledge in at least one application area outside mathematics,
- ability to communicate knowledge and research work to various audiences, and
- ability to carry research/work independently at a professional level.

## Requirements

The Doctor of Philosophy program in applied mathematical and computational sciences (AMCS) requires a minimum of 72 s.h. of graduate credit.

## Course of Study

Faculty members can help each student plan a course of study that is consistent with the student's background, interests, and goals.

These individual plans are designed to help students develop expertise in methods of applied mathematics and build a good foundation in related topics of mathematics. The individual plans also provide sufficient knowledge in an outside area to enable students to use mathematical techniques in that area.

Students may arrange their study plans to earn a master's degree from another department after they complete part of their plan. Students find suitable thesis problems and supervisors with the help of the faculty.

## Required Courses in Core Areas

Students must successfully complete these three core course sequences in the first two years of graduate study.

Code	Title	Hours
All of these:		
MATH:5200 & MATH:5210	Introduction to Analysis I-II	8
MATH:5600 & MATH:5700	Nonlinear Dynamics with Numerical Methods - Introduction to Partial Differential Equations	8
MATH:5800 & MATH:5810	Numerical Methods I-II	8

## Outside Area Courses

Students must take and pass Ph.D.-level courses in areas in which mathematics is applied: one preparation course in the first two years and then two advanced courses outside of mathematics at the 6000-level or above.

## Advanced Mathematics Course Requirement

In order to establish a solid foundation in mathematics, students must successfully pass two more courses numbered MATH:5000 to MATH:5999 and complete at least 12 s.h. of graduate mathematics courses numbered MATH:6000 to MATH:7799, with the exception of seminar courses. The courses should be chosen to obtain mathematical breadth and must be approved by the AMCS chair.

## Comprehensive Examination

Students complete a comprehensive examination that covers their outside research area within three-and-a-half years after beginning graduate study. The examination is typically based on the outside area courses and/or directed readings.

## Admission

Applicants must carefully follow the applied mathematical and computational Sciences (AMCS) application procedures and they must meet the Graduate College Admission Requirements on the Iowa Graduate Admissions website. Those interested in applying may also view Admissions on the Graduate College website.

To be prepared for graduate-level coursework in applied mathematics, applicants should have a bachelor's or master's degree with a strong mathematics or computational component.

Applications for fall admission are due on January 15. For more information about the academic program, contact the chair of the Applied Mathematical and Computational Sciences Program. The Manual of Rules and Regulations on the Graduate College website also can provide additional information.

## Financial Support

Financial support in the form of teaching assistantships is provided to every student admitted. Students may apply to various fellowships during their study. Research assistantships for qualified applicants also may be available from certain graduate advisors. Summer support is generally available to students.

## Career Advancement

Career opportunities for applied mathematicians include positions in colleges, universities, governmental laboratories, business, industry, and consulting firms.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Applied Mathematical and Computational Sciences, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:5200	Introduction to Analysis I <sup>b</sup>	4
MATH:5600	Nonlinear Dynamics with Numerical Methods <sup>b</sup>	4
MATH:5800	Numerical Methods I <sup>b</sup>	4
MATH:5900	First-Year Graduate Seminar	1
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
AMCS:5900	Seminar: Applied Mathematical and Computational Sciences	1
MATH:5210	Introduction to Analysis II <sup>b</sup>	4
MATH:5700	Introduction to Partial Differential Equations <sup>b</sup>	4
MATH:5810	Numerical Methods II <sup>b</sup>	4
AMCS Lectures on Programming		
<b>Hours</b>		<b>13</b>
<b>Summer</b>		
MATH:5950	Qualifying Exam Preparation Seminars	0
PhD Qualifying Exam <sup>c</sup>		
<b>Hours</b>		<b>0</b>
<b>Second Year</b>		
<b>Fall</b>		
MATH:6600	Ordinary Differential Equations I <sup>d</sup>	3
MATH:6850	Advanced Numerical Methods I <sup>d</sup>	3
Outside Area Preparation course <sup>e, f</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
MATH:4820	Optimization Techniques	3
MATH:6610	Ordinary Differential Equations II <sup>d</sup>	3
MATH:6860	Advanced Numerical Methods II <sup>d</sup>	3
AMCS Lectures on Programming		
<b>Hours</b>		<b>9</b>

### Third Year

#### Fall

AMCS:7990	Reading and Research	2
MATH:5750	Mathematical Biology I <sup>d</sup>	4
or MATH:5000	or Abstract Algebra I	
or MATH:5400	or Fundamental Groups and Covering Spaces	
Outside Area course (numbered 6000 or above) <sup>e, f</sup>		3
<b>Hours</b>		<b>9</b>

#### Spring

PhD Comprehensive Exam		
AMCS:7990	Reading and Research	2
MATH:5410	Introduction to Smooth Manifolds <sup>d</sup>	4
or MATH:5760	or Mathematical Biology II	
or MATH:5010	or Abstract Algebra II	
Outside Area course (numbered 6000 or above) <sup>e, f</sup>		3
<b>Hours</b>		<b>9</b>

### Fourth Year

#### Fall

MATH:4610	Continuous Mathematical Models	3
<b>Hours</b>		<b>3</b>

#### Spring

MATH:4060	Discrete Mathematical Models	3
<b>Hours</b>		<b>3</b>

### Fifth Year

#### Fall

MATH:4840	Mathematics of Machine Learning	3
<b>Hours</b>		<b>3</b>

#### Spring

GRAD:6003	Doctoral Final Registration	1
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>1</b>
<b>Total Hours</b>		<b>72</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Students must pass (grade of B- or higher in each course) all three core course sequences (or be exempted) in the first two years of graduate study.

c Taken in August.

d Students must take and successfully pass two MATH courses numbered 5000-5999, and complete at least 12 s.h. of MATH courses numbered 6000-7799 with the exception of the seminars. Work with faculty advisor to determine appropriate graduate coursework and receive departmental approval.

e Students must take and pass PhD level courses in areas in which mathematics is applied: one preparation course in the first two years and then two advanced courses outside of mathematics at the 6000 level or above.

f Work with faculty advisor to determine appropriate graduate coursework and sequence.

g Dissertation defense.

# Biomedical Science

## Director

- Prabhat Goswami

**Graduate degrees:** M.S. in biomedical science; Ph.D. in biomedical science

**Website:** <https://medicine.uiowa.edu/biomed/>

The Biomedical Science Program (BSP) offers research opportunities in over 300 faculty laboratories under the diversity of a large umbrella program. Students conduct groundbreaking research on a campus that ranks among the top public institutions in the country in research activity, federal funding, graduate education, and core facility support. Ph.D. students benefit from the extensive scope of the program and the support of a cohesive academic campus.

Students select from one of seven subprograms:

- cancer biology [p. 1706]
- cell and developmental biology [p. 1708]
- experimental pathology [p. 1710]
- free radical and radiation biology [p. 1711]
- molecular medicine [p. 1713]
- molecular physiology and biophysics [p. 1715]
- pharmacology [p. 1716]

Successful completion culminates with a Ph.D. in biomedical science and affiliation with a respective subprogram. Of note, six other closely related Ph.D. programs—biochemistry, genetics, human toxicology, immunology, microbiology, and neuroscience—are not a direct part of the Biomedical Science Program, but provide further elective opportunities for BSP students and a broader community of biomedical scholars on campus. Visit the Biomedical Science Program website for more information.

## Programs

### Graduate Programs of Study

#### Majors

- Master of Science in Biomedical Science [p. 1704]
- Doctor of Philosophy in Biomedical Science [p. 1705]

## Admission

The Biomedical Science Program is sufficiently flexible to accommodate students with a relatively wide range of backgrounds. Students with a bachelor's degree in any of the biological, biochemical, engineering, or physical sciences who have a strong desire to pursue a research-oriented career are encouraged to apply. Students must have:

- a bachelor's degree from a regionally accredited American college or university or an equivalent degree from another country as determined by the Office of Admissions; and
- a minimum g.p.a. of 3.00 or higher or the equivalent from another country as determined by the Office of Admissions.

## Facilities

Biomedical science researchers benefit from state-of-the-art core research facilities and research support facilities.

Much of the research is interdisciplinary, with collaborations coordinated through major research centers, institutes, and programs. The main biomedical research campus consists of over half a million square feet in seven buildings that connect directly with the University of Iowa Hospitals & Clinics through tunnels and skywalks. The interconnectedness of the campus facilitates basic and translational collaboration across the entire college.

## Financial Support

Students receive stipend and tuition support. Continued support beyond the first year is guaranteed, provided that satisfactory progress toward degree completion is accomplished. Sources of support include departmental funds, training grants, research grants, and individual fellowships. Several offices on campus provide support for graduate trainees seeking to obtain prestigious fellowship awards to support their training.

## Career Advancement

The Biomedical Science Program prepares students for successful careers as researchers, educators, and future leaders in the international biomedical workforce. The core biomedical science curriculum has elements that highlight career diversity for Ph.D. students and professional development for scientific careers. In addition, the Grad Success Center in the Graduate College provides opportunities for further development and one-on-one guidance for those searching for jobs and navigating pathways into scientific careers.

## Courses

- Biomedical Science Courses [p. 1702]
- Cancer Biology Courses [p. 1702]

## Biomedical Science Courses

### **BMED:5207 Principles of Molecular and Cellular Biology**

**3 s.h.**

Structure of DNA, RNA, and Protein; DNA replication, genetic and epigenetic regulation; RNA production and processing; protein production and post-translation modification; cellular membranes and trafficking; cytoskeleton and regulation of cell junctions and migration; signal transduction and regulation of cell cycle and apoptosis; didactic lectures and group discussion of primary research publications.

### **BMED:5208 Topics in Principles of Molecular and Cellular Biology**

**1 s.h.**

Research literature discussion that parallels subjects discussed in BMED:5207. Corequisites: BMED:5207.

**BMED:7270 Scholarly Integrity/Responsible Conduct of Research I** **0 s.h.**

Training in principles of scholarly integrity and the responsible conduct of research; facilitated discussions of case studies; student/mentor responsibilities in pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, protection of human/animal subjects). Requirements: successful completion of CITI online training (greater than 80 percent score for each module) and enrollment in Graduate College degree-seeking program. Recommendations: minimum first-year graduate standing (Ph.D., M.S./M.A.), and involvement in mentored research activities (extramurally or intramurally funded).

**BMED:7271 Scholarly Integrity/Responsible Conduct of Research II** **0 s.h.**

Training in principles of scholarly integrity and the responsible conduct of research; facilitated discussions of case studies; student/mentor responsibilities in pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, protection of human/animal subjects). Requirements: successful completion of CITI online training (greater than 80 percent score for each module) and enrollment in Graduate College degree-seeking program. Recommendations: minimum of first-year graduate standing (Ph.D., M.S./M.A.) and involvement in mentored research activities (extramurally or intramurally funded).

**BMED:7604 Scholarly Integrity/Responsible Conduct of Research I** **0 s.h.**

Training in principles of scholarly integrity and the responsible conduct of research; facilitated discussions of case studies; student/mentor responsibilities in pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, protection of human/animal subjects); meets responsible conduct of research training obligation for postdocs and faculty holding an NIH K award. Requirements: successful completion of CITI online training (greater than 80 percent score for each module).

**BMED:7605 Scholarly Integrity/Responsible Conduct of Research II** **0 s.h.**

Training in principles of scholarly integrity and the responsible conduct of research; facilitated discussions of case studies; student/mentor responsibilities in pursuit of scholarly work (ownership, authorship, plagiarism/falsification/fabrication of data); student/mentor relationships and intellectual dialogues (communication, collaboration, grievance management); student responsibilities to institution/scholarly community/society (intellectual property, conflict of interest, fiscal responsibilities, protection of human/animal subjects); meets responsible conduct of research training obligation for postdocs and faculty holding an NIH K award. Requirements: successful completion of CITI online training (greater than 80 percent score for each module).

**BMED:7777 Biomedical Science Seminar** **1 s.h.**

Foundational professional development in writing and oral presentation skills; presentations from local and visiting professors focusing on career pathways for biomedical scientists; students practice presenting their research in rotation presentations with detailed feedback.

**BMED:7888 Biomedical Science Research** **arr.**

Research experience in biomedical science graduate program faculty member's lab; students rotate in three labs during their first year to provide a range of biomedical research experience before choosing a dissertation research mentor.

## Cancer Biology Courses

**CBIO:3310 Practical Data Science and Bioinformatics** **3 s.h.**

Understanding how to access large biological data sets and use them to answer biological questions is an important skill for researchers; immersive introduction to computational handling of data; how to access and analyze publicly available data; critically evaluate data quality and analysis in context of measuring gene expression; basic coding in R/RStudio, plotting and data display, fitting and regression, statistical inference, statistical models, downloading and data wrangling; basic introduction to machine learning (clustering); for students with no computational background. Prerequisites: BIOL:1411 with a minimum grade of C- and BIOL:1412 with a minimum grade of C-. Requirements: college algebra. Recommendations: BMB:3110, or BMB:3120 and BMB:3130, or other upper-level life sciences courses. Same as BMB:3310, MMED:3310.

**CBIO:5000 Experimental Methodologies** **2 s.h.**

Practical experience in common laboratory methods including polymerase chain reaction (PCR), western blotting, immunostaining, cell culture, and bioinformatics. Requirements: admission to cancer biology graduate program.

**CBIO:5500 Topics in Cancer Biology** **1 s.h.**

Discussion and presentation of new scientific literature in cancer biology fields; how to evaluate and critically interpret scientific literature, data, and conclusions; journal club format. Requirements: admission to cancer biology graduate program.

**CBIO:6000 Seminar: Cancer Research** **1 s.h.**

Attendance at seminar presentations of cutting-edge science in the field of cancer biology; presentations by experts in the field and trainees. Requirements: admission to cancer biology graduate program.

**CBIO:6500 Research in Cancer Biology** **arr.**

Research experience through research rotations and conduction of dissertation research in cancer research laboratories. Requirements: admission to cancer biology graduate program.

**CBIO:7000 Clinical Connections** **1 s.h.**

Shadowing experiences arranged with clinicians who are treating cancer patients at University of Iowa Hospitals & Clinics. Requirements: admission to cancer biology graduate program.

**CBIO:7500 Crafting a Scientific Proposal** **1 s.h.**

Training in areas of scientific writing and development of a scientific proposal; students develop a proposal related to, but not identical to, the proposal for the comprehensive exam. Requirements: admission to cancer biology graduate program.

## **Biomedical Science, M.S.**

There is no direct admission to the M.S. program in biomedical science. Students interested in biomedical science are considered for Ph.D. admission only. Visit the Ph.D. in biomedical science [p. 1705] in this section of the Catalog for information about the Ph.D. degree program.



# Biomedical Science, Ph.D.

The Biomedical Science Program (BSP) optimizes students' mobility and their ability to explore several graduate programs during their first academic year before affiliating with a specific BSP subprogram—cancer biology, cell and developmental biology, experimental pathology, free radical and radiation biology, molecular medicine, molecular physiology and biophysics, or pharmacology.

Students thrive in a collaborative environment in which they explore subprograms by performing three research rotations in the laboratories of any of the biomedical science faculty, regardless of their departmental or program affiliation. Biomedical science students are advised regarding course selections, research rotations, and registration by a designated faculty academic advisor. Students can tailor their choice of electives based on their interests.

Following completion of the first year, it is expected that students will be able to select a research laboratory and subprogram affiliation. The specific subprogram students choose for thesis training determines their curriculum for subsequent years.

## Core Curriculum

### First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
PCOL:5204	Basic Biostatistics and Experimental Design	1

Elective course(s)

### First Year, Spring

Code	Title	Hours
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
MMED:6260	Methods for Molecular and Translational Medicine	1
PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3

Elective course(s)

## Admission

Applicants must have a baccalaureate degree from a regionally accredited U.S. college or university, or an equivalent degree from another country as determined by the Office of Admissions. They also must have an undergraduate g.p.a. of at least 3.00. Applicants must meet the admission requirements of the Graduate College.

Appropriate preparation includes a one year, college-level course in biology, chemistry (inorganic and organic), and mathematics through calculus.

## Learning Outcomes

### Core Learning Outcomes

Students will:

- demonstrate expertise in foundational aspects of molecular and cellular biology, particularly in a human biomedical context;
- develop hypotheses and experimental methods that can be used to explore questions in molecular biology;
- apply knowledge of biomedical science to human disease through translational research paradigms;
- describe fundamental techniques, statistical methods, and core principles of rigor and reproducibility in biomedical science;
- describe the range of career pathways in the sciences for the biomedical Ph.D.;
- develop proficiency in reading and interpreting scientific literature; and
- develop skills in written and oral communication of scientific work.

### Cancer Biology

Students will:

- master foundational knowledge in cancer biology and demonstrate an in-depth knowledge in their area of emphasis;
- understand and apply the scientific method, design experiments and conduct research utilizing team-based collaboration, knowledge of current literature, and current laboratory methods;
- gain an appreciation of clinical management and therapeutic approaches to treat cancer;
- develop advanced skills in scientific writing and oral presentations in order to effectively communicate research progress and goals;
- exhibit and foster the highest ethical standards in the areas of education, publication, and scientific inquiry; and
- publish at least one first author paper and write a grant application.

### Cell and Developmental Biology

Students will:

- master foundational knowledge in cellular and developmental biology;
- engage in designing and executing experiments to test scientific hypotheses;
- critically evaluate scientific findings;
- communicate scientific findings effectively to diverse audiences;
- exhibit and foster ethics in the areas of education, publication, and scientific inquiry; and
- become an effective teacher of the biological sciences.

### Experimental Pathology

Students will:

- demonstrate subject matter expertise in basic cell and molecular biology, biostatistics/bioinformatics, and pathobiology/mechanisms of human disease;
- understand and apply scientific method allowing for the appropriate development and testing of hypotheses,

problem solving, and utilization of current literature and contemporary laboratory approaches;

- understand and apply the need to conduct research using a team-based approach, including ongoing input from the thesis mentor/committee as well as peers within the laboratory and graduate program environment;
- understand and apply the key principles of carrying out research and interpreting results using the highest ethical standards; and
- acquire the ability to effectively communicate research goals, approaches and results using both written and oral means.

## Free Radical and Radiation Biology

Students will:

- demonstrate comprehensive knowledge of foundational principals in free radical and radiation biology, a clear understanding of all free radical and radiation biology course material, and a thorough knowledge of the literature in their area of major emphasis;
- demonstrate a functional comprehension of scientific research, such as use of relevant literature, the formulation of a hypothesis, hypothesis testing, data interpretation, and the lucid presentation of the research in both written and oral form;
- acquire and develop classroom and laboratory teaching skills;
- acquire advanced scientific writing and communication skills competing at the national level for visibility in scholarly activities and funding opportunities;
- produce research results worthy of publication in high impact peer-reviewed journals relevant to the field of study; and
- participate in career development and networking activities at the local, regional, and national levels.

## Molecular Medicine

Students will gain knowledge in:

- tracks for specialized coursework—demonstrate broad-base understanding of one of three tracks selected by students in their second year of studies (metabolic disorders, cardiovascular biology, or molecular and cellular medicine);
- oral and written presentation of scientific data—demonstrate proficiency in scientific writing as evidenced by external fellowship application requirement; organize, defend, and communicate ideas effectively in scientific oral presentations and settings; opportunities to present posters, full-length seminar presentations, short-form data blitzes, lay audience elevator pitches; comprehensive exam; on-topic or off-topic NRSA-style research proposal that is orally defended to a comprehensive exam committee comprised of subject-matter experts; scientific editing and research communication core; and service promoted to students to get one-on-one instruction in scientific editing, focused especially on grant writing;
- experimental design—instruction on experiment design provided by their mentor, experiences in the critical thinking course, and in the basic biostatistics and experimental design course;
- proficiency in research—three laboratory rotations before affiliating to lab, conduct research in a responsible and ethical manner, carry out an in-depth research project,

and contribute intellectually and technically to all parts of its development, execution, and analysis; and

- professional skills development—journal clubs, course in critical thinking, and career development series.

## Molecular Physiology and Biophysics

Students will:

- demonstrate a basic knowledge of physiology and biophysics that will serve as the foundation for the student's academic, scholarly, and research endeavors;
- exhibit the necessary practical, methodological, and technical expertise to perform original experimental work in an area of physiological research;
- gain professional skills required for successful academic or research-based careers, including skills in publishing, grant writing, presentation, and teaching; and
- acquire knowledge and respect for principles of biomedical research ethics.

## Pharmacology

Students will:

- identify important research problems through development of subject matter expertise related to pharmacology, and critical evaluation of the current state of knowledge in that area of expertise;
- formulate valid and testable hypothesis and/or research questions, and then plan feasible experiments to address them;
- conduct, analyze, and interpret independent original research that contributes new knowledge to the field of pharmacology;
- effectively communicate research results to a range of audiences in both written and oral formats; and
- conduct all aspects of research and communication of results with the highest ethical standards.

## Cancer Biology

The Doctor of Philosophy in biomedical science with a cancer biology subprogram requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students enter the molecular medicine subprogram through the Biomedical Science Program (BSP). The BSP is designed to provide students maximum flexibility during the first year of graduate studies to take a course of study compatible with several programs while completing research rotations. At the end of the first year, students choose a subprogram affiliation. The cancer biology subprogram provides training in many areas of research—cell biology, genetics, immunology, and cell metabolism, among others—that are necessary to understand the complexities of cancer etiology and treatment.

The subprogram does not offer a master's degree. Cancer biology is affiliated with the Holden Comprehensive Cancer Center, which was founded in 1980 and has been designed as a National Cancer Institute NCI-Designated Cancer Center since 2000.

The curriculum is a sequence of required and elective courses that provides students with advanced knowledge in current concepts related to molecular, cellular, and genetic processes that contribute to the development and treatment of cancer. It also provides specialized training in experimental methodology used to study cancer in a laboratory setting.

Cancer biology prepares students for a variety of career paths in academic, clinical, and industry environments that deal with the study and/or treatment of cancer.

Students gain clinical exposure by shadowing oncologists. They are expected to have a solid background in chemistry, mathematics, and the biological sciences. They should have completed undergraduate coursework in introductory biology and chemistry, biochemistry, genetics, organic chemistry, physical chemistry, and calculus; and previous coursework in cancer biology is desirable. Deficiencies in a particular area, as determined by the Graduate Studies Committee, can be remedied by completion of appropriate courses.

Selection of a Ph.D. mentor (thesis advisor) is normally finalized near the end of the spring semester of a student's first year of study. The deadline for selection is determined by the Biomedical Science Program.

Students are required to complete the core courses listed below prior to their comprehensive examination. Students who wish to take the comprehensive examination should first make arrangements in consultation with their mentor, the program director, and the Student Advisory Committee. The exam is typically completed during the second summer of study.

The Ph.D. in biomedical science with a cancer biology subprogram requires the following coursework.

## Core Cancer Biology Curriculum

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
CBIO:5500	Topics in Cancer Biology	1
CBIO:6000	Seminar: Cancer Research	1
CBIO:6500	Research in Cancer Biology	arr.
CBIO:7000	Clinical Connections	1
CBIO:7500	Crafting a Scientific Proposal	1
FRRB:7001/ PATH:7001	Molecular and Cellular Biology of Cancer	3
Elective		

## Typical Curriculum

### First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	6
PCOL:5204	Basic Biostatistics and Experimental Design	1
Elective		3

### First Year, Spring

Code	Title	Hours
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	6
FRRB:7001/ PATH:7001	Molecular and Cellular Biology of Cancer	3
MMED:6260	Methods for Molecular and Translational Medicine	1
PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
PHAR:6504	Mastering Reproducible Science	1

### Second Year, Fall

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
CBIO:5500	Topics in Cancer Biology	1
CBIO:6000	Seminar: Cancer Research	1
CBIO:6500	Research in Cancer Biology	6
CBIO:7000	Clinical Connections	1
CBIO:7500	Crafting a Scientific Proposal	1
Elective		3

### Second Year, Spring

Code	Title	Hours
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
CBIO:5500	Topics in Cancer Biology	1
CBIO:6000	Seminar: Cancer Research	1
CBIO:6500	Research in Cancer Biology	6
Elective		1

## Additional Requirements

### Laboratory Rotations

In order to gain more widespread experience in cancer biology research and to aid in selecting a laboratory home and thesis project, students perform three laboratory rotations prior to selection of a thesis advisor. Laboratory rotations are normally carried out in research laboratories of the cancer biology faculty. A rotation can be completed with a faculty member outside the cancer biology program with permission of the program director.

Three rotations, 12 weeks in length, begin in the fall semester of the first year. The goal of the rotations is to gain a comprehensive view of the mentor's research program, to gain exposure to experimental methods used in the mentor's lab, and to learn about the mentoring styles of faculty members.

### Teaching

The cancer biology program does not require teaching. Students with an interest in teaching experience are encouraged to discuss their career plans with their mentor and/or the program director.

## Publication Requirements

Students are required to have a minimum of one first-author publication in a peer-reviewed journal prior to graduation. The article must be formally accepted and be in-press status or published prior to graduation. A co-first-authored, peer-reviewed publication will count toward this requirement.

## Comprehensive Examination

Students are eligible to take the comprehensive examination when they are in good academic standing as defined by the Graduate College—the student has completed all program core courses with a grade of at least B or have a non-letter grade of pass.

## Written Examination

The comprehensive exam is on-topic, meaning the subject should be a student's current research being conducted in the mentor's lab. Students normally take the comprehensive exam during the second spring or summer of their enrollment in the program. They submit a written exam, if that is acceptable to the comprehensive examination committee, and then prepare for an oral examination.

## Oral Examination

The purpose of the oral examination is to determine whether the student's written submission adequately represents the student's knowledge. A student may be queried on issues beyond the scope of the written proposal to allow the committee to determine the student's general depth of knowledge.

## Final Examination

The thesis committee is selected by each student after the successful completion of the comprehensive examination. Students are eligible for their oral thesis defense after completing 72 s.h. of coursework, publication of at least one primary author manuscript or be in-press status, and with consent of the thesis committee. The procedures are the same as for the comprehensive examination.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biomedical science (cancer biology subprogram) in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Cell and Developmental Biology

The Doctor of Philosophy in biomedical science with a cell and developmental biology subprogram requires 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. They gain admission to graduate training laboratories in the Department of Anatomy and Cell Biology, Interdisciplinary Graduate Programs, or through direct admission into a specific laboratory.

The Ph.D. in biomedical science with a cell and developmental biology subprogram requires the following coursework.

## Core Cell and Developmental Biology Curriculum

Code	Title	Hours
All of these:		
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
ACB:6220/ MMED:6220/ MPB:6220	Mechanisms of Cellular Organization	3
ACB:6237	Critical Thinking in Biochemistry and Molecular Biology	1
ACB:6238	Critical Thinking in Genetics	1
ACB:6239	Critical Thinking in Cell Biology	1
ACB:6248	Critical Thinking in Development	1
ACB:6249	Critical Thinking in Cellular Physiology	1
ACB:6250	Critical Thinking in Scientific Writing and Presentations	1
PCOL:5204	Basic Biostatistics and Experimental Design	1

## Typical Curriculum

### First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
PCOL:5204	Basic Biostatistics and Experimental Design	1

Elective course(s)

### First Year, Spring

Code	Title	Hours
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
MMED:6260	Methods for Molecular and Translational Medicine	1
PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
Elective course(s)		

## Second Year, Fall

Code	Title	Hours
All of these:		
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
ACB:5206	Graduate Research in Cell and Developmental Biology	arr.
ACB:5224	Graduate Seminar in Cell and Developmental Biology	0-1
ACB:6220/ MMED:6220/ MPB:6220	Mechanisms of Cellular Organization	3
ACB:6237	Critical Thinking in Biochemistry and Molecular Biology	1
ACB:6239	Critical Thinking in Cell Biology	1
ACB:6248	Critical Thinking in Development	1
Elective (optional)		

## Second Year, Spring

Code	Title	Hours
All of these:		
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
ACB:5206	Graduate Research in Cell and Developmental Biology	arr.
ACB:5224	Graduate Seminar in Cell and Developmental Biology	0-1
ACB:6238	Critical Thinking in Genetics	1
ACB:6249	Critical Thinking in Cellular Physiology	1
ACB:6250	Critical Thinking in Scientific Writing and Presentations	1
Elective (optional)		

## Electives

Elective course offerings change each year and are determined shortly before the semester begins. Examples of elective courses offered in the past five years that would be acceptable for students in the cell and developmental biology subprogram follow.

Code	Title	Hours
BIOL:4333	Genes and Development	3
GENE:6150	Genetic Analysis of Biological Systems	3
MMED:6225/ ACB:6225/ MPB:6225/ PCOL:6225	Growth Factor Receptor Signaling	1
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1

## Additional Requirements

### Laboratory Rotations

The faculty advisor, along with the biomedical sciences program director, assists students in the process of selecting their initial laboratory rotation during the first year. The first of three 10-week rotations begins the first week of the fall semester. Students may choose any biomedical science program faculty member laboratory for the remaining two laboratory rotations, depending upon availability of positions and mutual interest of students and host faculty. Students have the option of joining the cell and developmental biology subprogram after their three rotations.

### Teaching

Students are required to complete a teaching requirement (3 s.h.). They may teach in a combination of 1 or 2 s.h. courses, or one 3 s.h. course. Teaching requirements must be met prior to the final thesis defense and graduation. Most students meet the requirement in the third year after completion of the comprehensive exam. A student must earn a satisfactory report from the course director in order to receive credit for the teaching requirement.

### Publication Requirements

It is expected that a student will have contributed as an author to at least one research publication. The publication must demonstrate primary authorship and be at the accepted phase of the publication process. The number of publications and their quality, content, and impact is established by the thesis committee.

### Seminar Presentations

Students present their thesis research annually in the cell and developmental biology seminar series in a 30-minute presentation. Evaluation critique by faculty and students is provided.

### Comprehensive Examination

The comprehensive examination must be taken before the fall semester of a student's third year.

### Written Examination

A written proposal follows the form of a standard National Institutes of Health (NIH) R01 research grant and covers the area of the research proposed for the student's anticipated thesis dissertation. One aim area should be completely of the student's own design, with no input from the thesis advisor.

### Oral Examination

The oral examination of the student's research proposal lasts approximately two to three hours. The exam begins with a brief student presentation on the proposed research project. Questions during the examination may come from the proposal, the thesis research, or other general areas of cell and developmental biology.

### Thesis Defense

The five-member thesis committee serves as an advisory body for the preparation of the thesis. The candidate and the committee should meet yearly; however, the candidate, the thesis advisor, or the committee can request a meeting at any time. In the subultimate committee meeting, committee members review the material that is expected to be incorporated into the thesis. The final draft of the thesis is

due to the committee two weeks before the final examination. The final examination takes the form of a seminar presented to the program, with questions, comments, and discussion following. After the seminar, the candidate meets with the committee for the final thesis defense.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biomedical science (cell and developmental biology subprogram) in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

### Experimental Pathology

The Doctor of Philosophy in biomedical science with an experimental pathology subprogram requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. The subprogram provides students with advanced knowledge of disease pathogenesis at the genetic, molecular, cellular, and systems levels. It also teaches cutting edge research skills enabling graduates to investigate the basis of disease and lay the foundation for novel and improved therapies.

The curriculum is a sequence of required and elective courses with the goal of providing students a foundation in current cellular and molecular biology, in-depth knowledge of disease pathogenesis, and specialty content in the area of their thesis work.

The experimental pathology subprogram only accepts direct admits at this time. All admitted students will have already identified a faculty mentor and laboratory upon entering the subprogram. Accordingly, students in experimental pathology do not perform rotations, but begin developing a thesis project with their mentor at the onset of their Ph.D. training. Consistent with the direct admission policy, Medical Science Training Program (MSTP or M.D./Ph.D.) students may join the experimental pathology Ph.D. subprogram. Admission also is considered for off-cycle or spring semester.

The Ph.D. in biomedical science with an experimental pathology subprogram requires the following coursework.

### Core Experimental Pathology Curriculum

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
MMED:3310/ BMB:3310/ CBIO:3310	Practical Data Science and Bioinformatics (offered every other year)	3
All of these:		
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1

BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
MMED:6260	Methods for Molecular and Translational Medicine	1
PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
PATH:6220	Seminar in Pathology	1
PATH:7211	Research in Pathology	arr.
PCOL:5204	Basic Biostatistics and Experimental Design	1

## Typical Curriculum

### First Year, Fall

Code	Title	Hours
All of these:		
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
PATH:6220	Seminar in Pathology	1
PATH:7211	Research in Pathology	arr.
PCOL:5204	Basic Biostatistics and Experimental Design	1

### First Year, Spring

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
MMED:3310/ BMB:3310/ CBIO:3310	Practical Data Science and Bioinformatics (offered every other year)	3
All of these:		
MMED:6260	Methods for Molecular and Translational Medicine	1
PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
PATH:6220	Seminar in Pathology	1
PATH:7211	Research in Pathology	arr.

### Second Year, Fall

Code	Title	Hours
All of these:		
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
PATH:6220	Seminar in Pathology	1
PATH:7211	Research in Pathology	arr.
Elective		3

## Second Year, Spring

Code	Title	Hours
All of these:		
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
PATH:6220	Seminar in Pathology	1
PATH:7211	Research in Pathology	arr.
Elective		3

## Electives

The following are possible elective choices. Electives are determined by the area of thesis research.

Code	Title	Hours
FRRB:7001/ PATH:7001	Molecular and Cellular Biology of Cancer	3
GENE:6150	Genetic Analysis of Biological Systems	3
GENE:7191	Human Molecular Genetics	3
IMMU:6201/ MICR:6201	Graduate Immunology	3
MICR:6247/ IMMU:6247	Graduate Immunology and Human Disease	4
MICR:6267	Graduate Viruses and Human Disease	4
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
MMED:6225/ ACB:6225/ MPB:6225/ PCOL:6225	Growth Factor Receptor Signaling	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1
MMED:8115	Molecular Physiology	4
NSCI:5653/ BIOL:5653/ PSY:5203	Fundamental Neurobiology I	3
NSCI:7235/ NEUR:7235	Neurobiology of Disease	3

## Additional Requirements

### Laboratory Rotations

Rotations are not required as students entering the experimental pathology subprogram are directly admitted.

### Teaching

The experimental pathology subprogram does not have a teaching requirement. However, there are opportunities to teach if students desire this experience.

### Publication Requirements

Students must have one first-author, peer-reviewed paper published or in press, as well as a co-authored, peer-reviewed paper or review article published or in press prior to being allowed to schedule their dissertation defense.

## Comprehensive Examination

The comprehensive examination is generally taken in the spring semester of the second year of study. Students with advanced standing (medical scientist training program students or those with an M.S. degree) may choose to take the examination in the fall semester of their second year.

The comprehensive examination is off-topic. The focus of the proposal is in the field of a student's research. To determine the topic, each of the five comprehensive exam committee members choose a recent high-profile paper in the area of the student's research interests, but not directly related to the dissertation project. After examining the papers, the student chooses one and makes it the subject of the comprehensive exam.

The student then prepares and submits a two-page, single-spaced abstract to the committee. The abstract should include the background/rationale, the significance of the question being asked, and an outline of the specific aims. Upon approval of the abstract, the student is given permission to prepare a full proposal based on the NIH R21 format. Specifically, the proposal should be seven single-spaced pages and must include significance, innovation, rationale, and experimental approach. The proposal is then defended orally in front of the entire committee.

## Final Examination

The dissertation committee consists of the mentor and four additional faculty. Students are required to select and meet with their committee by the end of the first fall semester of their second year, and at least yearly thereafter.

Upon meeting all requirements, students may then defend their dissertation/final exam. Two weeks prior to the defense, students must provide the entire committee with a completed draft of their dissertation. On the day of the defense, students present a public seminar of their dissertation work. This is then followed by defense of the dissertation before the entire dissertation committee. A final version of the dissertation is prepared based on suggested edits provided by the committee. After final approval by the research advisor and committee, the dissertation is submitted to the Graduate College.

For more information, see the Experimental Pathology Ph.D. Graduate Program on the Department of Pathology website.

## Free Radical and Radiation Biology

The Doctor of Philosophy in biomedical science with a free radical and radiation biology subprogram is interdisciplinary and requires 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. The possibility exists for a major emphasis in radiation biology or redox biology with a focus on cancer or degenerative diseases associated with aging. Although students with diverse academic backgrounds may enter the program, each student should have a science background which includes at least two years of chemistry, including organic chemistry; one year of physics; two years of biology; and mathematics, including at least one semester of calculus.

The Ph.D. in biomedical science with a free radical and radiation biology subprogram requires the following coursework.

## Typical Curriculum

### First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
FRRB:5000	Radiation Biology	4
PCOL:5204	Basic Biostatistics and Experimental Design	1

### First Year, Spring

Code	Title	Hours
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
FRRB:7000	Redox Biology and Medicine	4
MMED:6260	Methods for Molecular and Translational Medicine	1
PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
PHAR:6504	Mastering Reproducible Science	1

### Second Year, Fall

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
FRRB:5000	Radiation Biology	4
FRRB:6000	Seminar: Free Radical and Radiation Biology	1
FRRB:6004	Research: Free Radical and Radiation Biology	arr.
FRRB:6006	Topics in Free Radical Biology and Medicine	1
FRRB:6008	Topics in Radiation and Cancer Biology	1
Electives (as appropriate)		

### Second Year, Spring

Code	Title	Hours
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
FRRB:6000	Seminar: Free Radical and Radiation Biology	1
FRRB:7000	Redox Biology and Medicine	4
FRRB:6006	Topics in Free Radical Biology and Medicine	1
FRRB:6008	Topics in Radiation and Cancer Biology	1
FRRB:6004	Research: Free Radical and Radiation Biology	arr.

MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
Electives (as appropriate)		

## Recommended Elective Courses

Code	Title	Hours
BMB:3140	Experimental Biochemistry (spring)	2
BMB:7251	Introduction to Protein Structures (fall)	1
BMB:7252	Enzymes, Carbohydrates, Nucleic Acids, and Bioenergetics (fall)	1
BMB:7253	Metabolism I (fall)	1
BMB:7254	Cellular Biochemistry (spring)	1
BMB:7255	Metabolism II (spring)	1
BMB:7256	Molecular Biology (spring)	1
ACB:5218/ BIOL:5218/ MICR:5218	Microscopy for Biomedical Research (spring)	arr.
BIOL:3713	Molecular Genetics (fall)	4
FRRB:7001/ PATH:7001	Molecular and Cellular Biology of Cancer (spring)	3
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization (fall)	3
MMED:6225/ ACB:6225/ MPB:6225/ PCOL:6225	Growth Factor Receptor Signaling (spring)	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions (spring)	1
MICR:2157	General Microbiology (fall and spring)	3
MICR:3147	Immunology and Human Disease (fall)	3
MICR:6201/ IMMU:6201	Graduate Immunology (spring)	3
OEH:6710	Human Toxicology and Risk Assessment (spring)	3
PATH:8133	Introduction to Human Pathology for Graduate Students (fall)	3-4
PSQF:6217/ GRAD:6217	Seminar in College Teaching (fall and spring)	1-3

## Additional Requirements

### Laboratory Rotations

Graduate students rotate through at least three free radical and radiation biology different laboratories during their first academic year with primary and secondary faculty.

### Seminar and Journal Clubs

Students must enroll in one seminar for credit once a year for three years as well as a thesis defense seminar. Students should not register for the seminar during their first academic year.



Students enrolled for research credit are required to submit a research report to their advisor on the last day of class each semester. The report is evaluated and graded by the advisor. The report, written in a form that is appropriate for a peer-reviewed publication, should define the goals, aims, and objectives for the specific semester, and describe the progress made by the student toward completion of the research objectives.

Topics in Free Radical Biology and Medicine (FRRB:6006) and Topics in Radiation and Cancer Biology (FRRB:6008) must be taken at least two times.

## Publication Requirements

Students must submit at least one first-author manuscript or be ready to submit to a peer-reviewed journal prior to the thesis defense. All Ph.D. students are expected to have peer-reviewed publications prior to graduation and these publications should include first authorship.

## Grant Writing Opportunities

National Institutes of Health (NIH) research grant proposals (i.e., F30, F31) and/or equivalent grant submissions are encouraged based on a student's work. The free radical and radiation biology program will provide resources and critiques of the application prior to submission. Students should review the instructions provided in the NIH publication, PHS-398, available from the National Institutes of Health website.

## Comprehensive Examination

Students who have successfully completed four semesters since enrollment must take their comprehensive exam no later than February of their third year in the program. Students need to maintain full-time status (minimum of 9 s.h. per semester) prior to their comprehensive examination. The comprehensive examination includes both a written and an oral presentation on the topic of the student's dissertation research. The written proposal needs to be organized following the National Institutes of Health guidelines for an R01 application. Students are encouraged to consult with their mentors and members of their Ph.D. advisory/examination committee as they develop their research hypothesis and specific aims; this should be limited to one page. Once the hypothesis and aims page has been approved by the committee, the mentor and committee members will not have any input into the development and writing of the rest of the proposal. If appropriate, students are allowed a second attempt at the comprehensive examination. A second attempt needs to be completed no later than August of the same year as the first attempt of the comprehensive examination.

The written proposal is limited to 14 pages, which includes an abstract (half-page summary, as a separate page); the hypothesis and aims (one page), body of proposal (12 pages), and references not included in the page count. A title page (not included in the page count) with only administrative information, such as the title of proposal, name of the student, date of examination, and other such information is encouraged. The proposal should be prepared as single-spaced text, in 11-point Arial font.

## Final Examination

The final examination is a defense of the thesis and explanation of the scientific principles involved, given in a public seminar and closed door oral exam, with committee members. The student's research must be summarized in the format required by the Graduate College.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biomedical science (free radical and radiation biology subprogram) in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

### Molecular Medicine

The Doctor of Philosophy in biomedical science with a molecular medicine subprogram provides interdisciplinary training in the concepts and methodologies fundamental to the investigation of biological processes and molecular mechanisms that relate to human disease. The Ph.D. requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students enter the molecular medicine subprogram through the Biomedical Science Program. The Biomedical Science Program is designed to provide students maximum flexibility during the first year of graduate studies to take a course of study compatible with several programs while completing research rotations. At the end of the first year, students choose a subprogram affiliation.

The curriculum is a sequence of required and elective courses, which provides students with broad exposure to areas including molecular biology, cell biology, biochemistry, and integrative sciences. It ensures a comprehensive exposure to conceptual and experimental aspects of molecular and cellular biology and of translational studies. Sufficient flexibility is provided so that students can adapt the program to permit specialization in their own area of interest. Faculty members are involved in a variety of research projects involving molecular and cellular biology and molecular medicine.

The Ph.D. in biomedical science with a molecular medicine subprogram requires the following coursework.

## Typical Curriculum

### First Year

See Core Curriculum [p. 1705] at the beginning of the Ph.D. in biomedical science section of the Catalog for a typical first-year schedule.

### Second Year

Students select coursework from the following three track areas: metabolic disorders, cardiovascular biology, and molecular and cellular medicine (general).

Code	Title	Hours
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
MMED:6280	Critical Thinking in Molecular Medicine	1
MMED:7290	Seminars in Molecular Medicine	1
Electives		1-3

Students select coursework from the following three track areas: metabolic disorders, cardiovascular biology, and molecular and cellular medicine (general).

## Metabolic Disorders

Code	Title	Hours
BMB:7253	Metabolism I	1
BMB:7255	Metabolism II	1
MMED:6230	Pathogenesis of Metabolic and Cardiovascular Disorders	3
MMED:6280	Critical Thinking in Molecular Medicine	1
MMED:7310	Translational Medicine Education Rounds (taken fall and spring semesters)	1

## Cardiovascular Biology

Code	Title	Hours
MMED:6230	Pathogenesis of Metabolic and Cardiovascular Disorders	3
MMED:6280	Critical Thinking in Molecular Medicine	1
MMED:7310	Translational Medicine Education Rounds (taken fall and spring semesters)	1
Elective		3

## Molecular and Cellular Medicine (General)

Code	Title	Hours
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
MMED:6280	Critical Thinking in Molecular Medicine	1
MMED:7310	Translational Medicine Education Rounds (taken fall and spring semesters)	1
Related coursework from list in the molecular medicine Graduate Student Guidelines		2
3 s.h. from these:		
MMED:3310/ BMB:3310/ CBIO:3310	Practical Data Science and Bioinformatics	3
MMED:6225/ ACB:6225/ MPB:6225/ PCOL:6225	Growth Factor Receptor Signaling	1
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions (elective, 1s.h. maximum)	1
Elective		1

## Additional Requirements

### Laboratory Rotations

To ensure that students obtain early involvement in laboratory research, they are required to register for research credits and complete three laboratory rotations during their first year of

graduate study. In general, these rotations are in laboratories of three different molecular medicine faculty members. In some cases, if approved by the molecular medicine program, students may be allowed to complete two of their rotations in the same laboratory.

## Teaching

Students are required to complete a teaching requirement (3 s.h.). They may teach in a combination of 1 or 2 s.h. courses, or one 3 s.h. course. This teaching requirement must be met prior to the final dissertation defense and graduation. It is recommended that teaching occur in the third year following completion of the comprehensive examination.

## Publication Requirements

Students are required to have a minimum of one first-author publication in a peer-reviewed journal. The article must be formally accepted and be in-press status or be published prior to graduation. A co-first-authored, peer-reviewed publication will count toward this requirement.

## External Fellowship Application Requirement

Students are required to submit a fellowship to an external funding agency (i.e., National Institutes of Health, American Heart Association) within one year of completing their comprehensive examination or by a date that is mutually agreed upon by the student, the dissertation advisor, and the molecular medicine program.

## Comprehensive Examination

Students are expected to complete the comprehensive examination, both written and oral components, before the beginning of their third year. The preliminary specific aims document can be submitted to the comprehensive examination committee any time after approval of the dissertation plan, but must be submitted before April 1. The committee evaluation of the specific aims will be returned to the student within one week. A rejected specific aims must be revised and resubmitted within three weeks. The committee then has one week to evaluate the resubmitted specific aims. The specific aims must be accepted by a majority vote of the committee before a student can proceed with development of a full proposal. Only two rounds of submission are allowed.

Following acceptance of the specific aims, a student must submit the written proposal within six weeks. The committee has two weeks to review the written document. The oral presentation to defend the written proposal should be scheduled as soon after the two weeks as possible or at the convenience of the committee. It is expected that all examinations will be completed by July 15, in advance of the end of the student's second year.

The detailed Molecular Medicine Graduate Student Guidelines is located under Program Information on the Molecular Medicine Program website.

## Final Examination

The five-member thesis committee serves as an advisory body for preparation of the thesis. It is expected that a student meet with the committee annually, although the candidate, thesis advisor, or the committee can request a meeting at any time. The final examination takes the form of a seminar presented to the program followed by a final thesis defense with committee members. The student is required to

present a complete copy of the thesis to the thesis committee members at least two weeks prior to the final defense date.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biomedical science (molecular medicine subprogram) in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

### Molecular Physiology and Biophysics

The Doctor of Philosophy in biomedical science with a molecular physiology and biophysics subprogram offers opportunities for training and research. The degree requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students enter the molecular physiology and biophysics subprogram through the Biomedical Science Program (BSP). The BSP is designed to provide students maximum flexibility during the first year of graduate studies to take a course of study compatible with several programs while completing research rotations. At the end of the first year, students choose a subprogram affiliation.

Students join an active group of faculty members and advanced students at a time of expanding interdisciplinary biomedical research at the University of Iowa. Faculty in the Department of Molecular Physiology and Biophysics have a strong research focus on the cellular, molecular, and physical mechanisms of physiological processes.

The Ph.D. in biomedical science with a molecular physiology and biophysics subprogram requires the following coursework.

## Typical Curriculum

### First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
PCOL:5204	Basic Biostatistics and Experimental Design	1

Elective course(s)

### First Year, Spring

Code	Title	Hours
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
MMED:6260	Methods for Molecular and Translational Medicine	1

PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
Elective course(s)		

### Second Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
MPB:5153	Graduate Physiology	4
MPB:6302	Research Physiology and Biophysics	6

### Second Year, Spring

Code	Title	Hours
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
MPB:6225/ ACB:6225/ MMED:6225/ PCOL:6225	Growth Factor Receptor Signaling (elective)	1
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control (elective)	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions (elective)	1
MPB:6302	Research Physiology and Biophysics	2

## Elective Coursework Options

Any elective preapproved by the director of graduate studies can be used to meet the elective requirement. A total of 9 s.h. of elective coursework is required.

The most common elective options are the following.

Code	Title	Hours
GENE:6150	Genetic Analysis of Biological Systems	3
IGPI:5270/ MMED:5270/ PATH:5270	Pathogenesis of Major Human Diseases	3
MPB:6220/ ACB:6220/ MMED:6220	Mechanisms of Cellular Organization	3
NSCI:5653/ BIOL:5653/ PSY:5203	Fundamental Neurobiology I	3

## Additional Requirements

### Plan of Study

In consultation with the director of graduate studies, each newly admitted student formulates a plan of study to be completed before the comprehensive examination. This plan should include projected dates for completion of the comprehensive examination as well as provision for removal of deficiencies. Before completing the comprehensive exams, the normal course load is 15 s.h. each semester.

## Required Courses

It is the intention of the department to have a curriculum that allows coursework to be mostly completed within the first year, though in some instances additional coursework in subsequent years is required. The core curriculum represents a minimum of required classes; although with advice of the director of graduate studies and thesis advisor, some students may benefit from completing additional coursework.

Requests for waiver of required courses or change of course registration must be approved by the director of graduate studies after consultation with the faculty and the chair of the department.

## Evaluation of Progress

Students must meet progress requirements of the Department of Molecular Physiology and Biophysics and the Graduate College. To meet departmental requirements, students must earn a grade of B or higher in MPB:5153 Graduate Physiology and BMED:5207 Principles of Molecular and Cellular Biology (B-minus or lower constitutes a non-passing grade), a grade of satisfactory (S) for BMED:7270 Scholarly Integrity/Responsible Conduct of Research I, and a g.p.a. of at least 3.00 in all elective coursework (a grade below B, but above D-minus, is permissible for individual electives, so long as the grade-point average of all combined electives taken during the graduate program remains higher than 3.00).

All core curriculum courses receiving a letter grade must be satisfactorily completed prior to taking the comprehensive exam. According to Graduate College regulations, students cannot take a comprehensive exam in a semester in which they are on academic probation.

## Comprehensive Examination

Students admitted directly to the doctoral program are required to complete the comprehensive examination by June 30 of the second year in the program.

## Workshop

All postcomprehensive students are required to present a workshop on the progress of their thesis research once per year. Students should consult with the workshop coordinator to arrange presentation dates. Precomprehensive students also are encouraged to present workshops, though it is not required. Students have an option to present a full or half workshop (typically 45 or 20 minutes, respectively).

## Teaching

Experience in teaching is an important part of a student's academic training. To attain adequate teaching proficiency, students receive teaching assignments after successful completion of the comprehensive exam and in subsequent years as warranted. Individual assignments depend on the teaching needs of the department. Examples of teaching assignments include running review sessions in a graduate physiology course, formal lectures, participating in small group conferences, assisting in computer simulations, or bench mentoring of summer students. These teaching assignments are made by the director of graduate studies in consultation with appropriate course directors. Thesis advisors with specific suggestions concerning teaching assignments that would be particularly beneficial to the individual circumstances of a particular student are encouraged to share them with the director of graduate studies for consideration.

However, final discretion for approval lies with the director of graduate studies who must preapprove all assignments.

## Research Publication

It is expected that thesis research will result in findings that are of sufficient quality and completeness to warrant publication in good quality peer-reviewed journals. At least one first-author peer-reviewed research paper should be accepted for publication prior to the Ph.D. thesis defense. The published paper or a letter from an editor indicating acceptance should be provided to the director of graduate studies before scheduling a final exam date. In certain cases, a first-author research manuscript might be written, but not yet accepted by a journal at the time a final Ph.D. thesis exam is scheduled. In this case, the first-author requirement may be satisfied if trainees submit their manuscript to the preprint server for biology, bioRxiv.

## Thesis Defense and Presentation

Students complete a thesis defense with their committee. Once this test is completed they must schedule a public thesis presentation.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biomedical science (molecular physiology and biophysics subprogram) in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Pharmacology

The Doctor of Philosophy in biomedical science with a pharmacology subprogram requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Qualified students who are interested in earning the Doctor of Medicine along with the Ph.D. may apply to the Medical Scientist Training Program [p. 1888] in a combined M.D./Ph.D. program. Students have the opportunity to tailor their curriculum with courses that enhance their educational goals. They take a combination of graduate courses that include seminar courses.

The Ph.D. in biomedical science with a pharmacology subprogram requires the following coursework.

## Core Pharmacology Curriculum

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
MPB:5153	Graduate Physiology	4
PCOL:5130	Fundamentals of Pharmacology	3

PCOL:5204	Basic Biostatistics and Experimental Design	1
PCOL:6203	Pharmacology for Graduate Students	6
PCOL:6210	Receptors and Cell Signaling	3
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences	1

## Typical Curriculum

### First Year, Fall

Code	Title	Hours
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
MPB:5153	Graduate Physiology	4
PCOL:5204	Basic Biostatistics and Experimental Design	1

### First Year, Spring

Code	Title	Hours
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research	arr.
MMED:6260	Methods for Molecular and Translational Medicine	1
PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
PCOL:5130	Fundamentals of Pharmacology	3
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences	1
PHAR:6504	Mastering Reproducible Science	1

### Second Year, Fall

Code	Title	Hours
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
PCOL:6015	Topics in Pharmacology and Neuroscience	1
PCOL:6080	Pharmacology Seminar	1
PCOL:6090	Graduate Research in Pharmacology	arr.
PCOL:6203	Pharmacology for Graduate Students	6

### Second Year, Spring

Code	Title	Hours
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
PCOL:6015	Topics in Pharmacology and Neuroscience	1
PCOL:6080	Pharmacology Seminar	1
PCOL:6090	Graduate Research in Pharmacology	arr.
PCOL:6210	Receptors and Cell Signaling	3

## Additional Requirements

### Laboratory Rotations

Newly admitted students complete three 12-week laboratory rotations by the end of the second semester.

### Seminar and Journal Clubs

During the first two semesters, all registered students enroll in BMED:5208 Topics in Principles of Molecular and Cellular Biology and BMED:7777 Biomedical Science Seminar. In subsequent semesters, students enroll in PCOL:6015 Topics in Pharmacology and Neuroscience and PCOL:6080 Pharmacology Seminar.

## Comprehensive Examination

The comprehensive examination process normally begins during the fourth semester and is completed during the fifth semester in the program. The exam consists of writing and defending a research proposal in an area not directly related to work being conducted by the student or in the laboratory of the student's mentor(s). During the oral defense, the Comprehensive Exam Committee may pose questions related to the written proposal and also may ask questions to determine whether the student has broad knowledge in the pharmacological sciences.

## Publication

A first-authored manuscript derived from a student's thesis research must be accepted for publication before the Ph.D. degree is granted.

## Final Examination

The final oral examination is a defense of the thesis and is conducted by the Thesis Committee, typically immediately after a thesis seminar.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biomedical science (pharmacology subprogram) in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Biomedical Science, Ph.D.

#### Pharmacology Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a, b, c</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research <sup>d</sup>	5
MPB:5153	Graduate Physiology <sup>e</sup>	4
PCOL:5204	Basic Biostatistics and Experimental Design	1
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
BMED:5208	Topics in Principles of Molecular and Cellular Biology	1
BMED:7777	Biomedical Science Seminar	1
BMED:7888	Biomedical Science Research <sup>d</sup>	4
MMED:6260	Methods for Molecular and Translational Medicine	1
PATH:5270	Pathogenesis of Major Human Diseases	3
PCOL:5130	Fundamentals of Pharmacology <sup>e</sup>	3
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences <sup>e</sup>	1
PHAR:6504	Mastering Reproducible Science	1
<b>Hours</b>		<b>15</b>
<b>Second Year</b>		
<b>Fall</b>		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
PCOL:6015	Topics in Pharmacology and Neuroscience	1
PCOL:6080	Pharmacology Seminar	1
PCOL:6090	Graduate Research in Pharmacology <sup>f</sup>	7
PCOL:6203	Pharmacology for Graduate Students	6
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
Comprehensive Exam <sup>g</sup>		

a During the first two semesters, all registered students enroll in BMED:5208 and BMED:7777. In subsequent semesters, students enroll in PCOL:6015 and PCOL:6080.

b Students complete three 12-week laboratory rotations by the end of the second semester.

c Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

d Register for the indicated credit hours of BMED:7888 if taking the courses exactly as listed on the plan for this semester. If enrolling for additional courses, adjust BMED:7888 credit hours to bring total up to 15 s.h.

e Taking this course now allows for coursework completion in an optimal timeframe.

- f Register for the indicated credit hours of PCOL:6090 if taking the courses exactly as listed on the plan for this semester. If enrolling for additional courses, adjust PCOL:6090 credit hours to bring total up to 15 s.h.
- g The comprehensive examination process normally begins during the fourth semester and is completed during the fifth semester in the program.
- h Dissertation defense.

# Center for the Book

## Director

- Julia A. Leonard (Interdisciplinary Programs)

## Associate Director

- Sara A. Langworthy (Interdisciplinary Programs)

**Graduate degree:** M.F.A. in book arts

**Graduate certificate:** book studies/book arts and technologies

**Faculty:** <https://uicb.uiowa.edu/faculty-and-staff/instructors>

**Website:** <https://uicb.uiowa.edu/>

The University of Iowa Center for the Book represents a community of faculty, staff, students, and local book specialists with interests in all facets of book production, distribution, and use. Some members of the center actively research the history and circulation of the book, examining the role of books in cultural and historical processes. They also look at how changes in book production affect the way books are viewed as artifacts. Specialists in book arts and technologies study the history and technique of book crafts, including letterpress printing, typography, calligraphy, papermaking, and bookbinding. Others engage in the conservation or production of books, including artists' books and literary fine press publications.

The center offers classes; sponsors lectures, seminars, and workshops; and encourages the exchange of ideas among individuals with interests in the book. A wide range of perspectives on the book as an aesthetic, cultural, and historical artifact is provided by associated faculty, staff, and graduate students in the Schools of Art and Art History, and Library and Information Science; the Departments of History and English; the University of Iowa Libraries; the Creative Writing Program (Iowa Writers' Workshop); and other areas. This interdisciplinary membership and the center's facilities combine to provide an exceptional environment for studying the history of the book, its evolution, and its future.

Graduate students may earn a master's degree or a graduate certificate through the Center for the Book. Undergraduate students may add dimension to their majors in English, art, journalism, history, and other disciplines by taking Center for the Book courses in book arts and book studies. They also may include an emphasis on book arts or on cultural and historical aspects of the book in the interdepartmental studies major.

## Programs

### Graduate Programs of Study

#### Major

- Master of Fine Arts in Book Arts [p. 1724]

#### Certificate

- Certificate in Book Studies/Book Arts and Technologies [p. 1727]

## Courses

### Center for the Book Courses

#### **UICB:2100 Creative Writing for Book Arts** 3 s.h.

Creative writing in context of book arts; text and image, typography, visual sequence, graphic narrative; zines, chapbooks, broadsides, and artist's books.

#### **UICB:2110 Introduction to Book Arts** 3 s.h.

Topics related to artist books, hand bookbinding, letterpress printing, papermaking, and lettering arts. GE: Engineering Be Creative. Same as BKAT:2110.

#### **UICB:2190 Global Print Cultures** 3 s.h.

Introduction to history of the book and book arts in diverse global contexts; histories of visual and verbal media, cross-cultural exchange, and the book's impact across time and space; hands-on work with historical books and book arts including papermaking, woodblock and letterpress printing, and binding. Same as ENGL:2901, HIST:2190.

#### **UICB:2600 Graphic Design II** 3 s.h.

Fundamentals of typography as a core element in visual communication; introduction to historical typographic practices as well as modern modes of designing with type. Prerequisites: ARTS:1510 and ARTS:1520. Corequisites: DSGN:2500. Same as DSGN:2600.

#### **UICB:2900 Book Design for Publishing** 3 s.h.

Introduction to the major aspects of book design, including typography, layout, standard industry software, discussion of trends in the field. Same as ARTS:2900, ENGL:2900, WRIT:2900.

#### **UICB:3140 Literature and the Book** 3 s.h.

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:3140.

#### **UICB:3142 Topics in Book History** 3 s.h.

Authorship, publishing, and so forth within specific historical and cultural contexts. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:3142.

#### **UICB:3280 Elements of Book Art** 3 s.h.

Overview of book art process and techniques for nonmajors; introduction to traditional bookbinding skills, nontraditional book structures, and content development for artist books. GE: Engineering Be Creative. Same as BKAT:3280.

#### **UICB:3380 Letterpress** 3 s.h.

Introduction to letterpress printing; metal type, relief printing, page layout, and basic typography; basic use of Vandercook Proof Press; experimentation with diverse letterpress techniques. GE: Engineering Be Creative. Same as BKAT:3380.

#### **UICB:3900 Special Project for Undergraduates** arr.

Independent study.

#### **UICB:3980 American Print Culture** 3 s.h.

Exploration of a wide range of imagery printed and published in the United States during 19th century (1776-1900); fine art original prints, popular imagery in periodicals and illustrated books, scholarly literature, history of evolving technologies, variety of printed work; shifting reputation of printed art and its makers. Same as ARTH:3980.



- UICB:4100 Paperworks** 3 s.h.  
Conceptual and methodological approaches to 2D and 3D paper works; creation of works that couple unique properties of paper-pulp medium with personal visual ideas and clarity of intent; contemporary issues in paper pulp, medium's relationship to larger art and craft contexts. GE: Engineering Be Creative. Same as BKAT:4100.
- UICB:4150 Introduction to Book Studies** 3 s.h.  
Theory and practice of book studies; meanings of word and image in the book format; comparative study of other media, applied study of the codex as physical artifact. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:4150, SLIS:4150.
- UICB:4205 Bookbinding I: Materials and Techniques** 3 s.h.  
Hands-on introduction to materials and techniques commonly used in bookbinding. Same as BKAT:4205.
- UICB:4210 Boxes and Enclosures** 3 s.h.  
Hands-on techniques for a variety of book enclosures; appropriateness, aesthetic issues concerning box design; Japanese wraparound case, drop-spine box, hinged and lidded boxes, slipcase; technical skill development. Prerequisites: UICB:4205. Same as BKAT:4210.
- UICB:4270 Bookbinding II** 3 s.h.  
Builds on skills acquired in UICB:4205; projects to complete six bindings based on historical and contemporary models; sewing styles, board attachments, endband types; nonadhesive and case-bound structures, varied materials and binding styles, their effects on structure, aesthetic considerations, further development of solid binding skills; historical development of particular binding practices. Prerequisites: UICB:4205. Same as BKAT:4270.
- UICB:4280 Artists' Books** 3 s.h.  
Exploration of the book as a form for artistic expression; emphasis on conceptual development; relationship between content, form, and structure; how a book's structure and design can enhance and integrate part of the work's meaning. Prerequisites: UICB:4205 or BKAT:4205. Same as BKAT:4280.
- UICB:4290 Historical Book Structures** 3 s.h.  
Historical development of book structures examined through surviving examples, construction of historical models. Prerequisites: UICB:4205.
- UICB:4300 Letterpress I** 3 s.h.  
Mechanics of letterpress printing, typography, and design as applied to hand set metal type and edition printing; printing on a Vandercook proof press; introduction to photopolymer plates and methods of illustration related to edition printing, historical aspects of printing technology, typesetting, type classification; role of letterpress in modern private press and contemporary artist books. Same as ARTS:4300.
- UICB:4340 Digital Design for Artists' Books** 3 s.h.  
Introduction to concepts, techniques, and technologies used to design and produce artists' books with personal computers and graphic design software. GE: Engineering Be Creative. Same as ARTS:4340.
- UICB:4380 Letterpress II** 3 s.h.  
Builds on skills acquired in UICB:4300; students produce an editioned letterpress printed chapbook or artist book, a poster for a public event, and an image built from metal type; exploration of hand-set metal, digital typesetting, printing from photopolymer plates, and pressure printing; press mechanics and operation; publication philosophies, manuscript acquisition, and topics specific to literary fine press and artist books; historical and contemporary context for literary fine press publications and artist book work. Prerequisites: UICB:4300. Same as ARTS:4380.
- UICB:4390 Book and Publication Design** 3 s.h.  
Students plan, design, and produce a book using Adobe Creative Suite; page layout software, typography, page layout and design, book formatting, handling of image files, preparation of materials for print and other contemporary book media; history of book design, book design in contemporary publishing; visit to University of Iowa Libraries Special Collections. Prerequisites: DSGN:2600 or UICB:4300. Same as ARTS:4390.
- UICB:4400 History of Western Letterforms** 3 s.h.  
History of Western letterforms, with focus on tools, materials, techniques; the major hands, their place in history, their influence on modern times; creation of letterforms using appropriate tools; hands-on approach with emphasis on understanding rather than mastery. Same as ARTS:4400.
- UICB:4405 Introduction to Calligraphy Intensive** 3 s.h.  
Intensive, basic broad pen calligraphy; Roman capitals, lowercase Roman and italic lettering.
- UICB:4415 Calligraphy I: Foundational Hands** 3 s.h.  
Intensive, basic broad pen calligraphy; Roman capitals, lowercase Roman and italic lettering. GE: Engineering Be Creative. Same as ARTS:4415.
- UICB:4420 Calligraphy I: Blackletter Hands** 3 s.h.  
Explores some of the many calligraphic forms known collectively as blackletter hands (medieval introduction to calligraphy); study of various hands from the heavily vertical Textura to the floridly expressive Gothic Cursive, and the distinctive connotations these unique letterform carry; emphasis on exploring the creative process while refining calligraphic skills and understanding the historical and social connections this hand has with other disciplines.
- UICB:4490 Advanced Studies in Letter Arts** 3 s.h.  
Special topics and advanced projects in calligraphy and letter arts. Prerequisites: UICB:4400 or UICB:4415 or UICB:4420. Same as ARTS:4490.
- UICB:4910 The Book in the Middle Ages** 3 s.h.  
Relation of text, decoration, function, creators, and audience in different genres of medieval manuscript books 400-1500 A.D. Same as HIST:4910, SLIS:4910.
- UICB:4920 The Transition from Manuscript to Print** 3 s.h.  
History of the book and communication in Europe 1400-1800; production, distribution, and use of texts in cultural context. Same as HIST:4920, SLIS:4920.
- UICB:4930 Topics in Material Analysis** 3 s.h.  
Analysis and description of physical book artifacts and their component parts (parchment, paper, bookbinding) and allied specialties (the lettering arts, printing and illustration techniques); reading, writing, presentations. Same as HIST:4430.
- UICB:5110 Islamic and Asian Papermaking** 3 s.h.  
History, technique, and aesthetics of traditional Islamic and Asian hand papermaking. Same as BKAT:5110.

**UICB:5130 European Papermaking History and Technique** 3 s.h.

History and technique of traditional European hand papermaking and related aesthetics; students gain confidence in pursuing independent production of handmade papers or undertaking related research in their own particular areas of interest; fiber preparation, sheet forming, and drying/finishing methods; concurrent readings and discussions of related history and aesthetics; special projects selected by student with instructor approval. Same as BKAT:5120.

**UICB:5140 Contemporary Papermaking** 3 s.h.

Contemporary papermaking studio practice and conceptual considerations; focus on nontraditional techniques and cross-disciplinary use of paper fibers and handmade paper; handmade paper as a form of artistic expression. Prerequisites: UICB:4100 or BKAT:4100 or UICB:5110 or BKAT:5110 or UICB:5130 or BKAT:5120. Same as BKAT:5140.

**UICB:5160 Studies in Papermaking** arr.

Topics in the history and technique of papermaking. Prerequisites: UICB:4100 or UICB:5110 or UICB:5130.

**UICB:5170 Advanced Papermaking Production** 3 s.h.

Independent Western- or Japanese-style projects undertaken at UICB Research and Production Paper Facility at Oakdale Campus under faculty guidance; plan, implement, and evaluate professional scale production runs using full-scale equipment. Prerequisites: UICB:5110 or UICB:5130 or BKAT:5110 or BKAT:5120. Same as BKAT:5170.

**UICB:5180 Advanced Projects in Paper** 1-3 s.h.

Advanced independent projects undertaken in a classroom setting; collaborative group discussions to plan, implement, troubleshoot, and evaluate student projects. Prerequisites: UICB:5110 or UICB:5130 or BKAT:5110 or BKAT:5120. Same as BKAT:5180.

**UICB:5210 Bookbinding III** 3 s.h.

Bookbinding structures based on historical and contemporary models; differences in various binding practices, how these differences affect function, why the styles developed; experience choosing appropriate structures for particular uses; emphasis on fine tuning skills and techniques required for advanced binding practices; sewn endbands, rounding and backing, sewing on varied supports, board attachments, and covering methods. Prerequisites: (UICB:4205 or BKAT:4205) and (UICB:4270 or BKAT:4270). Requirements: for UICB:5210—UICB:4205 and UICB:4270; for BKAT:5210—BKAT:4205 or BKAT:4270 or UICB:4205 or UICB:4270. Same as BKAT:5210.

**UICB:5220 Book Conservation** 3 s.h.

Practical methods, materials assessment, conservation history and evolution. Prerequisites: UICB:4270. Same as SLIS:5535.

**UICB:5260 Studies in Bookbinding** 3 s.h.

Topics related to hand bookbinding. Same as BKAT:5260.

**UICB:5280 Bookbinding IV** 3 s.h.

Advanced studies in bookbinding; fine binding styles, leather paring and tooling, advanced finishing techniques, refining skills; continued look at differences in regional binding practices, how these differences affect function, and why particular styles developed. Prerequisites: UICB:5210.

**UICB:5330 Letterpress III: Iagemaking** arr.

Advanced work in alternative and innovative letterpress technologies as they apply to imagemaking processes for fine press printing; topics include pressure printing, photopolymer from nondigital negatives, explorations of type-high surfaces, monoprints on the Vandercook, and applying hand work to editioned prints; students complete a series of print exercises for each process, a small printed book sketch, and a longer format editioned artist book. Prerequisites: UICB:4380. Same as ARTS:5330.

**UICB:5340 Letterpress III: The Handprinted Book** 3 s.h.

Advanced work in fine press book design; exploration of problems in hand-printing books, choice of manuscript, editing, design, typesetting, proofreading, printing and binding; histories of printing and of the book, emphasis on 20th- and 21st-century book design and literature; issues of book design and production related to letterpress printing. Prerequisites: UICB:4380. Same as ARTS:5340.

**UICB:5370 Studies in Printing** 1-3 s.h.

Development of individual book projects and production of one substantial project or several smaller ones; focus on acquiring or creating a text and/or other content; project development; range of print techniques available in letterpress printing; issues involved in producing editioned artist books or fine press work; opportunity to expand on existing printing; classroom setting used to augment work sessions with in-progress critiques, readings, and visits to special collections.

**UICB:5380 Letterpress IV: Advanced Projects** 3 s.h.

Development and/or production of one substantial project; focus on acquiring or creating a text and/or other content; project development; range of print techniques available in letterpress printing; issues involved in producing editioned artist books or fine press work; opportunity to expand existing printing; classroom setting augments work sessions with in-progress critiques, readings, and visits to special collections. Prerequisites: UICB:5330 or UICB:5340.

**UICB:5520 Studies in Book History and Technologies** 0-3 s.h.

Topics related to production, distribution, and consumption of books through history and into the future. Same as SLIS:5520.

**UICB:5530 Preservation Management** 3 s.h.

Responsible stewardship of collections, integration of preservation into libraries and archives systems, maximizing limited resources, establishing preservation priorities, and advocacy; appropriate care of books, paper, photographs, time-based media (e.g., audio, video, film), and born-digital objects; lectures, discussions, student presentations, and hands-on activities; for students who will be responsible for managing collections. Same as SLIS:5530.

**UICB:5540 Topics in Book Arts** 1-3 s.h.

Focus on particular techniques and concepts in the book arts and related fields.

**UICB:5550 Special Project for Graduate Students** arr.

Independent study.

**UICB:5600 Reading Culture: History and Research in Print and Digital Media** **3 s.h.**

What reading means, and what it means to read, have changed with time and place; cultural study of books and reading to evaluate strategies and resources involved in crafting historical interpretations of books and their readers; consideration of ways that reading has always been interdependent with other media, from needlework to social media; how researchers locate and interpret primary source material to study reading culture, and how cultural heritage organizations promote their holdings to researchers. Same as SLIS:5600.

**UICB:6100 Book Studies Proseminar** **1-3 s.h.****UICB:6370 Topics in Book Studies** **3 s.h.**

Topics relevant to book studies and special collections. Same as SLIS:6370.

**UICB:6510 Book Art Seminar: History, Practice, and Critique** **3 s.h.**

Art-historical introduction to book arts (printing, bookbinding, papermaking and paperworks, artist bookwork, lettering arts, literary fine press and fine press artist books); influences and origins, contemporary practice, critical considerations; locating field through lenses of fine art, craft, and book history; weekly readings, observational analyses, hands-on exercises; archival research in the University of Iowa Libraries Special Collections; final research, analytical, and/or critical project.

**UICB:6520 Graduate Book Arts Workshop** **3 s.h.**

Development of artwork and studio practice; readings and research in contemporary theory and practice; analysis of visual language; integration of creative activities and critical thinking in student's own art practice and analysis of contemporary work in book arts; group and individual critiques, studio assignments, presentations, discussions.

**UICB:6540 M.F.A. Thesis Hours** **arr.**

# Book Arts, M.F.A.

The M.F.A. degree focuses on book arts as a hands-on practice, as a creative medium, and as a historical and cultural phenomenon. Its principal objectives are to provide aesthetic and scholarly contexts for the making of creative work and for the study of book history, arts, and technologies. It also offers a structured program in book-related disciplines for graduate students interested in studio arts, in librarianship, and in literary and cultural history.

## Learning Outcomes

Students will learn:

- breadth of hands-on and contextual (studio, art historical, cultural) experience with art, craft, and design disciplines within the book arts;
- depth of study within one or more craft disciplines within the book arts;
- sustained, project-based problem solving accomplished through art-making;
- proficiency in hand skills (scale: competence, proficiency, excellence/mastery);
- interdisciplinary synthesis of studio art, scholarly practice, and material analysis;
- critical thinking within and across these book-based disciplines; and
- professional development and exposure to career tracks.

## Requirements

The Master of Fine Arts program in book arts requires a minimum of 60 s.h. of graduate credit, including a thesis. Students complete core courses and work with a faculty advisor to design an individualized curriculum spanning several studio practice disciplines: artist book work, bookbinding, lettering arts, digital book work, papermaking, or letterpress printing. The degree culminates with the successful completion of a thesis.

The M.F.A. requires the following coursework.

## Studio Requirements

Courses from the areas below should be selected in consultation with an advisor.

### Required Core Electives

Code	Title	Hours
Three of these (9 s.h.):		
UICB:4205/ BKAT:4205	Bookbinding I: Materials and Techniques	3
UICB:4300/ ARTS:4300	Letterpress I	3
UICB:4400/ ARTS:4400	History of Western Letterforms	3
UICB:4415/ ARTS:4415	Calligraphy I: Foundational Hands	3
UICB:5110/ BKAT:5110	Islamic and Asian Papermaking	3
UICB:5130/ BKAT:5120	European Papermaking History and Technique	3

## Graduate Book Arts Workshop

Code	Title	Hours
UICB:6520	Graduate Book Arts Workshop (must be taken three times for a total of 9 s.h.)	9

## Book Art Seminar

Code	Title	Hours
This course:		
UICB:6510	Book Art Seminar: History, Practice, and Critique	3

## Studio Practice Electives

Code	Title	Hours
Studio practice courses		15

## Scholarly Inquiry Requirement

Code	Title	Hours
Two of the following, or students may request to use related courses approved by the head of the scholarly inquiry area (6 s.h.):		
UICB:3140/ ENGL:3140	Literature and the Book	3
UICB:3142/ ENGL:3142	Topics in Book History	3
UICB:3980/ ARTH:3980	American Print Culture	3
UICB:4150/ ENGL:4150/ SLIS:4150	Introduction to Book Studies	3
UICB:4910/ HIST:4910/ SLIS:4910	The Book in the Middle Ages	3
UICB:4920/ HIST:4920/ SLIS:4920	The Transition from Manuscript to Print	3
UICB:5600/ SLIS:5600	Reading Culture: History and Research in Print and Digital Media	3
UICB:6100	Book Studies Proseminar	3

## Material Analysis Requirement

Code	Title	Hours
This course:		
UICB:4930/ HIST:4430	Topics in Material Analysis	3

## Additional Electives

Code	Title	Hours
Elective courses (may include 0-6 s.h. of thesis credit; see below)		15

## Thesis

Code	Title	Hours
Can be taken for a maximum of 6 s.h.:		
UICB:6540	M.F.A. Thesis Hours	arr.

## Combined Programs

### M.F.A./M.A. in Library and Information Science

The Center for the Book and the School of Library and Information Science offer a combined Master of Fine Arts in book arts/Master of Arts in library and information science. The combined degree program allows students with strong interests in the book arts, book history, and material book studies to also gain expertise in library and information science. The degrees provide book artists and librarians with credentials reflecting a depth of skills and knowledge that have been used to secure positions in special collections libraries and archives. Students in the combined program earn both degrees by completing fewer semester hours than if each degree was completed separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information, see the M.A. in library and information science [p. 1764] in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. Visit Admissions on the Center for the Book website for more information.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Book Arts, M.F.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
60 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Work with academic advisor to determine appropriate graduate coursework and sequence.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Required Core Elective	<sup>b</sup>	3
Required Core Elective	<sup>b</sup>	3
Required Core Elective	<sup>b</sup>	3
Studio Practice Elective	<sup>c</sup>	3
Studio Practice Elective	<sup>c</sup>	3
Studio Practice Elective	<sup>c</sup>	3
Scholarly Inquiry Requirement	<sup>d, e</sup>	3
<b>Hours</b>		<b>21</b>

<b>Fall</b>		
UICB:6510	Book Art Seminar: History, Practice, and Critique	3
<b>Hours</b>		<b>3</b>

<b>Second Year</b>		
<b>Any Semester</b>		
UICB:4930	Topics in Material Analysis	3
Studio Practice Elective	<sup>c</sup>	3
Studio Practice Elective	<sup>c</sup>	3
Scholarly Inquiry Requirement	<sup>d, e</sup>	3
<b>Hours</b>		<b>12</b>

<b>Fall</b>		
UICB:6520	Graduate Book Arts Workshop <sup>f</sup>	3
<b>Hours</b>		<b>3</b>

<b>Spring</b>		
Participate in third semester review, usually at the beginning of the fourth semester. Refer to UICB Student Handbook and academic advisor for more details.		
UICB:6520	Graduate Book Arts Workshop <sup>f</sup>	3
<b>Hours</b>		<b>3</b>

<b>Third Year</b>		
<b>Any Semester</b>		
Additional Elective	<sup>g</sup>	3
Additional Elective	<sup>g</sup>	3
Additional Elective	<sup>g</sup>	3
Additional Elective	<sup>g, h</sup>	0
Additional Elective	<sup>g, h</sup>	0
<b>Hours</b>		<b>9</b>

<b>Fall</b>		
UICB:6520	Graduate Book Arts Workshop <sup>f</sup>	3
<b>Hours</b>		<b>3</b>

<b>Spring</b>		
UICB:6540	M.F.A. Thesis Hours <sup>i</sup>	1 - 6
Exam: Final Exam-Thesis		
<b>Hours</b>		<b>1-6</b>
<b>Total Hours</b>		<b>55-60</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Choose three courses for a total of 9 s.h. from UICB:4205, UICB:4300, UICB:4400, UICB:4415, UICB:5110, UICB:5130
- c Complete a total of 15 s.h. of Studio Practice Elective courses. Work with academic advisor to determine appropriate graduate course and sequence; see General Catalog and department website for specifics.
- d Complete a total of 6 s.h. of Scholarly Inquiry courses. Work with academic advisor to determine two appropriate graduate courses and sequence from a select list OR related coursework approved by the head of the scholarly inquiry area: see General Catalog and department website for specifics.
- e Choose two courses for a total of 6 s.h. from UICB:3140, UICB:3142, UICB:3980, UICB:4150, UICB:4910, UICB:4920, UICB:5600, UICB:6100
- f Must be taken three times for a total of 9 s.h.
- g Complete a total of 15 s.h. of Additional Elective courses. Work with academic advisor to determine appropriate graduate coursework and sequence; see General Catalog

and department website for specifics. Up to 6 s.h. allowed for thesis credit.

- h Hours may be required for this Additional Elective if fewer than 6 s.h. of thesis credits are completed.
- i Maximum of 6 s.h. of thesis credit allowed.

# Book Studies/Book Arts and Technologies, Graduate Certificate

## Requirements

The graduate Certificate in Book Studies/Book Arts and Technologies requires 18 s.h. of graduate credit and is designed to be completed in one year. The program is open to students who are enrolled in a graduate degree program at the University of Iowa as well as to students enrolled in the Graduate College with nondegree status.

The program requires the following coursework. Students should consult their advisor concerning course choices.

Code	Title	Hours
A studio practice course		3
A scholarly inquiry course		3
Electives		12
<b>Total Hours</b>		<b>18</b>

## Certificate and Degree Opportunities

Separate application to each program is required.

### Certificate/M.A. in Library and Information Science

The Center for the Book and the School of Library and Information Science enable students to earn the Certificate in Book Studies/Book Arts and Technologies and a M.A. in library and information science [p. 1764]. Admission deadline is February 1 for the following fall.

The programs offer multiple pathways into professional engagement with artifacts, such as rare and artist books, available in archives and libraries. Students select courses that enable them to gain skills and knowledge in areas of service such as conservation, cataloging, instruction, and outreach. Completion of the two programs requires 51 s.h. of credit. Students must take at least 27 s.h. of library and information science courses and 15 s.h. of book arts, studies, and technologies courses. The remaining 9 s.h. may be taken in either School of Library and Information Science (prefix SLIS) or Center for the Book (prefix UICB) courses or from another unit, with approval of the School of Library and Information Science.

### Certificate/M.F.A. in Art

The Center for the Book and the School of Art and Art History enable students to earn the Certificate in Book Studies/Book Arts and Technologies and a M.F.A. in art [p. 152]. Students may wish to earn the M.F.A. in a studio art area (printmaking, drawing and painting, design, etc.) in combination with the 18 s.h. certificate. If accepted to both programs, students are advised and matriculate through both programs independently. Most, if not all, of the 18 s.h. of elective coursework required for the M.F.A. may be applied toward the Center for the Book certificate. It is possible for a student to earn both credentials in the same amount of time required to earn the M.F.A.

Admissions advisors in both areas of study assist interested students in discerning whether the Center for the Book M.F.A. in book arts or the School of Art and Art History M.F.A. in art and the certificate option is most appropriate to a student's background and career goals. In large part, this is determined by the degree to which books and book arts are central to the applicant's chosen path.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. Visit Admissions on the Center for the Book website for more information.

# Cognitive Science of Language

## Chair, Psychological and Brain Sciences

- Mark S. Blumberg

## Coordinator, Cognitive Science of Language

- Robert M. McMurray (Psychological and Brain Sciences)

**Graduate certificate:** cognitive science of language

**Faculty:** <https://cogscilang.grad.uiowa.edu/people>

**Website:** <https://cogscilang.grad.uiowa.edu>

The scientific study of language is larger than any one field, due in part to the broad diversity in forms and uses of language. The Cognitive Science of Language Program uses an interdisciplinary approach to the study of language, helping to prepare language scientists who are conversant in multiple domains.

## Programs

## Graduate Program of Study Certificate

- Certificate in Cognitive Science of Language [p. 1729]



# Cognitive Science of Language, Graduate Certificate

## Requirements

The graduate Certificate in Cognitive Science of Language requires a minimum of 12-15 s.h. of graduate credit. Designed to complement doctoral study, the certificate program is open to University of Iowa Ph.D. students in linguistics, neuroscience, psychology, and speech and hearing science. Ph.D. students in other disciplines may petition to be permitted to earn the certificate. Students must complete a formal application to enter the certificate program; they should contact the program's coordinator before they apply.

The certificate program ensures that students have training in interdisciplinary approaches to the study of language along with a strong theoretical grounding in their Ph.D. discipline. Certificate students work with their Ph.D. advisor and the certificate program's coordinator to develop an individual plan of study that complements their degree program and career interests. In order to be granted the Certificate in Cognitive Science of Language, students must complete all of the requirements of their Ph.D. program as well as all of the certificate requirements.

Certificate students must participate in the cognitive science of language proseminar, a two-semester (6 s.h.) survey course on the five major disciplines within the language sciences—psychology, formal linguistics, neuroscience, communication disorders, and computational approaches. They also must complete three courses on cognitive science or language outside their field of study. Students can choose from the approved courses in the lists below, or they can petition the program for other courses. Students may enroll in the proseminar and three additional courses before or concurrently with other courses in their programs.

Students must include a faculty member from the Cognitive Sciences of Language Program on their Ph.D. comprehensive and dissertation exam committees.

The Certificate in Cognitive Science of Language requires the following coursework.

Code	Title	Hours
	Proseminar	6
	Disciplinary Courses	6-9
<b>Total Hours</b>		<b>12-15</b>

## Proseminar

Code	Title	Hours
Both of these:		
PSY:6101/ CSD:6101/ LING:6101	Cognitive Science of Language Proseminar I	3
PSY:6102/ CSD:6102/ LING:6102	Cognitive Science of Language Proseminar II	3

## Disciplinary Courses

Students take at least 6-9 s.h. from the following lists (typically three courses).

### Communication Sciences and Disorders

Code	Title	Hours
CSD:3116/ LING:3116	Basic Neuroscience for Speech and Hearing	3
CSD:3118/ LING:3118	Language Acquisition	1-3
CSD:4145	Developmental Language Disorders	3
CSD:5146	Neurogenic Disorders of Language	3
CSD:5222	Gross Anatomy of Speech/Voice Production	2
CSD:5233	Aphasia	2
CSD:5256	Anatomy and Physiology of Hearing	3-4
CSD:5282	Phonological Development and Disorders	2
CSD:6230	Psychoacoustics	2-3
CSD:6538	Advanced Topics in Speech, Language, and Hearing Research	1

### Linguistics

Code	Title	Hours
LING:3030	Child Language-Linguistic Perspectives	3
LING:4090	Practical Phonetics	3
LING:5010/ SLA:5010	Introduction to Syntax (requires a corequisite course which does not count toward the certificate)	3
LING:5020/ SLA:5020	Introduction to Phonology	3
LING:6050	Language Universals Linguistic Typology	3
LING:6080/ SLA:6452	Topics in Second Language Acquisition	3
LING:7090/ SLA:7404	Seminar: Problems in Linguistics	2-3

### Psychological and Brain Sciences

Code	Title	Hours
PSY:3670/ LING:3670	Language Processes	3
PSY:7610	Seminar: Cognitive Psychology	2-3

### Spanish and Portuguese

Code	Title	Hours
SPAN:4100/ SLA:4301	Introduction to Spanish Phonology	3
SPAN:4150/ SLA:4300	Introduction to Spanish Syntax	3
SPAN:6110/ SLA:6303	Spanish Phonology	3
SPAN:6120/ SLA:6304	Spanish Syntax	3

SPAN:6150/ SLA:6301	Topics in Spanish Language Acquisition	3
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# College Teaching

## Director

- Mitchell J. Kelly (Psychological and Quantitative Foundations)

**Graduate certificate:** college teaching

**Website:** <https://education.uiowa.edu/areas-study/continuing-education/certificates-and-endorsements/certificate-college-teaching>

The certificate program in college teaching provides coursework and supervised experiences that prepare graduate students for careers in postsecondary education.

The Certificate in College Teaching is administered by the Graduate College.

## Programs

## Graduate Program of Study

### Certificate

- Certificate in College Teaching [p. 1732]

# College Teaching, Graduate Certificate

## Requirements

The graduate Certificate in College Teaching requires a minimum of 12 s.h. of graduate credit. Previous teaching experience does not count toward certificate requirements.

The certificate program is open to all University of Iowa students enrolled in a Ph.D. or other terminal degree program.

Students apply to the certificate program on the Office of Graduate Teaching Excellence (OGTE) website, under Graduate Certificate in College Teaching.

The Certificate in College Teaching requires the following coursework. Courses selected from the categories below can be completed in any order at any time.

### Category 1

Category 1 coursework provides an overview of basic instructional issues and methods in college teaching. The work requires students to engage in discipline-specific thinking as they consider their own teaching situations.

Students choose two courses (minimum of 6 s.h. required) from the following.

Code	Title	Hours
Students must take at least one of these:		
EPID:7200	Teaching in Epidemiology	3
GRAD:7385/ CSED:7385/ EDTL:7385/ EPLS:7385/ PSQF:7385	Teaching and Learning in Higher Education	3
GRAD:6217/ PSQF:6217	Seminar in College Teaching	3
PSQF:6205	Design of Instruction	3
RHET:5352	Seminar: Topics in Teaching and Professional Development	3
SOC:7010	Teaching Sociology	3
Students may take one of these:		
PSQF:6211	Universal Design and Accessibility for Online Instruction	3
PSQF:6215	Online Instruction: Design and Facilitation	3
PSQF:6216	Tools and Utilities for Online Teaching	3
RHET:7940	Public Speaking for Academics	3

### Category 2

Category 2 requires students to complete practicum courses under the guidance of two different professors. Prior or current experience as a teaching assistant does not count toward this requirement.

Students enroll in one of the following courses twice, with each enrollment supervised by a different faculty member. Students earn a total of 3 s.h. for the two enrollments. They

can enroll in two practicums with two different professors in the same semester or they can complete practicum experiences in separate semesters.

Code	Title	Hours
CSED:7380	Internship in Teaching	1-3
EDTL:7380	Practicum in College Teaching	1-3
EPLS:7380	Practicum in College Teaching	1-3
GRAD:7400	Practicum in College Teaching (faculty member must be outside the College of Education)	1-3
PSQF:7380	Practicum in College Teaching	1-3

### Category 3

For Category 3, students develop a full portfolio that demonstrates their skills and competencies in teaching, research, and service. The portfolio requires sample syllabi, a statement of teaching philosophy, samples of assignments and student work, and reflective essays on critical issues in teaching in higher education. The portfolio artifacts are reviewed and evaluated by the course instructor.

Category 3 requires the following course.

Code	Title	Hours
EALL:7475	Ph.D. ePortfolio in College Teaching	3

# Genetics

## Chair

- Daniel F. Eberl (Biology)

**Graduate degree:** Ph.D. in genetics

**Faculty:** <https://genetics.grad.uiowa.edu/people/faculty>

**Website:** <https://genetics.grad.uiowa.edu>

Prospective doctoral students in genetics should have a strong undergraduate background in science, including courses in general genetics, organic chemistry, biochemistry and molecular biology, introductory physics, and mathematics, as well as a strong commitment to genetic research and teaching. Students are able to make up deficiencies in a particular area during their first year of graduate study.

## Programs

## Graduate Program of Study

### Major

- Doctor of Philosophy in Genetics [p. 1734]

## Courses

## Genetics Courses

### **GENE:4213 Bioinformatics** 2,4 s.h.

Overview of bioinformatics topics, including access to sequence data, pairwise and multiple sequence alignment algorithms, molecular phylogeny, microarray data analysis, protein analysis, proteomics and protein structure analysis; emphasis on each topic includes biological motivation, computational approach (practical and theoretical), and interpretation of output. Prerequisites: BMB:3120 or MICR:3170 or BIOL:2512 or BMB:3110. Recommendations: grade of B+ or higher in BIOL:2512 or BIOC:3120, or graduate standing. Same as BIOL:4213, IGPI:4213.

### **GENE:6150 Genetic Analysis of Biological Systems** 3 s.h.

Genetic techniques and approaches for analysis of biological processes; comparison of strengths, weaknesses of a variety of experimental systems.

### **GENE:6200 Special Topics in Genetics** 1 s.h.

Current research in a selected field of genetics; different topic each year. Companion to a genetics seminar series. Same as ACB:6200.

### **GENE:6210 Seminars in Genetics** 1 s.h.

Attendance at weekly forum and presentation of research data to foster oral communication, presentation skills, and collaboration.

### **GENE:6234 Basic Biostatistical Methods with Genetics Applications** 1 s.h.

Introduction to terminology, fundamental concepts, and methods of biostatistics as applied to genetic research; genetic investigation examples used to illustrate statistical approaches.

### **GENE:6280 Directed Study in Genetics** arr.

### **GENE:7191 Human Molecular Genetics** 3 s.h.

Molecular genetic approaches to human disease; the human genome project, linkage analysis, candidate gene screening, special features of inbred populations, triplet repeat expansions, mitochondrial genetics, genetics of complex traits. Requirements: fundamental genetics and molecular biology.

### **GENE:7301 Graduate Research in Genetics** arr.

# Genetics, Ph.D.

## Learning Outcomes

The Ph.D. in genetics will:

- develop students' ability to learn relevant literature, and to design and complete successful experiments with rigor and reproducibility;
- develop students' ability to communicate concepts, present and publish scientific data, and interact with diverse audiences;
- facilitate students as they acquire teaching skills and develop teaching effectiveness in the classroom and in the laboratory; and
- prepare students for diverse careers in the discipline.

## Requirements

The Doctor of Philosophy program in genetics requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of 3.00. The program is designed to promote collaborative investigation and intellectual interaction among students and faculty participants affiliated with several different departments.

Students who enroll in the Ph.D. program are encouraged to obtain a broad background in genetics, including molecular, population, and human genetics. Within this context, course requirements are flexible enough to permit students to tailor their formal coursework to their individual needs. All students are required to do some teaching as part of their development as future scientists and faculty members.

Students have the option to declare a Ph.D. emphasis in computational genetics.

All students enrolled in the program are required to take the following courses.

Code	Title	Hours
All of these:		
GENE:6150	Genetic Analysis of Biological Systems	3
GENE:6200	Special Topics in Genetics (seminar)	1
GENE:6210	Seminars in Genetics	1
GENE:6234	Basic Biostatistical Methods with Genetics Applications	1
BMED:5207	Principles of Molecular and Cellular Biology	3
One of these:		
GENE:7191	Human Molecular Genetics	3
BIOL:3172	Evolution	4
BIOL:3713	Molecular Genetics	4
BIOL:4333	Genes and Development	3
All of these:		
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0

Elective coursework in molecular and microbial genetics, cell and development genetics, human genetics, or computational genetics	8
Seminar courses approved by the program	5

Even more important than formal coursework is the opportunity to do significant research in genetics. Research interests of the participating faculty include virtually all areas of genetics, ranging from bacteriophage genetics to human medical genetics. In each area of genetics, there is a group of faculty members who have closely related interests.

The University is strong in several related disciplines, including microbial physiology, enzymology, virology, protein biochemistry and molecular biology, computational genetics, and developmental and cell biology, all of which contribute significantly to the overall training program.

In addition to completing research and coursework, students must pass a comprehensive examination, usually at the end of their second year in the program.

## Associated Courses

Credit earned in the following courses may be counted toward the Ph.D. in genetics. Not all courses are offered every year.

Code	Title	Hours
GENE:4213	Bioinformatics	4
BIOS:6720	Statistical Machine Learning for Biomedical and Public Health Data	3
BIOS:7330	Advanced Biostatistical Computing	3
BMB:3310	Practical Data Science and Bioinformatics	3
BMB:4310	Computational Biochemistry	3
BMB:5243	Biophysical Chemistry I, Module I	1
CS:5430	Machine Learning	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:6250	Genetics and Epidemiology	3
FRRB:7001	Molecular and Cellular Biology of Cancer	3
IGPI:6480	Knowledge Discovery	3
MICR:6268	Biology and Pathogenesis of Viruses	2
MMED:6220	Mechanisms of Cellular Organization	3
MMED:6226	Cell Cycle Control	1
MMED:6227	Cell Fate Decisions	1
NSCI:7235	Neurobiology of Disease	3
PCOL:6225	Growth Factor Receptor Signaling	1
STAT:4580	Data Visualization and Data Technologies	3

## Ph.D. and Dental Scientist Training Program

Ph.D. students in genetics who have earned a D.D.S. degree may be candidates for advanced training programs in dentistry. For information, contact the College of Dentistry.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in genetics in a combined degree program offered by the Carver College of Medicine and the Graduate College. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

### Admission

Prospective students should have a strong undergraduate science background and a strong commitment to research in genetics. Previous coursework should include general genetics, biochemistry, organic chemistry, and introductory physics and mathematics. However, deficiencies can be rectified during the first year as a graduate student.

Students who want to apply online should view the Interdisciplinary Graduate Program in Genetics website. For additional information, see the program website.

Students generally begin graduate work in the fall semester.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Financial Support

All students receive a financial stipend of \$31,500 plus tuition for the 2022-23 academic year. Financial support comes from training grants, research assistantships, teaching assistantships, scholarships, individual research grants, or other departmental or college funds. All students are required to teach as part of their development as future scientists and faculty members.

See Financial Assistance on the Interdisciplinary Graduate Program in Genetics website and Cost and Funding on the Graduate Admissions website for more information.

# Human Toxicology

## Director

- Peter S. Thorne (Occupational and Environmental Health/  
Civil and Environmental Engineering)

## Director, Graduate Studies

- Gabriele Ludewig (Occupational and Environmental  
Health)

**Graduate degrees:** M.S. in human toxicology; Ph.D. in human toxicology

**Faculty:** <https://toxicology.grad.uiowa.edu/faculty>

**Website:** <https://toxicology.grad.uiowa.edu>

Toxicology is the study of how biological, chemical, physical, and radiological agents affect living organisms and the ecosystem, and how to prevent or lessen the adverse effects of those agents. The Human Toxicology Program prepares toxicologists to identify and assess environmental exposures, identify mechanisms by which toxicants affect homeostasis or induce disease, identify interventions to prevent adverse effects, and estimate acceptable levels of exposure to protect public health.

The program is interdisciplinary, involving the Graduate College, the College of Public Health, the Carver College of Medicine, and the Colleges of Engineering, Liberal Arts and Sciences, and Pharmacy.

The Graduate College supports the Human Toxicology Program. Students receive support from the Iowa Superfund Research Program, the Environmental Health Sciences Research Center, and other faculty research grants.

## Programs

## Graduate Programs of Study

### Majors

- Master of Science in Human Toxicology [p. 1737]
- Doctor of Philosophy in Human Toxicology [p. 1738]

## Facilities

Training is conducted primarily in laboratories and teaching facilities of the departments and colleges of Human Toxicology Program faculty members. These are among the best-equipped laboratories on campus. Together with the University's central research facilities, they provide access to the most up-to-date research equipment and expertise.

## Courses

### Human Toxicology Courses

**TOX:7171 Special Problems in Toxicology** arr.  
Didactic material that may include tutorial, seminar, or faculty-directed research work; or a special topic.

**TOX:7173 Professional Development in Toxicology** arr.  
Presentations and discussion on professional development topics including toxicology research methods and analysis, grant writing, proposal development, oral presentation skills, networking, and creating a portfolio framework that can be used after graduation.

**TOX:7180 Toxicology Research Seminar** 0-1 s.h.  
Contemporary research topics.

**TOX:7201 Toxicology Research** arr.  
Research that constitutes part of the thesis.

**TOX:7300 Thesis/Dissertation** arr.  
Thesis or dissertation research; seminar preparation.



# Human Toxicology, M.S.

## Learning Outcomes

Students will be able to:

- demonstrate an in-depth knowledge of the principles of toxicology, including metabolism, toxicity, risk assessment, and specific expertise related to the area of their thesis (molecular biology, in vitro and/or in vivo techniques, analytical methods);
- apply the knowledge and skills of toxicology to conduct independent and innovative research;
- demonstrate high ethical and professional standards and responsible conduct in research; and
- synthesize the knowledge and skills of toxicology to succeed as a professional in diverse toxicology careers.

## Requirements

The Master of Science program in human toxicology requires a minimum of 39 s.h. of graduate credit and a thesis. Students must maintain a cumulative g.p.a. of at least 3.00.

The program is designed for students who wish to pursue a master's degree as a second degree or through part-time study, particularly those who perform toxicologists' functions in their jobs and who need additional training.

Entering students should have backgrounds in the biological, engineering, and physical sciences and should have completed courses in introductory chemistry and biology, and organic chemistry.

After entering the program, students work with their mentor to choose an advisory committee, which meets at least once a semester to help them explore their research interests. The committee also provides consultation on coursework and research activities and serves as the committee for the final examination (thesis defense).

The Human Toxicology Program is flexible. Students work with their advisory committees to plan a course of study tailored to their individual interests and goals within the field of toxicology.

## Required Courses

M.S. students with a major in human toxicology must successfully complete the following coursework as part of their course of study.

Code	Title	Hours
One of these:		
OEH:6710	Human Toxicology and Risk Assessment	3
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	3
And all of these:		
TOX:7173	Professional Development in Toxicology	arr.
TOX:7180	Toxicology Research Seminar (enrollment is required each semester)	0-1

BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
OEH:6720	Advanced Toxicology	4

Upon successful completion of all requirements, including the thesis and its oral defense, students are awarded the Master of Science degree.

## Admission

Prospective students may apply to the program via a centralized application system; see Admission Information on the Human Toxicology Program website.

Completed applications should be submitted by January 1; applications submitted after that date are reviewed as they are received and are considered for any remaining openings.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

# Human Toxicology, Ph.D.

## Learning Outcomes

Students will be able to:

- demonstrate an in-depth knowledge of the principles of toxicology, including metabolism, toxicity, risk assessment, and specific expertise related to the area of their dissertation (molecular biology, in vitro and/or in vivo techniques, analytical methods);
- apply the knowledge and skills of toxicology to conduct independent and innovative research;
- demonstrate high ethical and professional standards and responsible conduct in research; and
- synthesize the knowledge and skills of toxicology to succeed as a professional in diverse toxicology careers.

## Requirements

The Doctor of Philosophy program in human toxicology requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00.

The program is designed for students with backgrounds in the biological, engineering, and physical sciences. Entering students should have solid training in science, including courses in introductory chemistry and biology, and organic chemistry; knowledge of biochemistry and molecular biology also is useful. Students may remedy deficiencies by taking appropriate courses during their first year of graduate study.

Students begin the program with three two-month rotations in the laboratories of participating faculty members in order to identify a mentor. After the first year, the mentor assumes financial responsibility for the student. With advice from the mentor, each student chooses an advisory committee, which meets at least once a semester to help the student explore the student's research interests. The committee also provides consultation on coursework and research activities and serves as the committee for the comprehensive examination and the final examination (dissertation defense).

The Human Toxicology Program is flexible. Students work with their advisory committees to plan a course of study tailored to their individual interests and goals within the field of toxicology.

Ph.D. students in human toxicology must successfully complete the following coursework as part of their course of study.

Code	Title	Hours
One of these:		
OEH:6710	Human Toxicology and Risk Assessment	3
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	3
And all of these:		
TOX:7173	Professional Development in Toxicology	arr.
TOX:7180	Toxicology Research Seminar (enrollment is required each semester)	0-1

BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I (must be completed within first two years of graduate study)	0
OEH:6720	Advanced Toxicology	4

After successfully completing the comprehensive examination, usually at the end of the second year of graduate study, the student advances to Ph.D. candidacy. Students devote all of their time to dissertation research and writing. Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded the Doctor of Philosophy degree.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Ph.D. and the Doctor of Medicine in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Prospective students may apply to the program via a centralized application system; see Admission Information on the Human Toxicology Program website.

Completed applications are encouraged to be submitted by December 1, but applications after that date are given full consideration. Applications submitted after March 1 are reviewed when received and are considered for any remaining openings.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Doctoral students in human toxicology receive stipends and tuition support from University of Iowa sources, including internal fellowships and graduate research assistantships, and from non-University sources, such as training grants from the National Institutes of Health (NIH).

# Immunology

## Director

- Kevin L. Legge (Microbiology and Immunology/Pathology)

**Graduate degree:** Ph.D. in immunology

**Faculty:** <https://immuno.grad.uiowa.edu/people/faculty>

**Website:** <https://immuno.grad.uiowa.edu/>

The Immunology Program provides interdisciplinary training in the concepts and methodologies of basic and applied immunology. Faculty members are involved in a variety of research projects dealing with the immune system at all levels—structural, functional, cellular, biochemical, and molecular. Students take coursework in immunology and related disciplines and are directly involved in laboratory research throughout their study.

## Programs

### Graduate Program of Study

#### Major

- Doctor of Philosophy in Immunology [p. 1740]

## Facilities

Training is conducted in laboratories and teaching facilities of the Carver College of Medicine Stead Family Department of Pediatrics and the Departments of Internal Medicine, Otolaryngology—Head and Neck Surgery, Pathology, Microbiology and Immunology, Pharmacology, and Urology; and the College of Public Health Department of Epidemiology. Faculty laboratories and central research core facilities provide students with access to state-of-the-art research equipment.

## Courses

### Immunology Courses

**IMMU:2040 Summer Undergraduate IDGP Research**

**0 s.h.**

**IMMU:6201 Graduate Immunology**

**3 s.h.**

Ontogeny, activation, and function of T lymphocytes and B lymphocytes; innate immune effector mechanisms; major histocompatibility complex; antigen presentation; thymocyte positive and negative selection; signaling of T lymphocytes, B lymphocytes; emphasis on experimental methods for analysis of these processes. Prerequisites: MICR:3147. Requirements: for IMMU:6201—college biology, general chemistry, and introductory immunology courses; for MICR:6201—courses in college biology, genetics, general chemistry, and introductory immunology. Recommendations: for IMMU:6201—courses in biochemistry and genetics; for MICR:6201—biochemistry course. Same as MICR:6201.

**IMMU:6211 Immunology Seminar**

**1 s.h.**

Requirements: immunology graduate standing.

**IMMU:6221 Rigor and Reproducibility in Immunology**

**1 s.h.**

Principles and concepts in rigor and reproducibility; rigorous experimental practices in immunology and study design including concepts in redundancy (e.g., replication, validation, generalization, perturbation, consistency), controls, authentication of key reagents and resources, biological variables, recognition of error, avoidance of logical traps, and intellectual honesty. Prerequisites: IMMU:6201.

**IMMU:6231 Research in Immunology**

**arr.**

Laboratory research. Requirements: immunology graduate standing.

**IMMU:6241 Writing a Scientific Proposal**

**2 s.h.**

How to write a scientific proposal. Prerequisites: IMMU:6201. Requirements: enrollment in immunology graduate program.

**IMMU:6247 Graduate Immunology and Human Disease**

**4 s.h.**

Important principles and key concepts in immunology with a focus on the involvement of the immune system in disease pathogenesis; overview of innate and adaptive immune systems and their functions at cellular and molecular levels; learning enhanced by case-based, small-group discussion and writing exercises. Same as MICR:6247.

**IMMU:7221 Advanced Topics in Immunology**

**3 s.h.**

In-depth analysis of selected areas. Prerequisites: IMMU:6201 or MICR:6201. Same as MICR:7207.

# Immunology, Ph.D.

## Learning Outcomes

Students will:

- develop the ability to think critically and work collaboratively;
- develop the ability to evaluate data and scientific literature;
- develop the ability to problem solve, expand technical skills, and design rigorous and reproducible experiments;
- develop the ability to communicate their scientific findings and knowledge via both written and oral methods to a variety of audiences; and
- prepare for independent careers as leaders, investigators, and educators in cutting-edge research, teaching, and service in basic and applied immunology.

## Requirements

The Doctor of Philosophy in immunology requires 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. The program provides interdisciplinary training in the concepts and methodologies of basic and applied immunology.

They complete coursework in immunology and related disciplines, and are directly involved in laboratory research throughout their study. Immunology graduate courses are offered not only to teach students the current concepts and paradigms within the field, but to emphasize the scientific approaches and methods used to attain this understanding.

The Ph.D. with a major in immunology requires the following coursework.

## Core Curriculum

Code	Title	Hours
IMMU:6201/ MICR:6201	Graduate Immunology	3
IMMU:6211	Immunology Seminar	1
IMMU:6247/ MICR:6247	Graduate Immunology and Human Disease	4
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
PCOL:5204	Basic Biostatistics and Experimental Design	1
Elective		3

## Typical Curriculum

### First Year, Fall

Code	Title	Hours
IMMU:6211	Immunology Seminar	1
IMMU:6247/ MICR:6247	Graduate Immunology and Human Disease	4

BMED:5207	Principles of Molecular and Cellular Biology	3
PCOL:5204	Basic Biostatistics and Experimental Design	1

### First Year, Spring

Code	Title	Hours
IMMU:6201/ MICR:6201	Graduate Immunology	3
IMMU:6211	Immunology Seminar	1
Elective (optional)		1-3

### Second Year, Fall

Code	Title	Hours
IMMU:6211	Immunology Seminar	1
IMMU:6241	Writing a Scientific Proposal	2
IMMU:7221/ MICR:7207	Advanced Topics in Immunology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
Elective (optional)		1-3

### Second Year, Spring

Code	Title	Hours
IMMU:6211	Immunology Seminar	1
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
Elective (optional)		1-3

## Electives

The following are possible elective choices.

Code	Title	Hours
ACB:5218/ BIOL:5218/ MICR:5218	Microscopy for Biomedical Research	3
BIOS:4120	Introduction to Biostatistics	3
BMB:7251	Introduction to Protein Structures	1
BMB:7252	Enzymes, Carbohydrates, Nucleic Acids, and Bioenergetics	1
BMB:7253	Metabolism I	1
BMB:7254	Cellular Biochemistry	1
BMB:7255	Metabolism II	1
BMB:7256	Molecular Biology	1
MICR:6240	Graduate Eukaryotic Pathogens and Human Disease	2
MICR:6259	Graduate Bacteria and Human Disease	3
MICR:6260	Graduate Bacterial Physiology and Cell Biology	2
MICR:6267	Graduate Viruses and Human Disease	4
MICR:6268	Biology and Pathogenesis of Viruses	2
MICR:6270	Graduate Microbial Genetics	2

MMED:3310/ BMB:3310/ CBIO:3310	Practical Data Science and Bioinformatics	3
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
MMED:6225/ ACB:6225/ MPB:6225/ PCOL:6225	Growth Factor Receptor Signaling	1
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1
PATH:5270/ IGPI:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
PCOL:6207	Ion Channel Pharmacology	1
PCOL:6208	G Proteins and G Protein-Coupled Receptors	1
PCOL:6209/ MPB:6209/ NSCI:6209	Steroid Receptor Signaling	1

## Additional Requirements

### Laboratory Rotations

Prior to selecting a laboratory for dissertation work, students are expected to perform three laboratory rotations, with each rotation lasting approximately 12 weeks in duration. During the first semester, students should become acquainted with the research interests of the faculty members in the immunology program. This learning process is facilitated by faculty presentations in IMMU:6211 Immunology Seminar during the fall semester. Students also are encouraged to meet with specific faculty to discuss their research programs. This enables students to make an informed decision about their laboratory rotations, with the guidance and approval of their advisor and the graduate studies committee.

At the latest, students should begin their first rotation within the first week of graduate study. Medical Science Training Program (MSTP) students and students with M.S. degrees that included a research-based dissertation may be excused from one rotation. Students having difficulty choosing a laboratory for dissertation work may perform a fourth rotation.

The rotations are graded either satisfactory or unsatisfactory. This grade is based upon a number of criteria including attendance and work habits. When not in classes or seminars, students are expected to spend the remaining portion of the day in the laboratory. Without a strong commitment to the rotation project, it is difficult to fulfill the purpose and aims of the rotation. A satisfactory grade is required in each of the laboratory rotations. If a satisfactory grade is not received in one of the rotations, an additional rotation is assigned. Failure to receive a satisfactory grade in the extra rotation results in the student being placed on academic probation. Following each rotation, an evaluation is given to each student by the faculty member and submitted to the graduate studies committee.

## Teaching

Students complete a teaching requirement lasting one semester. A variety of courses are available in several departments, and the program leadership place students in courses based upon interest, expertise, and scheduling.

## Publication Requirements

It is expected that the dissertation project be of sufficient breadth, depth, and novelty to result in first-author research publications in high quality peer-reviewed journals. A minimum of one peer-reviewed paper must be published or in press prior to the completion of the Ph.D. degree. In addition, a second publication, in which the student is a coauthor on a peer-reviewed article, a review, or book chapter must be published or in press prior to the completion of the degree. Students are not permitted to schedule a dissertation defense until it has been demonstrated that both of these requirements have been met.

## Comprehensive Examination

The comprehensive examination is generally taken in the spring semester of the second year of study. MSTP students or students entering the program with a M.S. degree may choose to take the examination in the fall semester of their second year.

Students taking the comprehensive examination prepare a single abstract of an original research proposal. The examination committee determines if the abstract topic is appropriate as nonoverlapping, and if the abstract is scientifically sound to potentially serve as the basis for a defensible research proposal. After the abstract is accepted, students are given four weeks to complete and submit the written comprehensive examination proposal. The oral defense is scheduled 10-14 days after the exam is submitted, depending on availability of the committee members. The comprehensive exam is written in the form of a NIH-style pilot grant proposal based on the abstract and instructions from the comprehensive examination. A detailed student handbook is available on the Immunology Program website.

## Final Examination

The five members of the thesis committee serve as an advisory body for preparation of the thesis. The committee meets with each student to review the material that they expect to be incorporated into the thesis. Although meetings with the committee should be yearly, the candidate, thesis advisor, or the committee can request a meeting at any time. A final draft of the thesis must be given to all members of the committee two weeks before the final examination.

The final examination takes the form of a seminar presented to the program. This presentation is announced according to Graduate College policy. Questions, comments, and discussion follow. After the seminar, the candidate meets with the committee for the final thesis defense. In some cases revisions may be required. The degree is not awarded until the thesis is signed.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in immunology in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants must be admitted to both programs before they

may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

For information regarding admission and application procedures, visit the Immunology Graduate Program website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

Tuition and fees are paid for, and students receive a competitive stipend as well as health and dental benefits. Continued support beyond the first year is guaranteed, provided that progress toward degree completion of requirements is satisfactory. Sources of support include departmental funds, training and research grants, and individual fellowships.

# Informatics

## Chair

- Juan Pablo Hourcade (Computer Science/Nursing)

**Graduate degrees:** M.S. in informatics; Ph.D. in informatics

**Graduate certificate:** informatics

**Faculty:** <https://cs.uiowa.edu/people>

**Website:** <https://informatics.grad.uiowa.edu/>

The Interdisciplinary Graduate Program in Informatics (IGPI) was proposed in 2006, largely motivated by the increasing amount of research at the intersection of computational disciplines and the humanities, arts, and the natural, biological, health, and social sciences. The proposal to establish the program emphasized the rapid changes brought about by information technology and how they in turn changed approaches across a wide variety of disciplines. Among these changes were the ability to ask different types of questions and analyze information at scales not previously possible.

The program aimed to fill a gap in training for practitioners and researchers who could provide a bridge between computing and other disciplines. IGPI graduates would receive training in core computational and statistical topics and combine it with coursework in a cognate area.

Changes in computing and how it affects society and scholarship make informatics even more relevant today than it was in 2006. One of the key changes has been in the increasing ubiquity of computer devices that facilitate communication and information access. These trends clearly point toward a near future where most people will be able to communicate with most other people around the world, as well as access any information, anytime, anywhere. The main barriers are likely to be political instead of technological. These changes mean that computers are directly affecting the way most people perceive the world, remember information, pay attention, communicate, learn, and make decisions.

This ubiquity means that it is becoming increasingly difficult to exercise one's basic rights and fulfill basic needs without using interactive technologies. People use computers to vote, to stay informed, and to express and share opinions. In addition, people use computers to ride public transportation, get money from banks, and pay for groceries. Hence, there are increased responsibilities in the design of computing systems, as well as the need to study their impact on society.

One final trend that is germane to informatics is the increasing availability and low cost of digital storage and processing, together with the wide availability and use of sensors, digital instruments, and other forms of capturing digital data. The result has been a tremendous growth in the amount of data available to scientists, businesses, and government. These changes have brought about the need for novel analysis techniques, for researchers and practitioners who can understand the data and these techniques, as well as the need to design these systems so they can enable new discoveries and insights while safeguarding privacy.

This world, where computers are playing a vital role not only in academic disciplines, but in society at large, calls for practitioners and researchers who can understand computing and also interface with other fields. IGPI was developed to fill this gap. The program is interdisciplinary, involving the Graduate College, the Carver College of Medicine, the Tippie College of Business, and the Colleges of Dentistry, Engineering, Liberal Arts and Sciences, Nursing,

Pharmacy, and Public Health. Students may pursue a Master of Science degree in informatics (with one of three cognates in geoinformatics, health informatics, or human-computer interaction) or a Ph.D. in informatics. University of Iowa graduate students in other programs may elect to earn a Certificate in Informatics in addition to their main program of study. All three programs complete the same core courses, with flexible electives which allow students to focus on the subarea of greatest interest to them.

Geoinformatics provides methods and technologies needed to measure, store, analyze, manage, and visualize information about phenomena occurring on or near the earth's surface. It is an increasingly essential technology for understanding and managing the complex world.

Health informatics uses contemporary information technologies to improve the storage, organization, retrieval, and evaluation of health information in order to support clinical, clinical research, and public health applications.

The human-computer interaction cognate is intended for students interested in designing useful and usable technologies. The cognate's courses provide an interdisciplinary foundation including psychology, sociology, and engineering.

## Programs

### Graduate Programs of Study

#### Majors

- Master of Science in Informatics [p. 1749]
- Doctor of Philosophy in Informatics [p. 1753]

#### Certificate

- Certificate in Informatics [p. 1756]

## Courses

### Informatics Courses

#### IGPI:3010 Geographic Information Systems and Science 3 s.h.

Solid foundation and introduction to GIS and digital map making; what GIS is and how GIS can contribute to research, careers, and everyday life; fundamentals that underlie GIS, including methods for GIS data collection and georeferencing, spatial modeling, spatial data analysis, and visualization; GIS trends including mobile GIS and the Web. Same as GEOG:3010.

#### IGPI:3011 Identifying and Developing a Global Health Project 3 s.h.

Review of major components of global health related research process; preparation for a local or international project which addresses a global health issue in a systematic way. Same as GHS:3010.

#### IGPI:3050 Geospatial Programming 3 s.h.

Introduction to geospatial programming with Python; programming basics, data structures, and algorithms; spatial data models and structures; vector-based and raster-based geoprocessing; automating GIS tasks and models; spatial libraries (e.g., ArcPy, GeoPandas, GDAL, PySAL). Prerequisites: GEOG:1050. Same as GEOG:3050.

- IGPI:3100 Introduction to Mathematical Statistics I** **3 s.h.**  
Descriptive statistics, probability, conditional probability, discrete and continuous univariate and multivariate distributions, sampling distributions. Prerequisites: MATH:1860 or MATH:1560. Same as STAT:3100.
- IGPI:3101 Introduction to Mathematical Statistics II** **3 s.h.**  
Point and interval estimation, testing statistical hypotheses, simple regression, nonparametric methods. Prerequisites: STAT:3100. Same as STAT:3101.
- IGPI:3120 Probability and Statistics** **4 s.h.**  
Models, discrete and continuous random variables and their distributions, estimation of parameters, testing statistical hypotheses. Prerequisites: MATH:1560 or MATH:1860. Same as DATA:3120, STAT:3120.
- IGPI:3200 Applied Linear Regression** **3 s.h.**  
Regression analysis with focus on applications; model formulation, checking, and selection; interpretation and presentation of analysis results; simple and multiple linear regression; logistic regression; ANOVA; polynomial regression; tree models; bootstrapping; hands-on data analysis with computer software. Prerequisites: STAT:2020 or STAT:2010 or STAT:3120. Same as ISE:3760, STAT:3200.
- IGPI:3212 Bioinformatics for Beginners** **3 s.h.**  
Overview of bioinformatics topics including access to sequence data, pairwise and multiple sequence alignment algorithms, molecular phylogeny, microarray data analysis, protein analysis, proteomics, and protein structure analysis; emphasis on each topic includes biological motivation, computational approach (practical and theoretical), and interpretation of output. Prerequisites: BIOL:2512 or BIOL:2211 or BMB:3120 or MICR:3170. Same as BIOL:3212.
- IGPI:3314 Genomics** **3 s.h.**  
Major areas of genomics including genome sequencing, assembly, and annotation; evolutionary genomics, metagenomics, functional genomics, and computational genomics; synthetic biology and genome engineering. Prerequisites: BIOL:2211 or BIOL:2512 or BIOL:2723. Same as BIOL:3314.
- IGPI:3330 Introduction to Software Design** **3 s.h.**  
Design of software for engineering systems; algorithm design and structured programming; data structures; introduction to object-oriented programming in JAVA; applications to engineering problems; lab arranged. Prerequisites: ENGR:2730. Same as ECE:3330.
- IGPI:3500 Introduction to Environmental Remote Sensing** **3 s.h.**  
Basic concepts and principles of remote sensing; sources of data; georegistration; digital processing and classification of remotely sensed images for extraction of environmental information; linkage of remote sensing techniques with GIS analysis. Same as GEOG:3500.
- IGPI:3510 Biostatistics** **3 s.h.**  
Statistical concepts and methods for the biological sciences; descriptive statistics, elementary probability, sampling distributions, confidence intervals, parametric and nonparametric methods, one-way ANOVA, correlation and regression, categorical data. Requirements: MATH:0100 or MATH:1005 or ALEKS score of 30 or higher. Same as STAT:3510.
- IGPI:3520 GIS for Environmental Studies** **3 s.h.**  
Students learn new, more advanced techniques for the representation and study of human and natural systems using geographic information systems (GIS); application of this new knowledge to environmental management and problem solving. Prerequisites: GEOG:1050. Same as GEOG:3520.
- IGPI:3540 Geographic Visualization** **3 s.h.**  
Concepts and techniques that underlie cartographic representation, interaction, and geovisualization; map symbolization and visual variables; spatiotemporal visualization, multivariate mapping, interactive cartography, animation, geovisual analytics, 3D visualization, virtual and augmented reality. Prerequisites: GEOG:1050. Same as GEOG:3540.
- IGPI:4100 Mathematical Statistics I** **3 s.h.**  
Probability, conditional probability, random variables, distribution and density functions, joint and conditional distributions, various families of discrete and continuous distributions, mgf technique for sums, convergence in distribution, convergence in probability, central limit theorem. Prerequisites: MATH:2850 and MATH:2700. Same as STAT:4100.
- IGPI:4101 Mathematical Statistics II** **3 s.h.**  
Transformations, order statistics, point estimation, sufficient statistics, Rao-Blackwell Theorem, delta method, confidence intervals, likelihood ratio tests, applications. Prerequisites: STAT:4100. Same as STAT:4101.
- IGPI:4115 Finite Element I** **3 s.h.**  
One- and two-dimensional boundary value problems; heat flow, fluid flow, torsion of bars; trusses and frames; isoparametric mapping; higher order elements; elasticity problems; use of commercial software. Prerequisites: ENGR:2750. Same as CEE:4533.
- IGPI:4150 Health and Environment: GIS Applications** **3 s.h.**  
Introduction to how geographic information systems (GIS) and spatial statistics are used in the study of patterns of health and disease in space and time. Same as GEOG:4150, GHS:4150.
- IGPI:4159 Air Pollution Control Technology** **3 s.h.**  
Sources, environmental and health impacts, regulations, modeling of air pollution; processes and alternative strategies for control; global climate considerations. Same as CBE:4459, CEE:4159.
- IGPI:4200 Statistical Methods and Computing** **3 s.h.**  
Methods of data description and analysis using SAS; descriptive statistics, graphical presentation, estimation, hypothesis testing, sample size, power; emphasis on learning statistical methods and concepts through hands-on experience with real data. Recommendations: graduate standing in non-statistics or less quantitative major. Same as STAT:4200.
- IGPI:4213 Bioinformatics** **2,4 s.h.**  
Overview of bioinformatics topics, including access to sequence data, pairwise and multiple sequence alignment algorithms, molecular phylogeny, microarray data analysis, protein analysis, proteomics and protein structure analysis; emphasis on each topic includes biological motivation, computational approach (practical and theoretical), and interpretation of output. Prerequisites: BMB:3120 or MICR:3170 or BIOL:2512 or BMB:3110. Recommendations: grade of B+ or higher in BIOL:2512 or BIOC:3120, or graduate standing. Same as BIOL:4213, GENE:4213.



**IGPI:4373 Molecular Evolution: Genes, Genomes, and Organisms** **3 s.h.**

Theory underlying phylogenetic analysis with application of these methods to molecular data sets; analysis of multigene data, organellar, and nuclear genome sequences to reconstruct the history of cells. Prerequisites: BIOL:3172 with a minimum grade of C-. Same as BIOL:4373.

**IGPI:4500 Advanced Remote Sensing** **4 s.h.**

Theory and practice of remote sensing and digital image processing; practical applications to human-environment interactions. Requirements: GEOG:3500 or EES:3100 or CEE:3783. Same as GEOG:4500.

**IGPI:4520 GIS for Environmental Studies: Applications** **3 s.h.**

Project-driven course to advance student knowledge of geographic information systems (GIS); application of GIS to environmental change analysis, environmental assessment, hazard/risk analysis, and environmental decision making. Prerequisites: GEOG:3520. Same as GEOG:4520.

**IGPI:4522 Bayesian Statistics** **3 s.h.**

Bayesian statistical analysis, with focus on applications; Bayesian and frequentist methods compared; Bayesian model specification, choice of priors, computational methods; hands-on Bayesian data analysis using appropriate software; interpretation and presentation of analysis results. Prerequisites: STAT:3200 and (STAT:3101 or STAT:4101 or STAT:3120). Same as PSQF:4520, STAT:4520.

**IGPI:4540 Statistical Learning** **3 s.h.**

Introduction to supervised and unsupervised statistical learning, with a focus on regression, classification, and clustering; methods will be applied to real data using appropriate software; supervised learning topics include linear and nonlinear (e.g., logistic) regression, linear discriminant analysis, cross-validation, bootstrapping, model selection, and regularization methods (e.g., ridge and lasso); generalized additive and spline models, tree-based methods, random forests and boosting, and support-vector machines; unsupervised learning topics include principal components and clustering. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to programming and/or software, such as R, SAS, and Matlab. Same as BAIS:4540, STAT:4540.

**IGPI:4580 Data Visualization and Data Technologies** **3 s.h.**

Introduction to common techniques for visualizing univariate and multivariate data, data summaries, and modeling results; how to create and interpret these visualizations and assess effectiveness of different visualizations based on an understanding of human perception and statistical thinking; data technologies for obtaining and preparing data for visualization and further analysis; students learn how to present results in written reports and use version control to manage their work. Requirements: an introductory statistics course and a regression course. Recommendations: prior exposure to basic use of statistical programming software (e.g., R or SAS) as obtained from a regression course strongly recommended. Same as STAT:4580.

**IGPI:4581 Introduction to Geographic Databases** **3 s.h.**

Introduction to basic building blocks of spatial database design, spatial data models, structures, relationships, queries (SQL), indexing, and geoprocessing; design and construction of various types of spatial databases, including relational and big data approaches such as ArcGIS geodatabase, PostGIS/PostgreSQL, and MongoDB. Prerequisites: GEOG:1050. Same as GEOG:4580.

**IGPI:4740 Large Data Analysis** **3 s.h.**

Current areas that deal with problem of big data; techniques from computer science, mathematics, statistics; high performance and parallel computing, matrix techniques, cluster analysis, visualization; variety of applications including Google PageRank, seismology, Netflix-type problems, weather forecasting; fusion of data with simulation; projects. Prerequisites: (CS:1210 with a minimum grade of C- or ENGR:2730 with a minimum grade of C-) and (MATH:3800 or CS:3700) and (STAT:3200 or ISE:3760 or IGPI:3200). Same as CS:4740, MATH:4740, STAT:4740.

**IGPI:5001 Introductory Methodology** **3-4 s.h.**

Introduction to quantitative techniques in political science; set theory, probability distributions, estimation, testing; emphasis on acquiring mathematical skills for more advanced quantitative work in political science. Requirements: M.A. or Ph.D. standing in political science. Same as POLI:5001.

**IGPI:5015 Independent Study** **arr.****IGPI:5043 Special Libraries** **3 s.h.**

Management, organizational structures, collections, and client services in special libraries; site visits to a variety of special libraries and information centers; projects that apply theoretical principles. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite. Same as SLIS:5043.

**IGPI:5055 Geospatial Programming** **3 s.h.**

Introduction to geospatial programming with Python; programming basics, data structures, and algorithms; spatial data models and structures; vector- and raster-based geoprocessing; automating GIS tasks and models; spatial libraries (e.g., ArcPy, GeoPandas, GDAL, PySAL). Same as GEOG:5055.

**IGPI:5110 Introduction to Informatics** **3 s.h.**

Fundamentals of computer science: algorithms, complexity, relational databases, systems concepts, programming in Python. Same as CS:5110.

**IGPI:5120 Regression Modeling and ANOVA in the Health Sciences** **3 s.h.**

Continuation of BIOS:4120; correlation, simple and multiple linear regression, confounding, interactions, model selection, single and multiple factor ANOVA (analysis of variance) models, contrasts, multiple comparisons, nested and block designs; introduction to mixed models; for non-biostatistics majors. Offered spring semesters. Prerequisites: BIOS:4120. Same as BIOS:5120, STAT:5610.

**IGPI:5130 Applied Categorical Data Analysis** **3 s.h.**

Analysis of proportions, risk measures, and measures of association; Mantel-Haenszel method; logistic regression for binary responses and for matched data; logistic regression for multi-category responses; analysis of count data (Poisson regression and negative binomial regression); analysis of clustered data (generalized estimating equations and generalized linear mixed effects model); special topics include the application of propensity score methods; designed for non-biostatistics majors. Offered fall semesters. Prerequisites: BIOS:5120. Same as BIOS:5130.

**IGPI:5199 Applied Statistics I** **4 s.h.**

Descriptive statistics, basic inferential methods (confidence intervals, chi-square tests); linear models (regression and ANOVA models—specification and assumptions, fitting, diagnostics, selection, testing, interpretation); nonlinear models, logistic regression. Prerequisites: STAT:3101. Corequisites: STAT:4100 or STAT:5100. Requirements: facility with matrix algebra. Same as STAT:5200.

- IGPI:5200 Health Informatics** 3 s.h.  
Technological tools that support health care administration, management, and decision making. Same as HMP:5370, ISE:5860, MED:5300, SLIS:5900.
- IGPI:5206 Medical Imaging Physics** 3 s.h.  
Physics and data acquisition techniques of major medical imaging modalities (X-ray, CT, MR, ultrasound, PET, SPECT); physical interactions of energy with living tissue; principles and methods for acquiring imaging data and subsequent image construction; how individual modalities influence image quality; MATLAB programming required. Second in a medical imaging sequence. Prerequisites: BME:2200 and BME:2210. Same as BME:5210, ECE:5470.
- IGPI:5211 Genes, Genomes, and the Human Condition Graduate Lecture** 3 s.h.  
Organization, expression, and evolution of genes in context of genomes; focus on human genome; distribution and transmission of variation in human population. Recommendations: BIOL:1411 highly recommended. Same as BIOL:5211.
- IGPI:5212 Biomedical Signal Processing** 3 s.h.  
Application of signal processing methods (e.g., Fourier, Laplace, z-transforms) to biomedical problems, such as analysis of cardiac signals, circadian rhythm, the breathing cycle; computer simulation lab. Same as BME:5200.
- IGPI:5220 Principles of Public Health Informatics** 3 s.h.  
Systematic applications of information science, computer science, and technology to public health practice, research, and learning; methods of disease surveillance, data collection, analysis, and reporting with health informatics. Offered fall semesters. Same as EPID:5200.
- IGPI:5251 Advanced Biosystems** 3 s.h.  
Biological systems unique to systems analysis; operation under nonequilibrium conditions; tools for systems analysis developed from models of systems at equilibrium (i.e., mechanical systems); fundamental difference between biological and mechanical systems that impact systems analysis; expand knowledge of linear systems and begin work with nonlinear systems; various modeling and analysis approaches useful in biomedical and biomedical engineering research. Prerequisites: BME:2200. Same as BME:5251.
- IGPI:5270 Pathogenesis of Major Human Diseases** 3 s.h.  
Critical analysis of pathogenesis models in a series of major human diseases; clinical presentation, analysis of cellular and molecular events leading to the disease, discussion of key papers. Offered spring semesters of even years. Same as MMED:5270, PATH:5270.
- IGPI:5310 Research Data Management** 3 s.h.  
Introduction to data management techniques and problems encountered in gathering and processing data from biomedical investigations; introduction to SAS, techniques taught in SAS; designed for non-biostatistics majors. Offered fall and spring semesters. Recommendations: prior programming experience with C, C++, Python, Java, or other. Same as BIOS:5310, STAT:5810.
- IGPI:5311 Informatics for Sustainable Systems** 3 s.h.  
Introduction to fundamental and advanced environmental informatics concepts and procedures including automated data collection, data management, data transformations, and processing to support modeling and analysis; scientific visualization of environmental data to support management of food, energy, and water (FEW) resources; sustainability in FEW systems. Same as CEE:5310.
- IGPI:5331 Graph Algorithms and Combinatorial Optimization** 3 s.h.  
Combinatorial optimization problems; time complexity; graph theory and algorithms; combinatorial optimization algorithms; complexity theory and NP-completeness; approximation algorithms; greedy algorithms and matroids. Prerequisites: ECE:3330. Same as ECE:5330.
- IGPI:5400 Computing in Statistics** 3 s.h.  
R; database management; graphical techniques; importing graphics into word-processing documents (e.g., LaTeX); creating reports in LaTeX; SAS; simulation methods (Monte Carlo studies, bootstrap, etc.). Prerequisites: CS:1210 and STAT:3200 and (STAT:3120 or STAT:3101 or STAT:4101). Corequisites: STAT:5100 and STAT:5200 if not already completed. Same as STAT:5400.
- IGPI:5415 Satellite Image Processing and Remote Sensing of Atmosphere** 3 s.h.  
Introduction to principles of atmospheric radiation and techniques for satellite image processing; hands-on experience with data calibration, image registration and enhancement, noise filtering and (supervised and unsupervised) multi-spectral classification of satellite imageries; various satellite sensors used for monitoring of different atmospheric processes and constituents. Same as CBE:5415.
- IGPI:5417 Physical Meteorology and Atmospheric Radiative Transfer** 3 s.h.  
Physical processes for weather and climate including radiative transfer, cloud and precipitation formation, and atmospheric electricity; theory of scattering by atmospheric particles (e.g., clouds, aerosols, molecules), atmospheric radiative transfer equations, and numerical techniques and tools to solve these equations. Requirements: senior or graduate standing. Same as CBE:5417.
- IGPI:5436 Electronic Structure and Informatics in Chemistry** 3 s.h.  
Basic principles of molecular electronic structure theory; molecular structure and reactivity; molecular orbital theory; density functional theory; introduction to informatics and data science; how calculations can be used to enhance experimental research projects. Recommendations: CHEM:4432. Same as CHEM:5436.
- IGPI:5450 Machine Learning** 3 s.h.  
Fundamentals of machine learning theory including regression, classification, neural networks, clustering, and principal component analysis; engineering applications. Prerequisites: ECE:2400 or BME:2200. Same as ECE:5450.
- IGPI:5460 Digital Signal Processing** 3 s.h.  
Theory, techniques used in representing discrete-time signals; system concepts in frequency and sampling domains; FIR and IIR digital filter theory, design and realization techniques; theory, application of discrete Fourier transforms/FFT. Prerequisites: ECE:3400. Same as ECE:5460.
- IGPI:5480 Digital Image Processing** 3 s.h.  
Mathematical foundations and practical techniques for digital manipulation of images; image sampling, compression, enhancement, linear and nonlinear filtering and restoration; Fourier domain analysis; image pre-processing, edge detection, filtering; image segmentation. Prerequisites: ECE:2400 or BME:2200. Same as ECE:5480.

- IGPI:5510 Biostatistical Computing** 2 s.h.  
Introduction to computer programming using SAS and R statistical software packages; programming language syntax, constructs, procedures, and techniques for data management, data analysis, and statistical programming commonly encountered in biostatistics; designed for first-year biostatistics majors. Offered fall semesters. Corequisites: BIOS:5710. Same as BIOS:5510.
- IGPI:5540 Geographic Visualization** 3 s.h.  
Concepts and techniques that underlie cartographic representation, interaction, and geovisualization; map symbolization and visual variables; user-centered design, map use and usability engineering; web mapping, spatiotemporal visualization, multivariate mapping, interactive cartography, animation, geovisual analytics, 3D visualization, virtual and augmented reality. Same as GEOG:5540.
- IGPI:5641 Computer-Based Control Systems** 3 s.h.  
Discrete and digital control systems; application of computers in control; sampling theorem; discrete time system models; analysis and design of discrete time systems; control design by state variable and input/output methods; advanced topics in digital controls; lab. Prerequisites: ECE:5600. Same as ECE:5640.
- IGPI:5710 Biostatistical Methods I** 4 s.h.  
Probability distributions, moments, estimation, parametric and nonparametric inference for one-sample and two-sample problems, analysis of frequency data; emphasis on use of computers; designed for first-year biostatistics majors. Offered fall semesters. Requirements: two semesters of calculus. Same as BIOS:5710.
- IGPI:5720 Biostatistical Methods II** 4 s.h.  
Continuation of BIOS:5710; multi-factor ANOVA (analysis of variance), multiple comparisons, orthogonal contrasts, linear regression and correlation, regression diagnostics and remedial measures, model selection, and mixed models; designed for first-year biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5710. Requirements: one semester of linear algebra. Same as BIOS:5720.
- IGPI:5730 Biostatistical Methods in Categorical Data** 3 s.h.  
Estimation of proportions, rates, risks, relative risks, and odds ratios; Mantel-Haenszel method; logistic regression (including ordinal logistic regression and multi-category nominal logistic regression); Poisson regression and negative binomial regression; methods for correlated or clustered data (conditional logistic regression, generalized estimating equations, and mixed effects models); special topics include an introduction to generalized linear models and likelihood-based inferential techniques in this framework; designed for first-year biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5510 and BIOS:5710. Corequisites: BIOS:5720. Same as BIOS:5730.
- IGPI:6100 Database Management** 3 s.h.  
Principles and practices of database design and management; discussion and practice of database application lifecycle, data modeling, relational database design, SQL queries, reports, and other interfaces to database data and documentation; individual and group projects. Prerequisites: SLIS:5020. Same as SLIS:6100.
- IGPI:6140 Digital Environments** 3 s.h.  
Methods and models for building digital libraries; organization with metadata; standards such as those for object identifiers, open access, building cross-linkages between collections; automatic harvesting of content. Prerequisites: SLIS:5020. Same as SLIS:6140.
- IGPI:6155 Information Visualization** 3 s.h.  
Introduction to theories, techniques, and examples of information visualizations for different presentations of data. Prerequisites: SLIS:5020. Same as SLIS:6155.
- IGPI:6210 Applied Survival Analysis** 3 s.h.  
Nonparametric, parametric, and semi-parametric methods for time-to-event data; types of censoring; Kaplan-Meier estimation; Cox proportional hazards models, including methods for assessing adequacy of the proportional hazards assumption; time varying covariates; sample size calculations for comparison of two or more groups; focus on analysis of real data sets and examples using statistical software. Offered spring semesters. Prerequisites: BIOS:5120 or BIOS:5720. Same as BIOS:6210.
- IGPI:6216 Finite Element II** 3 s.h.  
Computer implementation; plate and shell elements; mixed and hybrid formulations; nonlinear analysis; recent development; introduction to boundary element method. Prerequisites: CEE:4533. Same as CEE:6532, ME:6215.
- IGPI:6310 Introductory Longitudinal Data Analysis** 3 s.h.  
Introduction to statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; focus on applications and computer software methods for ANOVA based methods, hierarchical linear models, linear mixed models, correlated regression models, generalized estimating equations, and generalized linear mixed models. Offered fall semesters. Prerequisites: BIOS:5120 or STAT:3200. Same as BIOS:6310, STAT:6550.
- IGPI:6420 Advanced Database Management and Big Data** 3 s.h.  
Advanced database management topics; basics of semi-structured data and web services; how to retrieve real-world big data sets from web services; use of SQL and PL/SQL to analyze data in relational databases; big data related topics (e.g., Hadoop, Hive). Same as BAIS:6420.
- IGPI:6480 Knowledge Discovery** 3 s.h.  
Knowledge discovery process including data reduction, cleansing, and transformation; advanced modeling techniques from classification, prediction, clustering, and association; evaluation and integration. Same as BAIS:6480.
- IGPI:6490 Information Policy and Ethics** 3 s.h.  
Recent developments in production, use, and organization of information have created new opportunities and raised ethical challenges that demand responses from information professionals; exploration of major ethical frameworks and their relevance for addressing ethical issues arising in information-intensive environments; practice-based assignments that provide opportunities for students to apply ethical theories to key ethical issues faced in various information-intensive contexts. Same as SLIS:6490.
- IGPI:6501 Seminar in Spatial Analysis and Modeling** 1-3 s.h.  
Research themes in spatial analysis, GIScience, simulation, remote sensing. Same as GEOG:6500.
- IGPI:6510 Readings in Informatics** arr.  
Topics not covered in other courses; individual study.
- IGPI:6515 Independent Study** arr.
- IGPI:6520 Research for Dissertation** arr.  
Requirements: Ph.D. candidacy.

**IGPI:6530 Environmental and Spatial Statistics 3 s.h.**

Geostatistics kriging, variogram estimation, trend estimation, sampling design, extensions to river networks and the globe, lattice data analysis, analysis of spatial point patterns. Prerequisites: STAT:4101 and STAT:3200. Same as STAT:6530.

**IGPI:6600 Linear Programming 3 s.h.**

Mathematical programming models; linear and integer programming, transportation models, large-scale linear programming, network flow models, convex separable programming. Requirements: calculus and linear algebra. Same as BAIS:6600, ISE:6600.

**IGPI:6610 Statistical Methods in Clinical Trials 3 s.h.**

Survey of statistical methods commonly used in clinical trials; primary focus on methodologic perspective for the design, conduct, analysis, and interpretation of all phases of clinical trials; logistical and operational aspects of conducting multisite clinical trials; designed for biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5720. Requirements: familiarity with SAS and R programming. Same as BIOS:6610.

**IGPI:6650 Causal Inference 3 s.h.**

Concepts of causal inference, counterfactuals, confounding, causal graphs, internal/external validity, and heterogeneity of treatment effect; methods include propensity score matching (i.e., optimal pair, multiple control and full matching; near-exact, fine-balance, risk set matching) and stratification; covariate balance checks; sensitivity analysis; inverse probability of treatment weighted estimation; doubly robust estimators; mediation analysis; marginal structural models. Prerequisites: BIOS:5720 and BIOS:5730 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as BIOS:6650.

**IGPI:6700 Discrete Optimization 3 s.h.**

Introduction to modeling and solving discrete optimization problems; integer programming, network flows, dynamic programming. Prerequisites: BAIS:6600. Same as BAIS:6700.

**IGPI:7000 Business Analytics Topics 3 s.h.**

Same as BAIS:7000.

**IGPI:7210 Survival Data Analysis 3 s.h.**

Types of censoring and truncation; survival function estimation; parametric inference using exponential, Weibull, and accelerated failure time models; nonparametric tests; sample size calculation; Cox regression with stratification and time-dependent covariates; regression diagnostics; competing risks; topics may include analysis of correlated survival data and/or recurrent events; designed for biostatistics and statistics majors. Offered fall semesters of odd years. Prerequisites: BIOS:5720 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as BIOS:7210, STAT:7570.

**IGPI:7310 Longitudinal Data Analysis 3 s.h.**

Statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; includes ANOVA based methods, hierarchical linear models, linear mixed models, error structures, generalized estimating equations, and generalized linear mixed models; may include Bayesian approaches; designed for biostatistics and statistics majors. Offered spring semesters of odd years. Prerequisites: (BIOS:5720 and STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101). Same as BIOS:7310.

**IGPI:7400 Computer Intensive Statistics 3 s.h.**

Computer arithmetic, random variate generation, numerical optimization, numerical linear algebra, smoothing techniques, bootstrap methods, cross-validation, MCMC, EM and related algorithms; other topics per student/instructor interests. Prerequisites: (BIOS:5710 or STAT:5200) and STAT:3101. Requirements: proficiency in Fortran or C or C++ or Java. Same as STAT:7400.

**IGPI:7470 Image Analysis and Understanding 3 s.h.**

Mathematical foundations and practical techniques of digital image analysis and understanding; image segmentation (from edges and regions), object description (from boundaries, regions, scale, scale insensitive descriptions, 3D shape, texture) pattern recognition (statistical and syntactic methods, cluster analysis), image understanding (knowledge representation, control strategies, matching, context, semantics), image analysis and understanding systems; lab arranged. Prerequisites: ECE:5480. Same as ECE:7470.

**IGPI:7480 Advanced Digital Image Processing 3 s.h.**

Advanced local operators (scale-space imaging, advanced edge detection, line and corner detection), image morphology (binary/gray scale operators, morphological segmentation and watershed), digital topology and geometry (binary/fuzzy digital topology, distance functions, skeletonization), color spaces, wavelets and multi-resolution processing (Haar transform, multi-resolution expansions, wavelet transforms in one or two dimensions, fast wavelet transform, wavelet packets), image registration (intensity correlation, mutual information, and landmark-based deformable registration methods). Prerequisites: ECE:5460 and ECE:5480. Same as ECE:7480.

**IGPI:7600 Advanced Biostatistics Seminar 0-3 s.h.**

Current topics; supervised experience in reading and interpreting biostatistical literature. Same as BIOS:7600.

# Informatics, M.S.

The M.S. in informatics is a non-research, course-based program for students who wish to enhance their careers with advanced knowledge of informatics. The coursework combines core informatics courses with cognate courses in one of these areas: geoinformatics, health informatics, or human-computer interaction.

## Learning Outcomes

Students will exhibit:

- understanding of computational thinking concepts,
- experience in software development,
- expertise in data analytics methods,
- comprehension of and practice applying human-centered computing concepts,
- awareness of professional ethics, and
- domain-specific knowledge and skills related to the cognate area.

## Requirements

The Master of Science program in informatics requires a total of 31 s.h. of graduate credit, including 19 s.h. of core courses and 12 s.h. of coursework in a chosen subprogram: geoinformatics, health informatics, or human-computer interaction. Students must maintain a program g.p.a. of at least 3.00.

The non-research, course-based program is for students who wish to enhance their careers with advanced knowledge of informatics. Students must also complete the requirements for the degree as described in the Manual of Rules and Regulations, Section X, on the Graduate College website.

The M.S. with a major in informatics requires the following coursework.

## Core Courses

All students complete the following core courses.

### Programming

Code	Title	Hours
This course:		
CS:5110/IGPI:5110	Introduction to Informatics	3
One of these:		
CS:3210	Programming Languages and Tools	3
CS:3980	Topics in Computer Science I	3
GEOG:5055/ IGPI:5055	Geospatial Programming (required for geoinformatics cognate)	3

### Statistics

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics (required for health informatics cognate)	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Data Science

Code	Title	Hours
One of these:		
BAIS:6480	Knowledge Discovery	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
An approved course (consult advisor)		3

## Databases

Code	Title	Hours
One of these:		
CS:4400	Database Systems	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases (required for geoinformatics cognate)	3

## Human Factors

Code	Title	Hours
One of these:		
CS:4500	Research Methods in Human-Computer Interaction	3
CS:4510	Human-Computer Interaction for Computer Science	3
GEOG:5540/ IGPI:5540	Geographic Visualization (required for geoinformatics cognate)	3

## Ethics

Code	Title	Hours
This course:		
CS:5980	Topics in Computer Science III	1

## Subprograms

Students choose one of three subprograms and complete the requirements.

### Geoinformatics Subprogram

Code	Title	Hours
Four of these:		
GEOG:3010/ IGPI:3010	Geographic Information Systems and Science	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3570	Light Detection and Ranging (LiDAR): Principles and Applications	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3

## Health Informatics Subprogram

Code	Title	Hours
Four of these:		
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
BMB:3310/ CBIO:3310/ MMED:3310	Practical Data Science and Bioinformatics (recommended for students with a biology background)	3
CS:4470	Health Data Analytics	3
EPID:4400	Epidemiology I: Principles	3
IGPI:5220/ EPID:5200	Principles of Public Health Informatics	3

## Human-Computer Interaction Subprogram

Code	Title	Hours
Three of these:		
PSQF:6243/ STAT:6513	Intermediate Statistical Methods	3
PSY:3060	Sensation and Perception	3
An approved elective (consult director)		
One of these:		
CS:4500	Research Methods in Human-Computer Interaction (if not taken to satisfy Human Factors requirement)	3
CS:4510	Human-Computer Interaction for Computer Science (if not taken to satisfy Human Factors requirement and if have not taken CS:2520)	3
ISE:6211	Human Factors in Healthcare Systems	3
ISE:6220	Cognitive Engineering	3

For more information about the Master of Science requirements, see the Interdisciplinary Graduate Program in Informatics website.

## Combined Programs

### M.S. (Health Informatics Subprogram)/Pharm.D.

The purpose of the combined program is to provide an opportunity for professional students in the College of Pharmacy to receive formal training in health informatics in addition to training in pharmacotherapy and health care. Students completing the degree program receive an M.S. in informatics with the health informatics subprogram (without thesis) from the Graduate College and a Pharm.D. from the College of Pharmacy. Students develop special expertise in information technology, including management of electronic health records, health information exchange standards, electronic prescribing, medication management, decision support, and other competencies.

The combined program requires a total of 34 s.h. beyond the bachelor's degree. Courses that can be used to count

toward both programs include 19 s.h. of core courses, 6 s.h. of courses from the health informatics cognate, and 9 s.h. from the Pharm.D. curriculum selected from the following.

Code	Title	Hours
PHAR:8250	Applications of Pharmacy Practice I	2
PHAR:8255	Discovery II: Design and Methods	arr.
PHAR:8265	Applications of Pharmacy Practice II	2
PHAR:8374	Applications of Pharmacy Practice III	2
PHAR:8375	Advanced Topics in Health Services	2
PHAR:8378	Pharmacy Law and Ethics	2

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. It is recommended that students apply to the Graduate College for admission to the M.S. program before entering the spring semester of their first year in the pharmacy program. For more information, see Doctor of Pharmacy, Pharm.D. [p. 2041] in the College of Pharmacy section of the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. They also must meet the admission requirements of the informatics subprogram they want to enter; see Ph.D. and M.S. Admission on the program's website.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Informatics, M.S.

- Geoinformatics Subprogram [p. 1750]
- Health Informatics Subprogram [p. 1751]
- Human-Computer Interaction Subprogram [p. 1751]

## Geoinformatics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>

### First Year

<b>Fall</b>		
CS:5110	Introduction to Informatics	3
Geoinformatics Cognate course <sup>b</sup>		3

BIOS:4120 or STAT:4143	Introduction to Biostatistics or Introduction to Statistical Methods	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
BAIS:6480 or STAT:4540	Knowledge Discovery or Statistical Learning	3
GEOG:5055	Geospatial Programming	3
GEOG:4580	Introduction to Geographic Databases	3
CS:5980	Topics in Computer Science III <sup>c</sup>	1
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
Geoinformatics Cognate course <sup>b</sup>		3
Geoinformatics Cognate course <sup>b</sup>		3
GEOG:5540	Geographic Visualization	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Geoinformatics Cognate course <sup>b</sup>		3
Verify completion of all degree requirements		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>31</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Take four courses from IGPI:3010, IGPI:3500, IGPI:3520, GEOG:3570, IGPI:4150.

c Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

## Health Informatics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:5110	Introduction to Informatics	3
CS:4400 or GEOG:4580	Database Systems or Introduction to Geographic Databases	3
BIOS:4120	Introduction to Biostatistics	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
STAT:4540 or BAIS:6480	Statistical Learning or Knowledge Discovery	3
CS:3980 or CS:3210 or GEOG:5055	Topics in Computer Science I or Programming Languages and Tools or Geospatial Programming	3
Health Informatics Cognate course <sup>b</sup>		3

CS:5980	Topics in Computer Science III <sup>c</sup>	1
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Fall</b>		
CS:4510 or CS:4500 or GEOG:5540	Human-Computer Interaction for Computer Science or Research Methods in Human- Computer Interaction or Geographic Visualization	3
Health Informatics Cognate course <sup>b</sup>		3
Health Informatics Cognate course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Health Informatics Cognate course <sup>b</sup>		3
Verify completion of all degree requirements		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>31</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Take four courses from BMB:3310, BIOS:5120, CS:4470, EPID:4400, IGPI:5220.

c Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

## Human-Computer Interaction Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
31 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:5110	Introduction to Informatics	3
GEOG:4580 or CS:4400	Introduction to Geographic Databases or Database Systems	3
STAT:4143 or BIOS:4120	Introduction to Statistical Methods or Introduction to Biostatistics	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
STAT:4540 or BAIS:6480	Statistical Learning or Knowledge Discovery	3
CS:3980 or GEOG:5055 or CS:3210	Topics in Computer Science I or Geospatial Programming or Programming Languages and Tools	3
GEOG:5540 or CS:4500 or CS:4510	Geographic Visualization or Research Methods in Human- Computer Interaction or Human-Computer Interaction for Computer Science	3
CS:5980	Topics in Computer Science III <sup>b</sup>	1
<b>Hours</b>		<b>10</b>

**Second Year****Fall**

Human-Computer Interaction Cognate course <sup>c</sup>	3
Human-Computer Interaction Cognate course <sup>c</sup>	3
Human-Computer Interaction Cognate course <sup>c</sup>	3

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<b>Hours</b>	<b>9</b>
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**Spring**

Human-Computer Interaction Cognate course <sup>c</sup>	3
Verify completion of all degree requirements	

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<b>Hours</b>	<b>3</b>
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<b>Total Hours</b>	<b>31</b>
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a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

c See the General Catalog for list of approved courses.



# Informatics, Ph.D.

The Ph.D. in informatics emphasizes preparation for research, teaching, and scholarly endeavor in academic settings or private, industrial, or governmental laboratories. Students focus on applying informatics research to a field of choice (e.g., health, biology, human-computer interaction, geography, design).

## Learning Outcomes

Students will exhibit:

- broad, up-to-date knowledge of informatics topics including computational thinking, software development, data analytics, human-centered computing concepts, and professional ethics;
- domain-specific knowledge and skills related to the field of application of informatics research;
- fluency at reading, analyzing, synthesizing, and communicating research; and a
- thorough understanding of relevant research methods and ability to conduct original research that contributes to the field of informatics.

## Requirements

The Doctor of Philosophy program in informatics requires at least 72 s.h. of graduate credit. A total of 19 s.h. of core courses are required plus an additional 12 s.h. of courses approved by a student's committee. The remaining 41 s.h. may be completed with additional coursework or through reading or research hours. Students must maintain a program g.p.a. of at least 3.00.

It requires completion of coursework, satisfactory performance on the qualifying exam, comprehensive exam, and the proposal, plus the production and formal defense of a dissertation describing original research results.

Students select an advisor from among the program faculty. On the rare occasion when students choose a Ph.D. advisor who is outside the program, a co-advisor from the program faculty must be designated.

The Ph.D. with a major in informatics requires the following coursework.

## Core Courses

Students complete a total of 19 s.h. in core coursework. The student's advisor and the rest of the student's committee consisting of at least two other faculty select remaining courses (12 s.h. minimum) for a total of at least 31 s.h. of coursework.

## Programming

Code	Title	Hours
This course:		
CS:5110/IGPI:5110	Introduction to Informatics	3
One of these:		
CS:3210	Programming Languages and Tools	3
CS:3980	Topics in Computer Science I	3
GEOG:5055/ IGPI:5055	Geospatial Programming	3

## Statistics

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Data Science

Code	Title	Hours
One of these:		
BAIS:6480	Knowledge Discovery	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3

An additional course (consult advisor)

## Databases

Code	Title	Hours
One of these:		
CS:4400	Database Systems	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3

## Human Factors

Code	Title	Hours
One of these:		
CS:4500	Research Methods in Human-Computer Interaction	3
CS:4510	Human-Computer Interaction for Computer Science	3
GEOG:5540/ IGPI:5540	Geographic Visualization	3

## Ethics

Code	Title	Hours
This course:		
CS:5980	Topics in Computer Science III	1

## Elective Core Coursework

Code	Title	Hours
Coursework selected in consultation with advisor and committee		12

## Electives

The remaining 41 s.h. may be completed with additional coursework or through reading or research hours.

## Comprehensive Examination

Ph.D. students must pass a comprehensive examination at or near completion of their coursework requirements. Students prepare a 20-30 page survey/discussion (along the lines of the introduction and literature review from an eventual thesis) for distribution to their faculty committee, followed at least two weeks later by a 20-40 minute oral presentation, and a question/answer session.

Students may request that the M.S. degree be granted at the time of the comprehensive exam. The M.S. degree

without thesis is awarded upon successful completion of the comprehensive exam but may, at the examination committee's discretion, be awarded even if students do not pass the exam. Students also may choose to complete the thesis requirements and be awarded an M.S. with thesis degree.

## Dissertation

Students complete dissertation coursework in consultation with their advisor.

Upon successful completion of all requirements, including the dissertation and its oral defense, students are awarded the Doctor of Philosophy degree.

For more information about the Doctor of Philosophy requirements, see the Interdisciplinary Graduate Program in Informatics website.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in informatics in a combined degree program offered by the Carver College of Medicine and the Graduate College. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Students applying to the Ph.D. program do not need a master's degree prior to admission. Students who hold a master's degree upon entering the Ph.D. program may apply to use transfer credit from their master's degree courses toward their Ph.D. program requirements.

Students applying to the Ph.D. program who are not selected for admission are automatically considered for admission to the M.S. program if they do not already hold a master's degree.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. They also must meet the admission requirements of the informatics program; see Ph.D. and M.S. Admission on the program's website.

## Career Advancement

The program emphasizes preparation for research, teaching, and scholarly endeavor in academic settings or private, industrial, or governmental laboratories.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Informatics, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; maximum of 33 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CS:5110	Introduction to Informatics	3
STAT:4143 or BIOS:4120	Introduction to Statistical Methods or Introduction to Biostatistics	3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
STAT:4540 or BAIS:6480	Statistical Learning or Knowledge Discovery	3
GEOG:4580 or CS:4400	Introduction to Geographic Databases or Database Systems	3
CS:3210 or GEOG:5055 or CS:3980	Programming Languages and Tools or Geospatial Programming or Topics in Computer Science I	3
CS:5980	Topics in Computer Science III <sup>c</sup>	1
<b>Hours</b>		<b>10</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Qualifying Exam <sup>d</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
CS:4500 or GEOG:5540 or CS:4510	Research Methods in Human- Computer Interaction or Geographic Visualization or Human-Computer Interaction for Computer Science	3
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>e</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective course <sup>b</sup>		3
Elective course <sup>b</sup>		3

Elective course <sup>b</sup>	3
<b>Hours</b>	<b>9</b>
<b>Fourth Year</b>	
<b>Fall</b>	
Dissertation Proposal Defense <sup>f</sup>	
Elective course <sup>b</sup>	3
Elective course <sup>b</sup>	3
Elective course <sup>b</sup>	3
<b>Hours</b>	<b>9</b>
<b>Spring</b>	
IGPI:6520 Research for Dissertation <sup>b</sup>	8
Final Oral Exam <sup>g</sup>	
<b>Hours</b>	<b>8</b>
<b>Total Hours</b>	<b>72</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b See the General Catalog and department website for specifics about elective coursework requirements; may be a combination of research for dissertation hours, directed readings, independent study, and graduate coursework.
- c Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.
- d Typically completed during second year fall semester. See the General Catalog and department website for specifics.
- e Taken before the end of third year. See the General Catalog and department website for specifics.
- f Typically completed six months prior to final oral exam (dissertation defense).
- g Dissertation defense.

# Informatics, Graduate Certificate

## Requirements

The graduate Certificate in Informatics requires 19 s.h. of graduate credit. Students must earn a g.p.a. of at least 3.00 in certificate coursework. The certificate program is designed for students enrolled in University of Iowa graduate degree programs who wish to study informatics as a complement to their degree program and for nondegree students who are interested in increasing their knowledge of informatics.

The Certificate in Informatics requires the following coursework.

## Required Courses

### Programming

Code	Title	Hours
This course:		
CS:5110/IGPI:5110	Introduction to Informatics	3
One of these:		
CS:3210	Programming Languages and Tools	3
CS:3980	Topics in Computer Science I	3
GEOG:5055/ IGPI:5055	Geospatial Programming	3

### Statistics

Code	Title	Hours
One of these:		
BIOS:4120	Introduction to Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

### Data Science

Code	Title	Hours
One of these:		
BAIS:6480	Knowledge Discovery	3
STAT:4540/ BAIS:4540/ IGPI:4540	Statistical Learning	3
An approved course (consult advisor)		3

### Databases

Code	Title	Hours
One of these:		
CS:4400	Database Systems	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3

### Human Factors

Code	Title	Hours
One of these:		
CS:4500	Research Methods in Human-Computer Interaction	3

CS:4510	Human-Computer Interaction for Computer Science	3
GEOG:5540/ IGPI:5540	Geographic Visualization	3

## Ethics

Code	Title	Hours
This course:		
CS:5980	Topics in Computer Science III	1

For more information about certificate requirements, see the Interdisciplinary Graduate Program in Informatics website.

## Admission

Certificate program applicants may be degree or nondegree graduate students. Applicants who are enrolled in a University of Iowa graduate degree program must be in good academic standing in their program.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

# International Writing Program

## Director

- Christopher Merrill

**Faculty:** <https://iwp.uiowa.edu/about-iwp/iwp-staff>

**Website:** <https://iwp.uiowa.edu>

The International Writing Program (IWP) conducts a unique fall residency program for established writers from outside the United States, and a summer writing program for American and international high school students. During spring semester, IWP may offer courses related to the program's general mission, including collaborative distance learning courses for writing students overseas.

## Residency Program

Each fall the International Writing Program assembles a community of poets, fiction writers, essayists, playwrights, and journalists for a 10-week residency on campus. Participants range from emerging talents to writers who are among their countries' leading literary figures and writers of world stature. For most, their time in the program is their first, or their first extended, stay in the United States.

At the University of Iowa, they live and interact with each other while working on writing and translation projects and participating in public events. Throughout their residency, they present their work in IWP:3191 International Literature Today and IWP:5205 International Translation Workshop, and participate as guests in many other courses on campus. They also meet with the public through readings, panel discussions, a film series, and other presentations.

Since 1967 over 1,500 writers from over 150 countries have participated in the program.

International Writing Program participants are supported by the U.S. Department of State, through bilateral agreements with many countries, by grants from cultural institutions and governments abroad, and by private funds. The program does not provide grants for writers.

For more information, contact the International Writing Program, or visit its website.

## Summer Programs

### Between the Lines

Between the Lines is a creative writing and cultural exchange summer program for American and international high school students. Students explore creative writing and world literature in a multilingual, multicultural environment, attend writing workshops, and participate in a literature seminar and a series of master classes.

Between the Lines offers two sessions for participants who are 15-18 years old:

- Between the Lines: Peace and the Writing Experience brings together young writers from the U.S. and select countries along the historic Silk Road land route for a two-week creative writing residency. The program is supported by the Bureau of Education and Cultural Affairs at the U.S. Department of State.
- Between the Lines: Identity and Belonging is sponsored through grant funds provided by the Doris Duke

Foundation for the Islamic Art (DDFIA) Building Bridges Program. The two-week session, free for all participants, brings together Americans who are Muslims and Americans who are non-Muslims. Those who are first- or second-generation immigrants, from refugee communities, low-income households, or marginalized positions are particularly encouraged to apply.

International students are nominated for Peace and the Writing Experience by embassies in their home countries. American students may apply directly to IWP for both sessions; candidates must complete an online application, submit samples of their creative work, a statement of purpose, and respond to two writing prompts. Contact *Between the Lines* for more information.

## Summer Institute

The Summer Institute is a summer program that brings together U.S., Indian, and Pakistani college-age students (18-22 years old) for two weeks in July to focus on creative writing and the power of narrative. Summer Institute attendees take part in master classes in the craft of writing and the history and culture of South Asia, in collaborative workshops, and in activities designed to forge a community of writers. The program, funded by a grant from the U.S. Embassy in Islamabad, Pakistan, is free for selected participants.

Students from the three countries apply online. Contact the Summer Institute for more information.

## Courses

### International Writing Program Courses

#### **IWP:1009 Undergraduate Internship** **arr.**

Professional experience for students interested in arts management and international literature. Requirements: undergraduate standing, minimum of 36 s.h. of coursework, and consultation with IWP director.

#### **IWP:1102 On Campus Independent Study** **arr.**

Independent study arranged in collaboration with instructor.

#### **IWP:3191 International Literature Today** **1,3 s.h.**

English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Transnational Literature and Postcolonial Studies. PERIOD: 20th/21st-Century Literature. Same as ENGL:3595, TRNS:3191, WLLC:3191.

#### **IWP:3201 Writing and Publishing for the Literary Web** **arr.**

Technical aspects of web publishing, including step-by-step instruction on using content management systems (Drupal and Wordpress); specific stylistic and editorial protocols associated with contributing to literary websites; utilize and navigate a content management system; create a contributor portfolio of online work, including media items, reviews, interviews, and blog posts.

#### **IWP:3210 Comparative Arts** **3 s.h.**

Cultural and aesthetic issues arising from side-by-side investigation of several art forms, including literature, cinema, painting, music, opera, architecture; periods, schools, styles, and their theories. Taught in English. Same as ASIA:3210, FREN:3210, SPAN:3211, WLLC:3210.

**IWP:5205 International Translation Workshop 1,3 s.h.**

International writers pair with University of Iowa translators to write new works of poetry and fiction in English; second-language fluency not required for international writers. Same as TRNS:5210.

**IWP:5230 Writing Across Genres: A Workshop arr.**

Writing across genres; exploration of modes and voices different from chosen genres (i.e., poets may test the waters of playwriting, nonfiction writers of translation, translators of fiction); rotations by guest faculty; workshop includes students from Writing University M.F.A. programs and International Writing Program residents.

**IWP:6635 Crossing Borders Seminar 2-3 s.h.**

Taught in English. Same as AFAM:6635, ANTH:6635, COMM:6635, ENGL:6635, FREN:6142, GEOG:6635, GRMN:6635, HIST:6135, POLI:6635, SPAN:6904.

**IWP:7460 Translation Workshop 3 s.h.**

Requirements: at least one foreign language. Same as TRNS:7460.

# Library and Information Science

## Interim Director

- Jennifer Burek Pierce

**Graduate degree:** M.A. in library and information science

**Graduate certificate:** special collections librarianship

**Faculty:** <https://slis.uiowa.edu/faculty-and-staff>

**Website:** <https://slis.uiowa.edu/>

Library and information science (LIS) is an interdisciplinary field of study that centers on the documentation that records our stories, memory, history, and knowledge. LIS professionals serve as custodians of printed materials, records, photographs, audiovisual materials, and ephemera, in both analog and digital form. Librarians and other information professionals collect, organize, preserve, and provide access to these materials and are the stewards of the knowledge that they contain. The School of Library and Information Science (SLIS) connects people to the resources that they need to understand their histories, communities, and the world around them. The school advocates for free and open access to these resources and train folks to use these materials to better themselves and society as lifelong learners.

The school offers the M.A. in library and information science and the graduate Certificate in Special Collections Librarianship. SLIS offers a variety of dual degrees and certificates to specialize in these areas of librarianship, including joint offerings with the UI Center for Book, the public digital humanities program, Special Collections at the University of Iowa Main Library, and a school librarian endorsement for licensed K-12 teachers. In addition, the degree may be pursued while completing other degrees at the University of Iowa, including other master's and Ph.D. degrees. Undergraduates at the University of Iowa also may apply for the Undergraduate to Graduate (U2G) degree program and complete their baccalaureate degree in combination with the M.A. in library and information science.

## Student Organizations and Activities

All M.A. students in the school are automatically members of LISSO, the Library and Information Science Student Organization, which also serves as the student chapter of the American Library Association. LISSO sponsors various activities, such as speaker series, workshops, brown bag lunches, and social events. Participation in LISSO events provides students with significant opportunities for professional and extracurricular growth. Students also are encouraged to join other state and national professional organizations.

## Honor Society

The Beta Beta Theta Chapter of Beta Phi Mu, the international honor society for library and information science, is located at the University of Iowa. Each year new members are chosen from the top 25 percent of the preceding year's graduating class. To be eligible for membership, graduates must achieve a g.p.a. of at least 3.75, demonstrate professional promise, and be recommended by the faculty.

## Related Certificate

### Public Digital Humanities

Students may apply to earn the Certificate in Public Digital Humanities. The program requires 12 s.h. of graduate credit and offers credentials to students who plan to incorporate digital technology into their future research, training, or careers. For more information, see the Certificate in Public Digital Humanities [p. 1792] in the Catalog.

## Programs

### Graduate Programs of Study

#### Major

- Master of Arts in Library and Information Science [p. 1764]

#### Certificate

- Certificate in Special Collections Librarianship [p. 1769]

## Facilities

The School of Library and Information Science (SLIS) is housed in the south wing of the University's Main Library, in a setting that promotes community among students, faculty, and staff and provides easy access to resources of the University of Iowa Libraries. Facilities are provided for the varied instructional and research activities of the school.

The school includes classrooms dedicated for use by SLIS faculty and students. These rooms include a wired workstation technology classroom with Windows and Macintosh computers fully equipped for videoconferencing, and seminar classrooms with videoconferencing systems and large high-definition screens.

## Gunther Commons

Gunther Commons, a state-of-the-art collaboratory equipped with workstations, is the school's combined student center and technology lab. Individuals and teams of students gather in the collaboratory to work on course assignments and to gain experience with specialized software that supports the latest teaching technologies. Students have access to Windows and Macintosh computers, with gigabit access to the campus network and wireless service throughout the Main Library.

## University of Iowa Libraries

All of the resources of the University of Iowa Libraries are available to the school's students and faculty. The system contains more than four million volumes in the Main Library and six departmental libraries.

The web-based catalog provides access to books and periodicals, electronic indexes, and full-text databases held by University Libraries. In addition, InfoHawk+ provides online resource access to selected internet and CD-ROM resources arranged by subject and academic discipline. Wireless internet access is available in the Main Library.

The school benefits with proximity to the Learning Commons. It encompasses the majority of public space on the first floor of the Main Library. The Learning Commons is a technology-infused, comfortable and flexible learning space, and an academic and information help center.

The third floor of the Main Library houses the map collection, Special Collections, and University Archives, including the Iowa Women's Archives.

## Other Libraries

Students have access to a variety of libraries through field trips, practicum experience, and personal use: the State Historical Society of Iowa library in Iowa City; the Iowa City, Coralville, and Cedar Rapids public and school libraries; the Augustana, Coe, Cornell, Mount Mercy, and Grinnell College libraries; and the Herbert Hoover Presidential Library and Museum in West Branch.

## Other Resources

The second floor of the University Capitol Centre (UCC) houses the instructional services and campus services departments of the University's Information Technology Services. It provides instructional and research computing facilities and services for the University community. All University students, staff, and faculty may use the center's computers for University-related research, thesis preparation, and class work. Instructional Technology Centers provide campuswide access to the University's academic computing resources and the internet.

## Courses

### Library and Information Science Courses

#### **SLIS:4150 Introduction to Book Studies** 3 s.h.

Theory and practice of book studies; meanings of word and image in the book format; comparative study of other media, applied study of the codex as physical artifact. English majors and English and Creative Writing majors may apply this course to the following area and/or period requirement. AREA: Literary Theory and Interdisciplinary Studies. PERIOD: Varies by semester. Same as ENGL:4150, UICB:4150.

#### **SLIS:4910 The Book in the Middle Ages** 3 s.h.

Relation of text, decoration, function, creators, and audience in different genres of medieval manuscript books 400-1500 A.D. Same as HIST:4910, UICB:4910.

#### **SLIS:4920 The Transition from Manuscript to Print** 3 s.h.

History of the book and communication in Europe 1400-1800; production, distribution, and use of texts in cultural context. Same as HIST:4920, UICB:4920.

#### **SLIS:5010 Libraries, Culture, and Society** 1-3 s.h.

Role of libraries and information agencies in society; major issues including information policy, professional ethics, literacy, diversity, technology, and pedagogy. Requirements: admission to library and information science.

#### **SLIS:5020 Foundations of Computing** 3 s.h.

Introduction to historical, cultural, and practical roles of digital technology in libraries and information centers; application of thinking and research in digital inequality, user experience, and tech support to hands-on assignments; evaluation of emerging technology based on institutional and user needs. Requirements: admission to library and information science.

#### **SLIS:5030 Information Organization** 3 s.h.

Introduction to information organization, the systems and standards used in libraries and information centers to describe and organize documents and records for optimal stewardship and retrieval; hands-on experience in creating media (e.g., LibGuides, Omeka galleries) and encoding XML documents; preparation for further practice in cataloging, metadata, preservation, and retrieval. Requirements: admission to library and information science.

#### **SLIS:5041 College and University Libraries** 3 s.h.

Focus on praxis of academic librarianship—the way theories and ideas are applied and embodied in day-to-day work of librarians and organization of academic libraries; exploration of different types of academic libraries and their goals, functions, services, and contexts in which they operate; different types of academic librarianship; development of a preparedness for engaging complexities of academic library work as it progresses the goals of higher education; for students interested in academic librarianship, archives, and special collections. Requirements: admission to library and information science program.

#### **SLIS:5042 Public Libraries** 3 s.h.

Modern public libraries were founded on principles of equality, democracy, intellectual freedom, and public good; exploration of the historical development of public libraries and current issues related to their management and operations; practical projects and observation of library operations; opportunity to apply classroom learning to real-world work; for students interested in working in a public library or archives. Requirements: admission to library and information science program.

#### **SLIS:5043 Special Libraries** 3 s.h.

Management, organizational structures, collections, and client services in special libraries; site visits to a variety of special libraries and information centers; projects that apply theoretical principles. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite. Same as IGPI:5043.

#### **SLIS:5044 School Library Media Administration** 3 s.h.

How to create and deliver a program that focuses on teaching responsibilities of school librarians and their collaborative role in the school; examination of research, standards, curricular frameworks, information process, and inquiry models; administrative and leadership roles of teacher librarian including policy and procedure development, budgeting, and program evaluation; development of a functional library program plan.

#### **SLIS:5200 Innovation and Technology**

##### **Methodology** 3 s.h.

Power of technology to connect, communicate, create, convince, and collaborate within library setting; development of a personal philosophy and network within the innovative technology realm; introduction to a variety of multimedia tools; creation of projects on multiple platforms.

#### **SLIS:5220 Resources for Children** 3 s.h.

Children's literature and librarianship are entwined, interdisciplinary fields that now encompass everything from storytelling to new media, reflecting the field's service to a population spanning from newborns to 14-year-olds; survey of issues that youth librarians must understand by studying a progression of ages and developmental stages, issues of professional practice, and elements of genre and media for young people, anchored by books and media suited to these ages; strategies and resources that youth services professionals can use for creating responsive services and collections in the 21st century.



- SLIS:5230 Resources for Young Adults** 3 s.h.  
Examination of topics related to populations served by youth service departments (i.e., societal issues and informational needs) and the ways libraries meet needs of young adults; immersion into the world of young adults and how this relates to recreational reading and information seeking needs; how to evaluate and select from a variety of fiction, nonfiction, print, digital, and web-based resources; how to guide young adults to become competent, critical consumers and producers of information while creating a welcoming environment that celebrates diversity.
- SLIS:5240 Resources for Adults** 3 s.h.  
Role of public libraries in meeting adults' informational and recreational needs; popular culture materials, reader's advisory services, lifelong learning.
- SLIS:5520 Studies in Book History and Technologies** 0-3 s.h.  
Topics related to production, distribution, and consumption of books through history and into the future. Same as UICB:5520.
- SLIS:5530 Preservation Management** 3 s.h.  
Responsible stewardship of collections, integration of preservation into libraries and archives systems, maximizing limited resources, establishing preservation priorities, and advocacy; appropriate care of books, paper, photographs, time-based media (e.g., audio, video, film), and born-digital objects; lectures, discussions, student presentations, and hands-on activities; for students who will be responsible for managing collections. Same as UICB:5530.
- SLIS:5535 Book Conservation** 3 s.h.  
Practical methods, materials assessment, conservation history and evolution. Prerequisites: UICB:4270. Same as UICB:5220.
- SLIS:5600 Reading Culture: History and Research in Print and Digital Media** 3 s.h.  
What reading means, and what it means to read, have changed with time and place; cultural study of books and reading to evaluate strategies and resources involved in crafting historical interpretations of books and their readers; consideration of ways that reading has always been interdependent with other media, from needlework to social media; how researchers locate and interpret primary source material to study reading culture, and how cultural heritage organizations promote their holdings to researchers. Same as UICB:5600.
- SLIS:5630 Introduction to Special Collections Librarianship** 3 s.h.  
Introduction to history of collecting in special collections and key areas of praxis (e.g., appraisal, arrangement and description, preservation, reference and access, outreach).
- SLIS:5700 Cultural Heritage** 3 s.h.  
Increased use of digital technologies in collection, organization, dissemination, and use of heritage resources that generate intellectual, social, technological, legal, and ethical challenges to—and opportunities for—the heritage practice; exploration of challenges and opportunities, as well as their impact on the heritage profession; students become familiar with key heritage-related concepts and topics, apply them to a concrete project, and write a report of their findings.
- SLIS:5900 Health Informatics** 3 s.h.  
Technological tools that support health care administration, management, and decision making. Same as HMP:5370, IGPI:5200, ISE:5860, MED:5300.
- SLIS:6020 Literacy and Learning** 3 s.h.  
Learning and literacy theory relevant to work in information services; how librarians can help people process information and use it to form understanding and create new knowledge. Prerequisites: SLIS:5010.
- SLIS:6100 Database Management** 3 s.h.  
Principles and practices of database design and management; discussion and practice of database application lifecycle, data modeling, relational database design, SQL queries, reports, and other interfaces to database data and documentation; individual and group projects. Prerequisites: SLIS:5020. Same as IGPI:6100.
- SLIS:6110 Evidence-Based Practice in Library and Information Science** 3 s.h.  
Structured approach to improved libraries through decision making that supports collection, interpretation, and evaluation of data; assessment of the effectiveness of library programs and services.
- SLIS:6115 Information and Inquiry** 3 s.h.  
Inquiry is a knowledge-building activity—we inquire when we ask questions, search for information in databases, or conduct research—and in all these cases we need and use information; exploration of how librarians can help patrons acquire high-quality information by engaging with online academic databases, reference resources, and relevant research; practice-based assignments provide opportunities for students to search in academic databases, interview reference librarians, and conduct research.
- SLIS:6130 Community Engagement** 3 s.h.  
Community engagement is the process of asking, listening to, and empowering individuals, organizations, and partners to build relationships and move toward common goals that benefit and improve a community; exploration of applications for community engagement; opportunity for students to explore community engagement principles through practical experiences; for students interested in library programming and outreach, or work in a library or archives. Requirements: admission to library and information science program.
- SLIS:6140 Digital Environments** 3 s.h.  
Methods and models for building digital libraries; organization with metadata; standards such as those for object identifiers, open access, building cross-linkages between collections; automatic harvesting of content. Prerequisites: SLIS:5020. Same as IGPI:6140.
- SLIS:6145 Digital Preservation and Stewardship** 3 s.h.  
Libraries, archives, and collecting institutions of all kinds now care for digital materials alongside analog collections; introduction to practices related to preservation and continued stewardship of born-digital and digitized materials; assessment and application of standards for creation and maintenance of digital collections across a variety of library and information science contexts; for students who will manage digital collections in their practice, including those interested in digital humanities.
- SLIS:6150 Information Behavior** 3 s.h.  
People seek, gather, and use information in various contexts; exploration of patterns of information behavior to develop a better understanding of personal and sociocultural aspects of human information needs and practices in contexts; practice-based assignments that provide opportunities for students to research an information activity or phenomenon, a type of information, or a particular user group; how librarianship is about understanding and serving information needs of various communities.

**SLIS:6155 Information Visualization 3 s.h.**

Introduction to theories, techniques, and examples of information visualizations for different presentations of data. Prerequisites: SLIS:5020. Same as IGPI:6155.

**SLIS:6170 Management, Teams, and Leadership 3 s.h.**

Managers, teams, and leaders are critical for effective operations of libraries and information centers; exploration of principles and practices of organizational management, human resources, financial management, budgeting, communications, policy making, and strategic planning; strategies for cultivating and supporting inclusive, culturally competent organizations and structured approaches for planning and evaluating library programs and services; practical assignments that prepare students to work in libraries and archives. Requirements: admission to library and information science program.

**SLIS:6250 Cataloging and Classification 3 s.h.**

Introduction to various systems used to describe materials and information in library catalogs; principles of organizing catalog information for effective retrieval; standards used across libraries, archives, and museums including Anglo-American Cataloguing Rules (AACR2), Resource Description and Access (RDA), Dewey Decimal System, and Library of Congress Classification; knowledge and skills needed to begin work as professional catalogers in a diverse range of libraries. Prerequisites: SLIS:5030. Corequisites: SLIS:5030, if not taken as a prerequisite.

**SLIS:6255 Rare Books Cataloging 3 s.h.**

Application of cataloging standards to rare books and other special collections materials; hands-on cataloging of rare books and visits to local collections; critical skills and confidence necessary to begin cataloging rare, special, and unusual books using accepted standards from the field; for students interested in archives and special collections librarianship.

**SLIS:6330 Collection Development 3 s.h.**

Collecting is a core library activity that includes various types of media collected from traditional print to digital media; focus on curating an inclusive collection that is accessible to all library patrons; examination of the life cycle of a resource within the library from understanding intellectual freedom policies to identification of resource needs, selection and acquisition, promotion and use, to deselection; collection development across library settings and how collection development relates to instruction in libraries. Prerequisites: SLIS:5010 and SLIS:5030.

**SLIS:6335 Metadata Theories and Applications 3 s.h.**

Introduction to concepts, principles, functional requirements, and practices of metadata; emphasis on metadata implementations in library, archive, and museum communities; extensive hands-on exercises; application and design of metadata element sets and schemas, data exchange formats, and value vocabularies.

**SLIS:6345 Stewardship of Information and Collections 3 s.h.**

Library collections provide a foundation for library service; exploration of issues affecting development and management of library collections including policies, assessment, budgeting, selection, deselection, acquisitions, partnerships, formats, marketing, legal issues, cooperation, and ethics; strategies for cultivating and supporting inclusive, culturally competent collections, and how this supports intellectual freedom; practical assignments that prepare students for collection stewardship work in public, academic, and school libraries. Prerequisites: SLIS:5010. Corequisites: SLIS:5010, if not taken as a prerequisite. Requirements: admission to library and information science program.

**SLIS:6350 Archives: Theory and Practice 3 s.h.**

Archives are the traces of people and places and can be independent organizations or found in academic, public, and community libraries; exploration of how archives are formed and ways in which archival records are used to construct histories; practice-based assignments that provide opportunities for students to engage with local archival collections; for students interested in archives, special collections, records management, or who may encounter archives and manuscripts in library and information science practice.

**SLIS:6355 Public Services for Special Collections and Archives 3 s.h.**

Focused examination of core services in special collections and archives including reference, instruction, and outreach; reading room services and policies; research strategies and tools for answering reference questions; best practices for in-person and virtual teaching with primary sources; community outreach, events, exhibitions, and social media. Prerequisites: SLIS:5630 or SLIS:6350. Corequisites: SLIS:5630 or SLIS:6350, if not taken as a prerequisite.

**SLIS:6370 Topics in Book Studies 3 s.h.**

Topics relevant to book studies and special collections. Same as UICB:6370.

**SLIS:6411 Topics in Library and Information Science 1-3 s.h.**

Current topics in the field of library and information science.

**SLIS:6490 Information Policy and Ethics 3 s.h.**

Recent developments in production, use, and organization of information have created new opportunities and raised ethical challenges that demand responses from information professionals; exploration of major ethical frameworks and their relevance for addressing ethical issues arising in information-intensive environments; practice-based assignments that provide opportunities for students to apply ethical theories to key ethical issues faced in various information-intensive contexts. Same as IGPI:6490.

**SLIS:6520 Practicum in Libraries and Information Centers 3 s.h.**

Focus on practical application of theory; students gain experience in library and information science work, work with faculty member to identify opportunities for practicum placement in libraries and other organizations, and set professional and personal goals; 120 hours of fieldwork; participation in classroom conversations. Requirements: 15 s.h. of SLIS coursework.

**SLIS:6521 Distance and Online Education: Practicum in Library and Information Centers 3 s.h.**

Supervised field experience in selected libraries and information centers; emphasis on application of theory to practice; at least 120 hours of fieldwork. Prerequisites: SLIS:5010 and SLIS:5020 and SLIS:5030 and (SLIS:6110 or SLIS:6170) and SLIS:6115. Requirements: minimum of 15 s.h. of SLIS coursework.

**SLIS:6530 School Library Media Practicum 3 s.h.**

Field experience in an elementary and a secondary school library program for a total of 40 hours; discussion of various program components including delivery of library's instructional program, collaborative efforts, integration of information literacy skills and technology to support learning, and administrative and operational tasks involved in managing a school library program; students facilitate a lesson at both sites and complete a project that supports library instruction. Prerequisites: SLIS:5044.

**SLIS:6570 Independent Study 1-3 s.h.**

Formal contract between student and faculty member. Requirements: formal proposal.

**SLIS:6571 Distance and Online Education: Independent Study 1-3 s.h.**

Formal contract between student and faculty member; opportunity to pursue in-depth research in a particular area of interest that does not duplicate an existing course in the curriculum; students meet with faculty member to design a plan of study and submit a bibliography and description of the final project. Requirements: formal proposal.

**SLIS:6580 Thesis 0-6 s.h.**

Prerequisites: SLIS:5010 and SLIS:5020 and SLIS:5030 and SLIS:6110 and SLIS:6170.

**SLIS:6590 Digital Humanities Capstone arr.**

Application and practice of classroom experience to a specific project under guidance from a faculty member and project team leader. Prerequisites: CLAS:7290 or SLIS:7290. Requirements: admission to public digital humanities certificate program, an approved certificate plan of study on file, completion of 12 s.h. of approved coursework, and good standing in all required certificate coursework. Same as GRAD:6590.

**SLIS:7290 Digital Humanities Theory and Practice 3 s.h.**

Overview of theories and use of technology to preserve, deploy, visualize, map, and analyze concepts; discussions with practicing digital public scholars; assignments consist of a digital portfolio tailored to student research; introductory course in public digital humanities certificate. Same as CLAS:7290.

# Library and Information Science, M.A.

Students who pursue the master's degree in library and information science (LIS) gain an understanding of the foundations of the library and information professions, including the history of the fields, ethical and philosophical concerns, and principles of stewardship for a variety of forms of documentation and records. Students are taught the theory and practice of strategic management within information organizations, preparing them for careers and leadership in LIS. They gain the knowledge needed to anticipate future trends in information access and organization. Students study the close relationship between research and practice. Finally, students become knowledgeable about the factors that underlie users' information needs and appropriate strategies to assist them.

The M.A. in library and information science has held continuous accreditation from the American Library Association since 1971. The degree prepares students to work in public libraries, K-12 school libraries, academic libraries, archives, and special collections.

The University of Iowa offers students the option of completing their degree either on campus or synchronously online through the use of hybrid classrooms. The School of Library and Information Science combines online education with on-campus instruction and collaboration that allows distance students to participate real time with their campus classmates. Both full- and part-time enrollment options are available for on-campus or virtual coursework. For more information about the online program, see Online M.A. in LIS on the School of Library and Information Science website.

## Learning Outcomes

### Foundations of the Profession

- The ethics, values, and foundational principles of the library and information professions.
- The role of library and information professionals in the promotion of democratic principles and intellectual freedom (including freedom of expression, thought, and conscience).
- The history of libraries and librarianship.
- The history of human communication and its impact on libraries.
- Current types of library (school, public, academic, special, etc.) and closely related information agencies.
- National and international social, public, information, economic, and cultural policies and trends of significance to the library and information profession.
- The legal framework within which libraries and information agencies operate. That framework includes laws relating to copyright, privacy, freedom of expression, equal rights (e.g., the Americans with Disabilities Act), and intellectual property.
- The importance of effective advocacy for libraries, librarians, other library workers, and library services.
- The techniques used to analyze complex problems and create appropriate solutions.
- Effective communication techniques (verbal and written).
- Certification and/or licensure requirements of specialized areas of the profession.

### Information Resources

- Concepts and issues related to the lifecycle of recorded knowledge and information, from creation through various stages of use to disposition.
- Concepts, issues, and methods related to the acquisition and disposition of resources, including evaluation, selection, purchasing, processing, storing, and deselection; management of various collections; and the maintenance of collections, including preservation and conservation.

### Organization of Recorded Knowledge and Information

- The principles involved in the organization and representation of recorded knowledge and information.
- The developmental, descriptive, and evaluative skills needed to organize recorded knowledge and information resources.
- The systems of cataloging, metadata, indexing, and classification standards and methods used to organize recorded knowledge and information.

### Technological Knowledge and Skills

- Information, communication, assistive, and related technologies as they affect the resources, service delivery, and uses of libraries and other information agencies.
- The application of information, communication, assistive, and related technology and tools consistent with professional ethics and prevailing service norms and applications.
- The methods of assessing and evaluating the specifications, efficacy, and cost efficiency of technology-based products and services.
- The principles and techniques necessary to identify and analyze emerging technologies and innovations in order to recognize and implement relevant technological improvements.

### Reference and User Services

- The concepts, principles, and techniques of reference and user services that provide access to relevant and accurate recorded knowledge and information to individuals of all ages and groups.
- Techniques used to retrieve, evaluate, and synthesize information from diverse sources for use by individuals of all ages and groups.
- The methods used to interact successfully with individuals of all ages and groups to provide consultation, mediation, and guidance in their use of recorded knowledge and information.
- Information literacy/information competence techniques and methods, numerical literacy, and statistical literacy.
- The principles and methods of advocacy used to reach specific audiences to promote and explain concepts and services.
- The principles of assessment and response to diversity in user needs, user communities, and user preferences.
- The principles and methods used to assess the impact of current and emerging situations or circumstances on the design and implementation of appropriate services or resource development.

## Research

- The fundamentals of quantitative and qualitative research methods.
- The central research findings and research literature of the field.
- The principles and methods used to assess the actual and potential value of new research.

## Continuing Education and Lifelong Learning

- The necessity of continuing professional development of practitioners in libraries and other information agencies.
- The role of the library in the lifelong learning of patrons, including an understanding of lifelong learning in the provision of quality service and the use of lifelong learning in the promotion of library services.
- Learning theories, instructional methods, and achievement measures; and their application in libraries and other information agencies.
- The principles related to the teaching and learning of concepts, processes, and skills used in seeking, evaluating, and using recorded knowledge and information.

## Administration and Management

- The principles of planning and budgeting in libraries and other information agencies.
- The principles of effective personnel practices and human resource development.
- The concepts behind, and methods for, assessment and evaluation of library services and their outcomes.
- The concepts behind, and methods for, developing partnerships, collaborations, networks, and other structures with all stakeholders and within communities served.
- The concepts behind, issues relating to, and methods for, principled, transformational leadership.

## Requirements

The Master of Arts in library and information science requires 36 s.h. of graduate credit. Students are expected to earn at least a B in each of the five required core courses but may earn a B-minus in two of the five core courses. Failure to achieve at least a B-minus in a core course results in the student retaking the course to continue in the program. See the School of Library and Information Science Handbook on the School of Library and Information Science website for further details.

Students may apply a maximum of 12 s.h. of graduate transfer credit in library and information science or related areas toward the degree, subject to applicable rules and approval of the transfer credit committee. Approval is determined by the course's content, currency, and applicability to a student's program.

The program may be completed on campus or in a synchronous distance mode, and is designed to be completed in two years with enrollment of 9 s.h. during the fall and spring semesters. The School of Library and Information Science strongly recommends that students not register for more than 12 s.h. during fall and spring semesters and 8 s.h. during summer sessions. The program also may be completed through part-time study.

The curriculum includes two levels of coursework. Core courses consist of five required courses that provide a solid grounding for all successive coursework. Students select elective coursework consisting of seven courses for 21 s.h. or a combined electives course total of 21 s.h. based on their areas of interest. This two-level arrangement allows students to concentrate in an area that most closely matches their professional goals.

A thesis option is available for students who seek additional research experience.

The M.A. with a major in library and information science requires the following coursework.

Code	Title	Hours
Core Courses		15
Electives		21
<b>Total Hours</b>		<b>36</b>

## Core Courses

Code	Title	Hours
All of these:		
SLIS:5010	Libraries, Culture, and Society (taken in student's first semester)	3
SLIS:5030	Information Organization	3
SLIS:6115	Information and Inquiry	3
SLIS:6170	Management, Teams, and Leadership	3
One of these:		
SLIS:5020	Foundations of Computing	3
SLIS:6140	Digital Environments	3
SLIS:6335	Metadata Theories and Applications	3

## Electives

Code	Title	Hours
With their advisor's guidance, students select seven courses for 21 s.h. or a combined course total of 21 s.h. from these:		
SLIS:4150	Introduction to Book Studies	3
SLIS:4910	The Book in the Middle Ages	3
SLIS:4920	The Transition from Manuscript to Print	3
SLIS:5041	College and University Libraries	3
SLIS:5042	Public Libraries	3
SLIS:5044	School Library Media Administration	3
SLIS:5200	Innovation and Technology Methodology	3
SLIS:5220	Resources for Children	3
SLIS:5230	Resources for Young Adults	3
SLIS:5520	Studies in Book History and Technologies	0-3
SLIS:5530	Preservation Management	3
SLIS:5535	Book Conservation	3
SLIS:5600	Reading Culture: History and Research in Print and Digital Media	3
SLIS:5630	Introduction to Special Collections Librarianship	3

SLIS:5700	Cultural Heritage	3
SLIS:6020	Literacy and Learning	3
SLIS:6130	Community Engagement	3
SLIS:6140	Digital Environments	3
SLIS:6145	Digital Preservation and Stewardship	3
SLIS:6150	Information Behavior	3
SLIS:6250	Cataloging and Classification	3
SLIS:6255	Rare Books Cataloging	3
SLIS:6330	Collection Development	3
SLIS:6335	Metadata Theories and Applications	3
SLIS:6345	Stewardship of Information and Collections	3
SLIS:6350	Archives: Theory and Practice	3
SLIS:6355	Public Services for Special Collections and Archives	3
SLIS:6370	Topics in Book Studies	3
SLIS:6411	Topics in Library and Information Science	1-3
SLIS:6490	Information Policy and Ethics	3
SLIS:6520	Practicum in Libraries and Information Centers	3
SLIS:6530	School Library Media Practicum	3
SLIS:6570	Independent Study	1-3
SLIS:6580	Thesis	0-6
SLIS:6590	Digital Humanities Capstone	3
SLIS:7290	Digital Humanities Theory and Practice	3

## Specializations

To earn the degree, students do not need to select an area of specialization. However, programs often are designed around particular career goals, and the school offers courses in the following Specialized Focus Areas that students may choose to take to prepare them for working in a specific area of library and information science.

### Public Libraries

Public libraries provide informational, educational, and recreational materials and a wide range of services for a diverse clientele. Although public libraries receive the bulk of their funding from local taxes, they also may be organized on a regional or statewide cooperative basis. The variety of uses, services, materials, and organizational structures of public libraries makes this a challenging area of librarianship. Public librarians need to develop skills in analyzing the communities they serve, designing comprehensive marketing plans to meet their needs, implementing the plans in a cost-effective way, and evaluating the success of their efforts.

### Academic Libraries

The academic library, whether in a community college, a four-year college, or a university, provides information services in support of the parent institution's teaching, research, and public service missions. These services include instruction in the use of the library and its resources. Management skills and subject or language competence often are required. Since librarians in this setting usually are considered academic

faculty members, a second master's or other advanced degree is desirable.

## School Teacher Librarian

School teacher librarians provide instruction to students in accessing, evaluating, and using information; collaborate with teachers on the use of resources in instruction; provide leadership in the use of instructional and information technologies; offer reading guidance; provide reference service; and manage the library media center.

The University of Iowa offers a state-approved program leading to endorsement as school teacher librarian K-12. In order to fulfill state requirements for this endorsement, students must hold or be eligible for a teaching license and must complete a designated sequence of courses that leads both to certification and to the M.A. degree.

Licensed teachers employed in Iowa schools may enroll in a distance education program that leads to an M.A. in library and information science and endorsement for school librarianship. Contact the School of Library and Information Science for details.

Students who are interested in school libraries but lack a valid Iowa teaching license may earn licensure as a school teacher librarian by completing 30 s.h. in the College of Education. The Master of Arts in library and information science with teacher licensure requires 66 s.h. of credit. Students must apply and be admitted to both programs.

## Combined Programs

### Undergraduate Degree/M.A.

Students working on an undergraduate degree at the University of Iowa who are interested in earning an M.A. in library and information science (LIS) may apply to a combined undergraduate degree and M.A. degree program. The Undergraduate to Graduate (U2G) program enables students to begin work on the M.A. degree as they complete their baccalaureate degree and complete both degrees in five years. Students admitted to the program may count 12 s.h. toward both their undergraduate degree and the M.A. degree.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

For more information, visit Undergraduate to Graduate (U2G) on the Graduate College website.

### M.A./J.D.

The School of Library and Information Science and the College of Law offer a combined Master of Arts/Juris Doctor program. Students in the combined program may apply a limited amount of credit toward both degrees thereby completing the combined program with fewer semester hours than if each degree was completed separately. Students enroll in law courses their first year and begin taking School of Library and Information Science courses in their second year.

Separate application to each degree program is required. For more information about the J.D., see Juris Doctor, J.D [p. 1821]. (College of Law) in the Catalog. Elective courses also are available through the College of Law for students who wish to specialize in law librarianship but who do not want to pursue the J.D. degree.

## M.A./M.F.A. in Book Arts

The School of Library and Information Science and the Center for the Book offer a combined Master of Arts/Master of Fine Arts in book arts. The combined program allows students with strong interest in the physical book to acquire training in the book arts, book history, and material book studies. The earned expertise in the production and legacy of the book as a physical artifact combined with expertise in library and information science can be an asset for those focused on careers in special collections libraries and archives.

Students in the combined program earn both degrees by completing fewer semester hours than if each degree was completed separately. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information, see the M.F.A. in book arts [p. 1724] in the Catalog.

Students interested in a librarianship career with a more general interest in the physical book should consider the book studies, book arts and technologies/library and information science (BLIS) certificate program; see "Certificate Opportunities" under Requirements [p. 1765] in this section of the Catalog.

## M.A./Certificate in Book Studies/Book Arts and Technologies

The Center for the Book and the School of Library and Information Science (SLIS) collaborate to offer the book studies/book arts and technologies/library and information science (BLIS) program. The combined program enables students to earn an M.A. in library and information science and a Certificate in Book Studies/Book Arts and Technologies. It requires admission to the School of Library and Information Science M.A. program and the Center for the Book certificate program.

The M.A./Certificate in Book Studies/Book Arts and Technologies offers multiple pathways into professional engagement with artifacts available in archives and libraries, such as rare and artist books. Students select courses that enable them to gain skills and knowledge in areas of service such as conservation, cataloging, instruction, and outreach. The combined program requires 51 s.h. of coursework. Students take 27 s.h. of SLIS courses; 15 s.h. of book arts, studies, and technologies courses; and the remaining 9 s.h. may be taken in either SLIS or Center for the Book coursework, or from another unit with approval from the SLIS advisor.

Admission deadline is February 1 for fall entry. For more information, see the Certificate in Book Studies/Book Arts and Technologies [p. 1727] in the Catalog.

### Admission

Applicants begin the admission process by submitting an online graduate application through the Office of Admissions. Applicants then receive a HawkID and can upload the remaining application documents through MyUI. Transcripts of all academic work, a written statement of purpose and goals, a résumé or curricula vitae, and three letters of recommendation are required. Applicants to the teacher librarian program are asked to include a copy of their current teaching certificate. The admission committee considers each applicant's letters of recommendation, statement of purpose, résumé or curricula vitae, and other appropriate criteria, as

well as an applicant's grade-point average. Applicants for admission to the M.A. program should have a g.p.a. of at least 3.00 on a 4.00 scale. Graduate Record Examination (GRE) General Test scores are not required. Admission is competitive.

Applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL). Applicants with TOEFL scores below 100 on the internet-based test are required by the University to take an English Proficiency Test if admitted to the program. In place of TOEFL, the school also accepts International English Testing System (IELTS) scores of 7.0 or higher, with no subscore below 6.0. Applicants who submit IELTS scores are required to take an on-campus English proficiency evaluation.

Completed applications should be received by February 1 for priority consideration for fall admission. Decisions of the admissions committee are announced approximately six weeks after the application deadline. Late applications are considered if places are still available. Financial aid often is not available for late applicants. Admitted students are assigned a faculty advisor for program planning during their first semester.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

### Financial Support

The School of Library and Information Science (SLIS) typically offers limited partial-tuition scholarships and graduate assistantships. To be considered for scholarships or assistantships, applicants must meet the M.A. program's grade-point average requirement for admission; see Admission [p. 1767] in this section of the Catalog. At the discretion of the admissions committee, limited graduate assistantships may be offered to incoming students based on academic merit and prior experience. In addition, available assistantships in SLIS and in other programs and departments throughout the University are advertised as they become available; students should apply for specific assistantships.

To learn more about available opportunities, view the SLIS website for information on departmental scholarships. Part-time employment usually is available in the University of Iowa Libraries or other campus units.

Applications for student loans, work-study eligibility, or other financial assistance should be submitted directly to the University's Office of Student Financial Aid.

### Career Advancement

Library and information science graduates have many options for employment. Alumni hold positions in public, school, special, and academic libraries as well as other information settings. They serve in varied roles, such as information consultant, database manager, library administrator, webmaster, network coordinator, cataloger, children's librarian, school library media specialist, and archivist.

The school shares announcements of national and international job opportunities through an electronic mailing list. In addition, the Library and Information Science Student Organization (LISSO) sponsors talks by speakers versed in areas of librarianship as well as workshops on résumé writing, social media networking, and interviewing. Internships

and other opportunities provide students with hands-on experience that may enhance their job prospects.

For recent information on library and information science placement, see the Library Research Service (LRS) website and the annual Placement and Salaries 2020 report on the Library Journal website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Library and Information Science, M.A.

For a general sample plan, visit Curriculum–On Campus M.A. on the School of Library and Information Science website.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

36 s.h. of graduate level coursework must be completed; up to 12 s.h. of graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.

Students must earn a grade of B- or higher in each of the five required core courses and a C or higher in their elective courses.

Students may design their program around particular career goals such as Public Librarianship, Information Processes, Medical Librarianship, Youth Services, Archives and Media, and Academic Librarianship by working with their advisor to determine coursework and sequence.

Students may pursue select degrees, certificates or a certification simultaneously in less time than would be required to complete the programs of study independently.

Hours		0
<b>First Year</b>		
<b>Fall</b>		
SLIS:5010	Libraries, Culture, and Society <sup>c, d</sup>	3
SLIS:5020 or SLIS:6335	Foundations of Computing <sup>c, e, f</sup> or Metadata Theories and Applications	3
SLIS elective <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
SLIS:5030	Information Organization <sup>c, g</sup>	3
SLIS:6140	Digital Environments <sup>c, e, f</sup>	3
SLIS:6170	Management, Teams, and Leadership <sup>c, h</sup>	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
SLIS:6115	Information and Inquiry <sup>c, h</sup>	3
SLIS elective <sup>e</sup>		3
SLIS elective <sup>e</sup>		3
<b>Hours</b>		<b>9</b>

### Spring

SLIS elective <sup>e</sup>	3
SLIS elective <sup>e</sup>	3
SLIS elective <sup>e</sup>	3
Exam: Career Development Portfolio	
<b>Hours</b>	<b>9</b>
<b>Total Hours</b>	<b>36</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Students can complete a combined degree with the SLIS MA and either a Juris Doctor or the Book Arts MFA, or may consider the SLIS MA with the Book Studies/Book Arts and Technologies certificate, Informatics certificate, or Public Digital Humanities certificate. The SLIS MA may also be combined with the School Library Media certification.

c SLIS core course.

d Course should be taken during the first semester of the program.

e Students must complete seven courses (21 s.h.) of SLIS elective graduate coursework in an area of professional specialization. Work with an academic advisor to determine coursework and sequence. Additional information can be found in the General Catalog and the department website.

f Students must take one course from SLIS:5020, SLIS:6140, SLIS:6335.

g Course should be taken during the second semester of the program.

h Course can be taken in either year one or two based on individual schedule.



# Special Collections Librarianship, Graduate Certificate

MUSM:4200	Museum Object Preservation	3
UICB:4920	The Transition from Manuscript to Print	3

For more information, see the School of Library and Information Science website.

## Requirements

The graduate Certificate in Special Collections Librarianship requires 15 s.h. of coursework. Students must maintain a g.p.a. of at least 3.00 in work for the certificate.

The certificate program includes 12 s.h. of required coursework that introduces students to the core theories supporting the collection and management of rare books, archival records, and manuscript collections. One elective course allows students to further specialize and focus on archival work, rare books, or digital curation and preservation, and prepares students for the diverse range of careers in libraries, archives, special collections, and manuscript repositories.

The certificate program is designed to meet the guidelines for a graduate program in archival studies by the Society of American Archivists (SAA). The certificate may be earned by any student currently enrolled in the M.A. in library and information science [p. 1764] degree program and the Certificate in Book Studies/Book Arts and Technologies [p. 1727] program, as well as in other graduate programs of study. The Certificate in Special Collections Librarianship is awarded by the Graduate College.

The Certificate in Special Collections Librarianship requires the following coursework.

## Required Courses

Code	Title	Hours
All of these:		
SLIS:5600	Reading Culture: History and Research in Print and Digital Media	3
SLIS:5630	Introduction to Special Collections Librarianship	3
SLIS:6350	Archives: Theory and Practice	3
One of these:		
SLIS:5530	Preservation Management	3
SLIS:5535	Book Conservation	3
SLIS:6145	Digital Preservation and Stewardship	3

## Elective

Code	Title	Hours
One of these:		
SLIS:5535	Book Conservation	3
SLIS:5700	Cultural Heritage	3
SLIS:6255	Rare Books Cataloging	3
SLIS:6355	Public Services for Special Collections and Archives	3
SLIS:6520	Practicum in Libraries and Information Centers	3
MUSM:3200	Collection Care and Management	3

# Molecular Medicine

## Director

- Matthew J. Potthoff (Neuroscience and Pharmacology)

**Faculty:** <https://medicine.uiowa.edu/mcb/faculty>

**Website:** <https://medicine.uiowa.edu/mcb/>

The Molecular Medicine Program provides interdisciplinary training in the concepts and methodologies fundamental to the investigation of biological processes and molecular mechanisms that relate to human disease.

The program provides the curriculum for the molecular medicine subprogram for the Doctor of Philosophy in biomedical science. It is a sequence of required and elective coursework, which provides students with broad exposure to areas, including molecular biology, cell biology, biochemistry, and integrative sciences. The curriculum ensures comprehensive exposure to conceptual and experimental aspects of molecular and cellular biology and of translational studies. Sufficient flexibility is provided so that students can adapt the program to allow specialization in their own area of interest. See the Ph.D. in biomedical science [p. 1705] (molecular medicine subprogram) in the Graduate College section of the Catalog.

Faculty members are involved in a variety of research projects involving molecular and cellular biology and molecular medicine.

## Programs

### Graduate Program of Study

#### Major

- Doctor of Philosophy in Molecular and Cellular Biology

Students interested in doctoral studies in molecular medicine should apply under the umbrella program in Biomedical Science [p. 1702] (select molecular medicine subprogram). Direct application to the Ph.D. in molecular and cellular biology is not currently being considered.

## Facilities

Training is conducted primarily in laboratories and teaching facilities of the Carver College of Medicine Stead Family Department of Pediatrics and the Departments of Anatomy and Cell Biology, Biochemistry and Molecular Biology, Internal Medicine, Microbiology and Immunology, Molecular Physiology and Biophysics, Neurology, Neuroscience and Pharmacology, Obstetrics and Gynecology, Ophthalmology and Visual Sciences, Otolaryngology—Head and Neck Surgery, Pathology, Psychiatry, Radiation Oncology, and Surgery; and the College of Liberal Arts and Sciences Departments of Biology and Chemistry. Faculty laboratories and central research facilities available to students provide access to the most up-to-date research equipment.

## Courses

### Molecular Medicine Courses

#### **MMED:3310 Practical Data Science and Bioinformatics**

**3 s.h.**

Understanding how to access large biological data sets and use them to answer biological questions is an important skill for researchers; immersive introduction to computational handling of data; how to access and analyze publicly available data; critically evaluate data quality and analysis in context of measuring gene expression; basic coding in R/RStudio, plotting and data display, fitting and regression, statistical inference, statistical models, downloading and data wrangling; basic introduction to machine learning (clustering); for students with no computational background. Prerequisites: BIOL:1411 with a minimum grade of C- and BIOL:1412 with a minimum grade of C-. Requirements: college algebra. Recommendations: BMB:3110, or BMB:3120 and BMB:3130, or other upper-level life sciences courses. Same as BMB:3310, CBIO:3310.

#### **MMED:5270 Pathogenesis of Major Human Diseases**

**3 s.h.**

Critical analysis of pathogenesis models in a series of major human diseases; clinical presentation, analysis of cellular and molecular events leading to the disease, discussion of key papers. Offered spring semesters of even years. Same as IGPI:5270, PATH:5270.

#### **MMED:6220 Mechanisms of Cellular Organization**

**3 s.h.**

Current understanding of basic cell biological processes; key experiments that led to guiding insights; mechanisms that cells use for compartmentalization and how those mechanisms are regulated; biogenesis of major organelles (e.g., mitochondria, peroxisomes, nucleus, secretory/endocytic membrane system); functions of cytoskeleton in cell motility, organelle motility, and cell division. Prerequisites: BMB:3130. Same as ACB:6220, MPB:6220.

#### **MMED:6225 Growth Factor Receptor Signaling**

**1 s.h.**

Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Same as ACB:6225, MPB:6225, PCOL:6225.

#### **MMED:6226 Cell Cycle Control**

**1 s.h.**

Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Same as ACB:6226, MPB:6226.

#### **MMED:6227 Cell Fate Decisions**

**1 s.h.**

Cellular fate decisions including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Same as ACB:6227, MPB:6227.

#### **MMED:6230 Pathogenesis of Metabolic and Cardiovascular Disorders**

**3 s.h.**

Students focus on metabolic and cardiovascular diseases—the leading cause of morbidity and mortality in the United States; introduction to major subclasses of metabolic and cardiovascular diseases, definition of pathogenesis and clinical features of diseases, and exploration of methodologies used to study diseases; course format includes lecture, critical examination of literature, and demonstration of experimental models.

**MMED:6250 Mechanisms of Parasitism Journal Club** **1 s.h.**

Reviews of recent publications in molecular parasitology research and thesis research by training grant or journal club students; for students pursuing graduate thesis research in microbiology or a related discipline. Same as MICR:6250.

**MMED:6260 Methods for Molecular and Translational Medicine** **1 s.h.**

Basic and advanced scientific techniques used to integrate biological questions in molecular and translational medicine; particularly useful for comprehensive exam preparation.

**MMED:6270 Pathogenesis of Cardiovascular Disorders** **3 s.h.**

Students focus on cardiovascular diseases—the leading cause of morbidity and mortality in the United States; introduction to major subclasses of cardiovascular diseases, definition of pathogenesis and clinical features of diseases, and exploration of methodologies used to study diseases; format includes lecture, critical examination of literature, and demonstration of experimental models.

**MMED:6280 Critical Thinking in Molecular Medicine** **1 s.h.**

Opportunity to work closely with participating faculty to gain skill in critical reading of research literature and facility in presenting material to an audience. Requirements: advanced graduate standing.

**MMED:7290 Seminars in Molecular Medicine** **1 s.h.**

Research findings in molecular biology. Requirements: molecular and cellular biology graduate standing.

**MMED:7305 Molecular Medicine Research** **arr.**

Requirements: molecular and cellular biology graduate standing.

**MMED:7310 Translational Medicine Education Rounds** **1 s.h.**

Students obtain clinical insights into their area of specialty in biomedical research through selection of a clinical mentor to complement the expertise of their research mentor; clinical mentors provide students with case studies, clinical scenarios, and physician shadowing opportunities which may allow students to gain new perspectives and insight into applications of biomedical research. Requirements: enrollment in Molecular Medicine Program, completion of rotations, and selection of a research mentor.

**MMED:8115 Molecular Physiology** **4 s.h.**

Principles of human physiology, organ systems, cell function. Offered fall semesters.

# Neuroscience

## Chair

- Daniel T. Tranel (Neurology/Psychological and Brain Sciences)

**Graduate degree:** Ph.D. in neuroscience

**Faculty:** <https://neuroscience.grad.uiowa.edu/people/faculty>

**Website:** <https://neuroscience.grad.uiowa.edu>

The Neuroscience Program provides an interdisciplinary and interdepartmental approach to graduate education and research training in the structure, function, and development of the nervous system and its role in cognition and behavior. Students obtain training at all levels of the nervous system, from cellular/molecular to the behavioral/cognitive.

## Programs

### Graduate Program of Study

#### Major

- Doctor of Philosophy in Neuroscience [p. 1773]

## Facilities

Training is conducted primarily in the laboratories and teaching facilities of the Carver College of Medicine graduate Departments of Anatomy and Cell Biology, Biochemistry and Molecular Biology, Internal Medicine, Molecular Physiology and Biophysics, Neurology, Neuroscience and Pharmacology, and Psychiatry; the College of Liberal Arts and Sciences Departments of Biology, Communication Sciences and Disorders, Health and Human Physiology, and Psychological and Brain Sciences; and the Neuroscience Program.

Students use faculty laboratories and central research facilities for ultrastructural analysis; histochemistry and immunocytochemistry; electrophysiology; fluorescence-activated cell sorting; cellular and subcellular biochemistry; cell, tissue, and organ culture; operant and classical conditioning; molecular biology; behavioral genetics; neural substrates of complex behavior; brain-behavior relationships in humans; neuropsychology; and functional neuroimaging (PET, fMRI).

## Courses

### Neuroscience Courses

#### **NSCI:4353 Neurophysiology: Cells and Systems** 3-4 s.h.

Physiological properties of nerve cells, nervous systems; axonal conduction, synaptic transmission, sensory transduction, integrative processes, higher functions. Prerequisites: (BIOL:2753 or BIOL:3253) and (MATH:1460 or MATH:1380 or MATH:1550 or MATH:1850) and ((PHYS:1511 and PHYS:1512) or (PHYS:1611 and PHYS:1612)). Same as BIOL:4353.

#### **NSCI:5212 Foundations in Behavioral and Cognitive Neuroscience** 4 s.h.

Concepts, methods, and findings in behavioral and cognitive neurosciences. Prerequisites: BIOL:3253. Same as PSY:5212.

#### **NSCI:5365 Seminar: Neuropsychology and Neuroscience** arr.

Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as NEUR:5365, PSY:5365.

#### **NSCI:5653 Fundamental Neurobiology I** 3 s.h.

Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity, functional neuroanatomy, sensory, motor and autonomic systems; emotion, memory, sleep, language, attention and cognition, neuronal development; focus on systems and developmental neurobiology; first in a two-semester sequence. Same as BIOL:5653, PSY:5203.

#### **NSCI:5654 Fundamental Neurobiology II** 3 s.h.

Neurobiology from molecular/cellular to systems levels, including cell biology of the neuron; membrane electrophysiology; synaptic transmission and plasticity; functional neuroanatomy, sensory, motor and autonomic systems; emotion, memory, sleep, language, attention and cognition, neuronal development; focus on molecular/cellular neurobiology and neurophysiology; second in a two-semester sequence. Prerequisites: BIOL:5653 or NSCI:5653 or PSY:5203. Same as BIOL:5654, PSY:5205.

#### **NSCI:5658 Fundamental Neurobiology I Discussion** 2 s.h.

Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5653 lecture material. Same as BIOL:5658, PSY:5204.

#### **NSCI:5659 Fundamental Neurobiology II Discussion** 2 s.h.

Discussion of selected papers, including classics from neurobiology literature; coordinated with BIOL:5654 lecture material. Same as BIOL:5659, PSY:5206.

#### **NSCI:6050 Advanced Quantitative Training for Neuroscience** 4 s.h.

Review of statistical inference, type-I errors, statistical power, measurement reliability issues in context of between-/within-subjects t-tests, ANOVAs, correlations, and regressions with attention to causality and generalizability; multiple linear regression, model building, model testing, confounding/mediation, interactions; mixed models with nested/crossed, fixed/random factors, and repeated measure designs. Offered spring semesters. Prerequisites: PSY:5050.

#### **NSCI:6209 Steroid Receptor Signaling** 1 s.h.

Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters of even years. Same as MPB:6209, PCOL:6209.

#### **NSCI:6265 Neuroscience Seminar** 0-1 s.h.

Research presentations. Same as ACB:6265, BIOL:6265, MPB:6265, PSY:6265.

#### **NSCI:7235 Neurobiology of Disease** 3 s.h.

Broad, thematic understanding of disease mechanisms in neurobiological disorders. Prerequisites: ACB:6252. Same as NEUR:7235.

#### **NSCI:7301 Directed Study in Neuroscience** arr.

#### **NSCI:7305 Neuroscience Research** arr.

Requirements: neuroscience graduate standing.

# Neuroscience, Ph.D.

For information about predoctoral training opportunities in neuroscience, contact the Neuroscience Program or visit its website.

## Learning Outcomes

Graduates will:

- achieve a broad and deep knowledge base in neuroscience spanning the subdisciplines from cell/molecular to systems/cognitive neuroscience;
- achieve a high proficiency in research theory, design, and practice, including the ability to apply appropriate quantitative methods and statistical approaches, design and carry out the research with rigor and reproducibility, and incorporate responsible conduct in all phases of the research;
- develop strong oral and written communication skills so that they can be conversant with neuroscientists in any area of the field and can bring a broad interdisciplinary perspective to their own research;
- develop teaching effectiveness in formal and informal settings and establish credentials in teaching excellence; and
- provide impactful service to the program, institution, and scientific community, and understand the value of providing engaging outreach to society to prepare them for effective entry into the workforce and society.

## Requirements

The Doctor of Philosophy program in neuroscience requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of 3.00. The program's curriculum is designed around three tracks: molecular/cellular, developmental/systems, and cognitive/behavioral. Following broad-based instruction in a core curriculum, students specialize in one of the tracks.

Within a framework of core, track-specific, and elective courses, students pursue a program of study individually designed according to their undergraduate training and graduate research goals. After enrolling in the Neuroscience Program, entering students consult with the advisory committee regarding their level of preparation for the program's required courses.

The Student Advisory Committee meets with all first- and second-year graduate students once each semester, helping students explore their research interests and select faculty mentors for the required laboratory rotations. Each student is expected to complete three rotations in faculty laboratories before selecting a thesis advisor. Rotations ordinarily last 12 weeks but may last from 8 to 16 weeks. Under special circumstances, two rotations may be in the same laboratory, an arrangement that permits a student to learn a variety of techniques and approaches before settling down to work on the dissertation project. Students usually choose a dissertation lab at the end of their first year.

## Background Requirements

Successful students will have demonstrated preparedness for graduate training in neuroscience by completing a bachelor's degree and substantive prior research experience in one or more of the following areas: biochemistry, general physiology,

cell biology, and statistics. Didactic coursework in quantitative methods, statistics, and/or computer programming also is beneficial.

## Neuroscience Core

The following courses form the core of the neuroscience graduate curriculum.

Code	Title	Hours
NSCI:5653	Fundamental Neurobiology I	3
NSCI:7235	Neurobiology of Disease	3
ACB:6252	Functional Neuroanatomy	arr.
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
PSY:6370	Principles of Neuropsychology	3
One statistics course		3-4

In addition, students register for the following two courses each semester:

NSCI:6265	Neuroscience Seminar	0-1
NSCI:7305	Neuroscience Research	arr.

## Electives

Elective requirements may be met by completing 8 s.h. from a list of courses offered by the Departments of Anatomy and Cell Biology, Biology, Molecular Physiology and Biophysics, Neuroscience and Pharmacology, Psychological and Brain Sciences, and other departments as appropriate. With permission of the Student Advisory Committee, students may satisfy the elective requirement wholly or in part by registration in the following courses.

Code	Title	Hours
NSCI:5212	Foundations in Behavioral and Cognitive Neuroscience	4
NSCI:5365	Seminar: Neuropsychology and Neuroscience	arr.
NSCI:7301	Directed Study in Neuroscience	arr.
BIOL:3343	Animal Physiology	3
BIOL:3383	Introduction to Systems Biology	3
BIOL:4213	Bioinformatics	2,4
BMED:5207	Principles of Molecular and Cellular Biology	3
CSD:5234	Acquired Cognitive- Communication Disorders	arr.
CSD:6230	Psychoacoustics	2-3
GENE:6200	Special Topics in Genetics	1
HHP:6300	Motor Control Seminar	1
MATH:5750	Mathematical Biology I	4
MICR:5218	Microscopy for Biomedical Research	arr.
MMED:6220	Mechanisms of Cellular Organization	3
MMED:6226	Cell Cycle Control	1
MMED:6227	Cell Fate Decisions	1
PATH:5260	Translational Histopathology	3

PCOL:5135	Principles of Pharmacology	1
PCOL:5137	Neurotransmitters	1
PCOL:6207	Ion Channel Pharmacology	1
PCOL:6225	Growth Factor Receptor Signaling	1
PSY:3320	Abnormal Psychology	3
PSY:5070	Programming for Psychologists	3
PSY:5080	Foundations in Cognitive Neuroscience	4
PSY:5610	Proseminar in Cognition and Perception	3
PSY:6440	Developmental Cognitive Neuroscience	3
PSY:7150	Current Topics in Psychology	3
PSY:7210	Seminar: Advanced Topics in Behavioral and Cognitive Neuroscience	3
RHET:7500	Science Communication in the Digital Age	2-3
STAT:6300	Probability and Stochastic Processes I	3

provides stipend and tuition support for a select group of first- and second-year graduate students.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in neuroscience in a combined degree program offered by the Graduate College and the Carver College of Medicine. Applicants apply to the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

All students receive a financial stipend of \$31,500 plus tuition for the 2022-23 academic year. Financial support comes from training grants, research assistantships, teaching assistantships, scholarships, individual research grants, or other departmental or college funds. All students are required to teach as part of their development as future scientists and faculty members.

The Neuroscience Program is committed to supporting its graduate students for their entire training period. Students normally are supported in the first year by the program. After that, support is expected to come from a student's primary research mentor. Occasionally, advanced students are supported through teaching assistantships.

See Financial Support on the Interdisciplinary Graduate Program in Neuroscience website and Cost and Funding on the Graduate Admissions website for more information.

## National Institutes of Health Training Grant

The Neuroscience Program is supported by a training grant from the National Institutes of Health (NIH). The grant

# Planning and Public Affairs

## Director

- Lucie Laurian

**Graduate degrees:** M.P.Aff.; M.S. in urban and regional planning

**Faculty:** <https://sppa.uiowa.edu/faculty-staff>

**Website:** <https://sppa.uiowa.edu/>

Planning and public affairs encompasses the development and implementation of public policies that improve the quality of life in cities, regions, states, and nations as well as protects the environment and sustains the earth. Concentration areas for the M.S. in urban and regional planning include economic development, geographic information systems (GIS), land use and environmental planning, housing and community development, and transportation. Focus is on analytical urban planning, public policy, and sustainability. Concentration areas for the Master of Public Affairs include public and nonprofit management, and public policy.

The School of Planning and Public Affairs is a campus leader in community engagement and hosts the Iowa Initiative for Sustainable Communities (IISC) through which students from disciplines across campus provide key answers to important sustainability questions for communities in Iowa.

## Related Certificate

### Transportation Planning

The Transportation Planning Program offers the Certificate in Transportation Planning. The program focuses on the varied and complex problems of transportation and on interdisciplinary approaches to addressing them. The Departments of Civil and Environmental Engineering, Industrial and Systems Engineering, Mechanical Engineering (College of Engineering), Economics (Tippie College of Business), and the School of Planning and Public Affairs (Graduate College) participate in the program.

The certificate is coordinated by the School of Planning and Public Affairs. See the Certificate in Transportation Planning [p. 1802] (Graduate College) in the Catalog.

## Programs

## Graduate Programs of Study

### Majors

- Master of Public Affairs [p. 1783]
- Master of Science in Urban and Regional Planning [p. 1787]

## Courses

## Planning and Public Affairs Courses

- Urban and Regional Planning Courses [p. 1775]
- Public Affairs Courses [p. 1779]

## Urban and Regional Planning Courses

### URP:1030 Climate Leadership and Justice 3 s.h.

Preparation for engaged students to lead on climate change in their communities; understanding climate change causes and impacts, consideration of intergenerational justice and equity in climate adaptation and mitigation; application of best practices in climate policies and planning; supporting community and business resilience and capacity building. Same as PBAF:1030.

### URP:2013 Introduction to Sustainability 3 s.h.

Introduction to sustainability knowledge, skills, and habits as a means to shape one's vision of a sustainable citizen; emphasis on basic skills of literacy, applied math, and finding information; traditional sustainability knowledge areas related to society, economy, and environment; intersecting themes (e.g., informed consumerism, eco-economics, and livable environments). GE: Sustainability. GE: Social Sciences. Same as BUS:2013, GEOG:2013, SUST:2013.

### URP:2020 Environment and Society: Sustainability, Policy, and Politics 3 s.h.

How society balances its needs against those of the natural environment when addressing modern challenges like climate change, conservation, and energy crises; exploration of sustainability through the lens of U.S. environmental policy and politics; application of fundamental theories of public policy to answer questions—when do environmental problems become policy problems; what economic, social, and political forces shape environmental policy decisions; and what are the consequences of environmental policies for individuals and organizations? GE: Sustainability. GE: Social Sciences. Same as PBAF:2020.

### URP:2056 The Splendor of Cities 3 s.h.

Exploration and journey through space and time of global cities—London in the 1600s, Paris in the 1800s, and New Delhi in the 20th century—by use of videos and documentaries; how cities form and grow in response to social, political, cultural, and economic forces. Same as PBAF:2056.

### URP:3001 Planning Livable Cities 3 s.h.

Development of livable cities in the United States; economic, physical, environmental, and political forces that shape their growth; impact of planning, how it shapes the future of cities. Same as GEOG:3920.

### URP:3134 Regional and Urban Economics 3 s.h.

Theory of location and regional development; central place theory; why cities exist and trade with one another; models of land use patterns, rents; empirical tests of models; policy applications. Prerequisites: ECON:1100. Same as ECON:3640.

### URP:3135 Environmental and Natural Resource Economics 3 s.h.

Environmental and resource use problems; efficient mechanisms and other policies for environmental protection, management of common property resources. Prerequisites: ECON:1100 and ECON:1200. Same as ECON:3625.

### URP:3217 Negotiation and Conflict Resolution 3 s.h.

Strategies of successful negotiation across a wide range of conflict situations; keys to success in peacefully resolving conflicts; personal, professional, legal, and political negotiations; apologizing; mediation as alternative to litigation; analysis of conflict characteristics to determine optimal negotiation strategies; development of negotiation interpersonal skills; practice negotiating under real world scenarios. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as PBAF:3217, RHET:3009.

- URP:3350 Transportation Economics** 3 s.h.  
Overview of transportation markets—intercity, rural, urban; transportation modes—rail, highway, air, water, pipeline, transit; issues in finance, policy, planning, management, physical distribution, and environmental, economic, and safety regulation. Recommendations: ECON:1100 and ECON:1200. Same as ECON:3750, GEOG:3940.
- URP:4170 Megacities Seminar** 1-3 s.h.  
Global historical, political, economic, urban, and cultural aspects of megacity development; planning methods to address contemporary and emerging issues; critical analysis of peer-reviewed literature and computational simulations; topics include urban sprawl, poverty and inequality, economies, food scarcity, population growth, governance models, environmental and health concerns, sustainability.
- URP:4225 Applied GIS for Planning and Policy Making** 3 s.h.  
Analysis of Census of Population and Housing data using GIS software; data and analytical needs of urban planners; coverage of GIS topics to plan functions of GIS and spatial analysis, varied GIS software in a planning organization; structure of the census.
- URP:4243 The Land Development Process** 3 s.h.  
How land is developed; analysis of site suitability, preparation of subdivision plan, site plan review, development approval process, infrastructure and site preparation, negotiating local development politics; field trips.
- URP:4245 Growth Management** 3 s.h.  
Causes and consequences of urban sprawl, shortfalls in conventional land use planning; local and state growth management policies, techniques of policy implementation, positive and negative impacts of such policies; Smart Growth; emerging challenges.
- URP:4253 Designing Sustainable and Healthy Cities** 1-3 s.h.  
Principles and practical elements of urban design for sustainable and healthy cities; general urban design background for policy makers and planners; impacts of urban design for environmental sustainability, community health, and well-being; physical, mental, social, and environmental health as affected by urban form, air and water quality, green spaces, and climate change impacts.
- URP:4256 Environmental Policy** 3 s.h.  
Environmental policy formation and politics; comparative international perspective on the United States' experience.
- URP:4260 Transportation Policy and Planning** 3 s.h.  
Institutional setting for transportation planning, evolution of domestic transportation policy, international influences, transportation modes and markets, current sources of transportation planning information, emerging policy issues.
- URP:4262 Transportation Research Methods and Analysis** 3 s.h.  
Methods for measuring current and future transportation demand based on changes in population, preferences, built environment, and changing policy objectives; survey design and analysis; basics of travel demand modeling. Same as CEE:4176.
- URP:4265 Planning Sustainable Transportation** 3 s.h.  
Theories and methods of exerting public control over passenger and freight transportation; social and environmental regulation; effects of changing finance, regulation, and pricing policies including privatization, tolls, and impact fees.
- URP:4266 Transportation, Urban Form, and Sustainability** 3 s.h.  
Policies and interactions between transportation and land use; location theories and practices; transportation infrastructure, land use, and travel behavior modeling; current policies that influence travel behavior and urban form.
- URP:4271 Housing Policy** 3 s.h.  
Recent housing policy initiatives at federal, state, and local levels.
- URP:4273 Community Development Through Creative Placemaking** 3 s.h.  
Examination of practices, ideas, and techniques for community development in small to large communities; particular focus on creative placemaking, in which planners and the public strategically shape the physical and social character of a neighborhood, town, city, or region around arts and cultural activities; application of this approach to a specific community project; for students in the arts, humanities, social sciences, and planning and public affairs.
- URP:4280 Planning for Disaster Mitigation and Recovery** 2-3 s.h.  
Types of disasters that communities face; what role planners play, what role should they play; importance of hazard mitigation and planning for post-disaster recovery; where planners' unique skills play the most significant roles in aiding a community to redesign a safer future.
- URP:4295 Economic Development Policy** 3 s.h.  
Analysis of policies and programs at national, regional, state, and local levels that address problems of economic growth, development, decline.
- URP:4297 Financing Economic Development for Poverty Alleviation** 3 s.h.  
How public policies in general, and planning practices in particular, have an impact on an individual's likelihood of becoming poor, remaining poor, and getting out of poverty; how land use, housing, transportation, and economic development policies affect distribution and accessibility of jobs, education, housing, and public services.
- URP:4750 Environmental Impact Analysis** 3 s.h.  
In-depth exposure to the history and evolution of the U.S. Environmental Impact Assessment (EIA) process; discussion of major court cases; ecological, economic, and political aspects of current environmental controversies; exposure to real-world scenarios that are crucial to understanding the EIA process in action; field trips to six or seven environmental control facilities in Iowa City and neighboring areas. Prerequisites: GEOG:1070. Same as GEOG:4750.
- URP:4752 Eight Generation Planning: Envisioning Regenerative Cities** 3 s.h.  
Star Trek tells us that Captain Kirk will be born in Iowa in 2228, what should cities look like in that year? Students envision and design great regenerative cities in the age of Anthropocene—the period we are in which features substantial human influence on climate and the environment; exploration of contemporary philosophies and urban strategies for sustainability, resilience, post-scarcity abundance, human well-being, social inclusiveness, and justice in an era of rapid changes in society, technology, climate, and environment.



**URP:4760 Sustainable Urban Development: The Hong Kong Experience** 3 s.h.

Today about 52 percent of the world's population lives in urban areas; by 2050 almost 70 percent will be living in cities and towns; how the shape, size, and form of urban areas and how people live in them have significant impact on the environment; students explore theories and practices pertaining to sustainable urban development and learn about urban environmental issues around the world and significant socioeconomic problems arising from current patterns of urban development that are, on the whole, not sustainable; introduction to many innovative approaches for making cities more sustainable.

**URP:5678 Application Simulation to Transportation** 3 s.h.

Transportation system management and traffic engineering; application of real-time simulation and visualization. Prerequisites: CEE:3763 or CEE:4763. Same as CEE:5678.

**URP:5800 Environmental Economics and Policy** 3 s.h.

Reasons why markets fail in environmental realm (e.g., externalities, common pool resources, club goods, public goods); ecosystem services and techniques used for their valuation; revealed and stated preferences; cost-benefit analysis and role in policy-making process; tools to address environmental market failures, particularly command and control, taxes and subsidies, and mitigation markets; focus on air pollution, climate change, and water-related policies. Same as GEOG:5800, PBAF:5800.

**URP:6200 Analytic Methods I** 1-3 s.h.

Data science, statistics, quantitative reasoning, study design and analysis for planning and policy; applied quantitative and qualitative research, surveys, public participation; data sharing and data management for reproducibility and accessibility. Same as PBAF:6200.

**URP:6201 Analytic Methods II** 3 s.h.

Integration of methods with the planning process; application of multiple regression, population estimation and projection, survey methods, time series analysis, industrial growth and change; presentation of results to decision makers and the public. Prerequisites: URP:6200. Same as PBAF:6201.

**URP:6202 Land Use Planning: Law and Practice** 4 s.h.

Legal, social foundations of land use planning; comprehensive planning, zoning and subdivision review; legal aspects of land use, environmental planning; ordinance drafting; staff report writing; citizen participation.

**URP:6203 The Making of Cities: Histories and Theories of Planning** 3 s.h.

Histories and dynamics of urban change in Western cities as a reflection of social, cultural, economic, and environmental forces; alternative city planning philosophies, perspectives, and ethics relevant to planners and policy makers; special attention to how urban planning intersects with racism and social justice, as well as climate change and sustainability.

**URP:6205 Economics for Policy Analysis** 1,3 s.h.

Principles of economics, concepts and techniques of microeconomic analysis, market failures, role of government in the economy, tax policy, income inequality, and program evaluation. Same as PBAF:6205.

**URP:6208 Program Seminar** 1 s.h.

Planning, administrative, and policy processes; roles of planners, public policy analysts, and administrators; professional ethics and standards. Same as PBAF:6208.

**URP:6209 Sustainable Communities Lab I** 3 s.h.

Experience working on a two-semester project involving a current planning issue, usually for a client. Requirements: urban and regional planning graduate standing. Same as SDG:6000.

**URP:6210 Sustainable Communities Lab II** 3 s.h.

Continuation of URP:6209. Prerequisites: URP:6209. Requirements: urban and regional planning graduate standing.

**URP:6211 Community Outreach Practicum** 1-3 s.h.

Application of planning skills to community work by nonprofit organizations in local area; urban planners contributing to their communities; community outreach.

**URP:6225 Applied GIS for Planning and Policy Making** 1-3 s.h.

Analysis of U.S. Census data using GIS software; data and analytical needs for urban planning and public policy making; coverage of GIS topics including spatial analysis of social science and environmental problems, site selection; graphical display of results, including online maps; development of models in GIS. Same as PBAF:6225.

**URP:6227 Spatial Analysis in Planning and Policy Making** 3 s.h.

Databases, GIS, planning support systems; spatial model building and use of spatial statistics; applications to substantive problems in transportation, environment, housing, economic development. Recommendations: completion of an introductory GIS course.

**URP:6229 Practicum** 1-5 s.h.

Full-time internship of at least five months with a planning-related organization. Requirements: urban and regional planning graduate standing.

**URP:6233 Public Finance and Budgeting** 3 s.h.

Local budgeting process and revenue instruments available for local governments to finance their infrastructure; local budgeting process, mechanics of property tax and other revenue sources, connection between taxation and land use, economic development, growth management, and transportation; issues regarding financing K-12 public schools. Same as PBAF:6233.

**URP:6240 Public Management** 3 s.h.

Public management in a democratic society; balancing of administrative and democratic values and interests; examination of institutional, political, organizational, and ethical context of public management and policy making; students acquire important management, leadership, and decision making skills, as well as reflect on their values and behaviors with regard to administration and public service, particularly in a diverse and changing society; service in public sector contrasted with service in private and nonprofit sectors. Same as PBAF:6240.

**URP:6242 Planning and City Administration** 1 s.h.

Relationship of planners and other local government personnel; how planning fits into city management; city management view of local political process, provision of city services, finance and budgeting, human resources, intergovernmental relations, how meetings are run, dealing with the public.

**URP:6243 The Land Development Process** 1,3 s.h.

How land is developed; analysis of site suitability, preparation of subdivision plan, site plan review, development approval process, infrastructure and site preparation, negotiating local development politics; field trips. Prerequisites: URP:6202.

- URP:6245 Growth Management** 3 s.h.  
Causes and consequences of urban sprawl, shortfalls in conventional land use planning; local and state growth management policies, techniques of policy implementation, positive and negative impacts of such policies; Smart Growth; emerging challenges. Same as PBAF:6245.
- URP:6249 Sustainability Seminar** 1 s.h.  
Focus of increasing interest for planning students and practicing planners; involves environmental effects, economy, social justice; discussion and investigation of sustainability practice applied to local and regional efforts of public and private entities; greater awareness and understanding of the effectiveness and resource requirements of local activities addressing sustainability; presentations by the instructor, local tours, guest lectures.
- URP:6253 Designing Sustainable and Healthy Cities** 1-3 s.h.  
Principles and practical elements of urban design for sustainable and healthy cities; general urban design background for policy makers and planners; impacts of urban design for environmental sustainability and for community health and well-being; physical, mental, social, and environmental health as they are affected by urban form, air and water quality, green spaces and climate change impacts. Same as PBAF:6253.
- URP:6256 Environmental Policy** 3 s.h.  
Environmental policy formation and politics; comparative international perspective on the United States' experience. Same as PBAF:6256.
- URP:6257 Environmental Management** 3 s.h.  
Environmental best management practices for sustainable management of natural resources; open space and habitat protection, prairie and wetland restoration, water supplies management, natural hazard mitigation, farmland protection. Same as PBAF:6257.
- URP:6258 Systems and Scenario Thinking** 3 s.h.  
Quantitative and qualitative methods for complex dynamic systems; participatory modeling; systems thinking, integrated assessment, and scenario planning; decision making, policy development, and evaluation; nonlinear dynamics of cities, materials, energy, and human-environment relationships; numerical modeling; historical and contemporary roles of human activities in the Earth system. Same as PBAF:6258.
- URP:6260 Transportation Policy and Planning** 3 s.h.  
Institutional setting for transportation planning, evolution of domestic transportation policy, international influences, transportation modes and markets, current sources of transportation planning information, emerging policy issues. Same as PBAF:6260.
- URP:6265 Planning Sustainable Transportation** 3 s.h.  
Theories and methods of exerting public control over passenger and freight transportation; social and environmental regulation; effects of changing finance, regulation, and pricing policies, including privatization, tolls, impact fees. Same as GEOG:6264, PBAF:6265.
- URP:6266 Transportation and Land Use Planning** 3 s.h.  
Policies and interactions between transportation and land use; location theories and practices; transportation infrastructure, land use, travel behavior modeling; current policies that influence travel behavior and urban form. Same as PBAF:6266.
- URP:6268 Freight Transportation Planning** 3-4 s.h.  
Freight transportation planning in the United States; surface modes, primarily trucking and rail, as well as trade-offs in bulk movements by inland waterways and pipelines; comparison with recent developments in policy, planning, and practice for surface transportation in other developed economies (e.g., Europe).
- URP:6270 Transportation Planning Studio** 3 s.h.  
Community-engaged transportation planning project administered through the Iowa Initiative for Sustainable Communities; application of transportation planning knowledge to produce a plan or study, and presentation of results to a client.
- URP:6271 Housing Policy** 3 s.h.  
Recent housing policy initiatives at federal, state, and local levels. Same as PBAF:6271.
- URP:6273 Community Development Through Creative Placemaking** 3 s.h.  
Examination of practices, ideas, and techniques for community development in small to large communities; particular focus on creative placemaking, in which planners and the public strategically shape the physical and social character of a neighborhood, town, city, or region around arts and cultural activities; students and faculty apply this approach to a specific community project; for students in the arts, humanities, social sciences, and planning and public affairs. Same as PBAF:6273.
- URP:6277 Affordable Housing Finance** 3 s.h.  
Financing development or rehabilitation of affordable housing; low-income housing tax credits, the housing finance system and current regulatory issues, mortgage discrimination, improving financing for rental housing.
- URP:6278 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, MGMT:9150, PBAF:6278, RELS:6070, SPST:6010, SSW:6247.
- URP:6279 Nonprofit Organizational Effectiveness II** 3 s.h.  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, MGMT:9160, PBAF:6279, RELS:6075, SPST:6020, SSW:6248.
- URP:6280 Planning for Disaster Mitigation and Recovery** 2-3 s.h.  
Types of disasters that communities face; what role planners play, what role should they play; importance of hazard mitigation and planning for post-disaster recovery; where planners' unique skills play the most significant roles in aiding a community to redesign a safer future. Same as PBAF:6280.
- URP:6282 Grant Writing** 1-2 s.h.  
Same as PBAF:6282, SSW:6282.
- URP:6290 Economic Impact Assessment** 3 s.h.  
Economic impact and growth analysis, including economic base, income expenditure, input-output analysis; use of economic impact analysis in a cost-benefit context; industrial location and mobility theory with statistics applications. Prerequisites: URP:6205.

**URP:6295 Economic Development Policy** 3 s.h.

Business and industrial locations, theories of regional growth and development, tools for regional economic analysis, economic impacts of COVID-19, development strategies in increasingly knowledge-driven and globalizing regional economies, economic development finance and policy, and economic development planning process. Same as PBAF:6295.

**URP:6297 Financing Economic Development for Poverty Alleviation** 3 s.h.

How public policies in general, and planning practices in particular, have an impact on an individual's likelihood of becoming poor, remaining poor, and getting out of poverty; how land use, housing, transportation, and economic development policies affect distribution and accessibility of jobs, education, housing, and public services. Same as PBAF:6297.

**URP:6305 Readings** arr.**URP:6315 Independent Study in Planning** 1-6 s.h.

Research and analysis of a special planning problem; opportunity to apply knowledge in area of specialization.

**URP:6320 Introduction to Graphic Communications** 2 s.h.

Visual communication techniques through use of print and digital media; how to graphically convey concepts and information to a variety of audiences; basic design principles to build a foundation in graphic communication; relationships between various software packages; advantages and shortcomings of various digital tools; development of professional graphic media that is beautiful and effective.

**URP:6325 Thesis: Urban and Regional Planning** arr.**URP:6330 Developing Graphic Content** 1 s.h.

Skills necessary to develop graphic content utilized by professionals in the field of urban and regional planning; students learn to use programs such as SketchUp, LayOut, Google Earth, and Lumion; produce maps, diagrams, experiential perspectives, renderings, and other visuals; and convey a variety of ideas pertaining to the urban environment.

**URP:6335 Internship** 2 s.h.

Work in a planning or related agency or nonprofit organization.

**URP:6340 Public Policy Analysis** 3 s.h.

Rationales and goals of public policy; major steps, key methods, and tools in policy analysis; professional delivery of policy recommendations. Same as PBAF:6340.

**URP:6400 Sustainable Development: The Kerala Experience** 3 s.h.

Exploration of student interests in social entrepreneurship, global health, microfinance, cultural production, environmental sustainability, or other development issues in India; varied disciplinary perspectives (i.e., public health, business, social work, geography, art); student work with Indian NGOs employing a diverse variety of techniques to address social problems such as child labor, health care for the poor, illiteracy, and disability services. Winter session. Same as PBAF:6400.

**Public Affairs Courses****PBAF:1030 Climate Leadership and Justice** 3 s.h.

Preparation for engaged students to lead on climate change in their communities; understanding climate change causes and impacts, consideration of intergenerational justice and equity in climate adaptation and mitigation; application of best practices in climate policies and planning; supporting community and business resilience and capacity building. Same as URP:1030.

**PBAF:2020 Environment and Society: Sustainability, Policy, and Politics** 3 s.h.

How society balances its needs against those of the natural environment when addressing modern challenges like climate change, conservation, and energy crises; exploration of sustainability through the lens of U.S. environmental policy and politics; application of fundamental theories of public policy to answer questions—when do environmental problems become policy problems; what economic, social, and political forces shape environmental policy decisions; and what are the consequences of environmental policies for individuals and organizations? GE: Sustainability. GE: Social Sciences. Same as URP:2020.

**PBAF:2056 The Splendor of Cities** 3 s.h.

Exploration and journey through space and time of global cities—London in the 1600s, Paris in the 1800s, and New Delhi in the 20th century—by use of videos and documentaries; how cities form and grow in response to social, political, cultural, and economic forces. Same as URP:2056.

**PBAF:3117 Bureaucratic Politics and Public Administration** 3 s.h.

Examination of bureaucracy from political, theoretical, and practical perspectives; what we mean by "bureaucracy" and how it developed over time; political control of bureaucracy; how bureaucracy performs its tasks, including behavior of bureaucrats; role of nonprofit service delivery in modern bureaucracy; how bureaucracy affects American policy and politics. Same as POLI:3117.

**PBAF:3217 Negotiation and Conflict Resolution** 3 s.h.

Strategies of successful negotiation across a wide range of conflict situations; keys to success in peacefully resolving conflicts; personal, professional, legal, and political negotiations; apologizing; mediation as alternative to litigation; analysis of conflict characteristics to determine optimal negotiation strategies; development of negotiation interpersonal skills; practice negotiating under real world scenarios. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as RHET:3009, URP:3217.

**PBAF:3560 Public Policy and Persuasion** 3 s.h.

Students build their skill set in policy analysis, formation, and communication through a social justice lens; engagement in service learning projects in one Iowa community, where work done directly impacts that community's ability to make changes; development of effective writing and oral presentation styles that can be adapted to different audiences; focus on homelessness policy using social policy and social justice concepts to explore work of policy makers who have "right-sized" existing systems to serve communities in crisis and propose solutions to systemic problems that disadvantage marginalized populations. Prerequisites: RHET:1030 or RHET:1040 or RHET:1060. Same as POLI:3560, RHET:3560, SJUS:3560.

- PBAF:3570 Poverty Policy** 3 s.h.  
How poverty is regulated and addressed in the United States, and by federal, state, and local governments; particular focus on programs including Temporary Assistance for Needy Families (TANF), Section 8 housing, Medicaid, and Medicare; how these systems have changed over time; current models and innovations that have emerged in practice. Same as GHS:3570, POLI:3570.
- PBAF:3580 Native American Public Policy** 3 s.h.  
Exploration of ways that Native nations govern themselves, including the relationship between these sovereign entities and the U.S. government; topics include Indian Child Welfare Act, membership and enrollment, income and taxation, crime and justice; how these systems have changed over time; current practices and innovations that have emerged within different tribes.
- PBAF:4205 Economics for Policy Analysis** 1-3 s.h.  
Principles of economics, concepts and techniques of microeconomic analysis, market failures, role of government in the economy, tax policy, income inequality, and program evaluation.
- PBAF:4233 Public Finance and Budgeting** 3 s.h.  
Local budgeting process and revenue instruments available for local governments to finance their infrastructure; local budgeting process, mechanics of property tax and other revenue sources, connection between taxation and land use, economic development, growth management, and transportation; issues regarding financing K-12 public schools.
- PBAF:4239 Organizational Dynamics and Leadership** 3 s.h.  
Examination of organizational theories and their applications including organizational structures, cultures, and behavioral characteristics as well as issues on management, ethics, and communication; role of a leader in public and nonprofit organizations involves organizing, controlling, planning, and motivating others for their excellent performance; use of articles, cases, and discussions to appreciate the effects of organization dynamics and leadership on organizational performance; students develop and hone their personal leadership philosophies.
- PBAF:4340 Public Policy Analysis** 3 s.h.  
Rationales and goals of public policy; major steps, key methods, and tools in policy analysis; professional delivery of policy recommendations.
- PBAF:5111 American Public Policy** 3 s.h.  
Introduction to study of public policy in the United States; development of analytical skills necessary to better understand and explain contemporary policy debates and public policy decision making that takes place at the local, state, and national levels in the United States; topics include a mix of theoretical approaches and substantive policy areas to better understand how policy is made, manipulated, and maintained; examination of demands and supports, institutional, and environmental variables that drive American public policy. Same as POLI:5111.
- PBAF:5117 Bureaucratic Politics and Public Administration** 3 s.h.  
Examination of bureaucracy from political, theoretical, and practical perspectives; what we mean by "bureaucracy" and how it developed over time; political control of bureaucracy; how bureaucracy performs its tasks, including behavior of bureaucrats; role of nonprofit service delivery in modern bureaucracy; how bureaucracy affects American policy and politics. Same as POLI:5117.
- PBAF:5120 Public Policy Process** 3 s.h.  
Theoretical and practical approaches to policy formation, adoption, implementation, and analysis; builds on theories of organizations, institutions, and interest group dynamics; important substantive policy areas (e.g., environmental, energy, housing, fiscal, infrastructure) that strengthen understanding of contemporary policies; application of theoretical and analytical tools to actual policy domains.
- PBAF:5200 American State Politics** 3 s.h.  
Approaches to analysis of political behavior in American state governments; emphasis on cultures, parties, actors, processes, issues. Same as POLI:5200.
- PBAF:5800 Environmental Economics and Policy** 3 s.h.  
Reasons why markets fail in environmental realm (e.g., externalities, common pool resources, club goods, public goods); ecosystem services and techniques used for their valuation; revealed and stated preferences; cost-benefit analysis and role in policy-making process; tools to address environmental market failures, particularly command and control, taxes and subsidies, and mitigation markets; focus on air pollution, climate change, and water-related policies. Same as GEOG:5800, URP:5800.
- PBAF:6200 Analytic Methods I** 1-3 s.h.  
Data science, statistics, quantitative reasoning, study design and analysis for planning and policy; applied quantitative and qualitative research, surveys, public participation; data sharing and data management for reproducibility and accessibility. Same as URP:6200.
- PBAF:6201 Analytic Methods II** 3 s.h.  
Integration of methods with the planning process; application of multiple regression, population estimation and projection, survey methods, time series analysis, industrial growth and change; presentation of results to decision makers and the public. Prerequisites: URP:6200. Same as URP:6201.
- PBAF:6205 Economics for Policy Analysis** 1,3 s.h.  
Principles of economics, concepts and techniques of microeconomic analysis, market failures, role of government in the economy, tax policy, income inequality, and program evaluation. Same as URP:6205.
- PBAF:6208 Program Seminar** 1 s.h.  
Planning, administrative, and policy processes; roles of planners, public policy analysts, and administrators; professional ethics and standards. Same as URP:6208.
- PBAF:6210 Public Affairs Capstone** 4 s.h.  
Students work on a community, state, federal, or nonprofit-based project with focus on research and development of policy proposals and management action steps. Requirements: M.P.Aff. graduate standing.
- PBAF:6225 Applied GIS for Planning and Policy Making** 1-3 s.h.  
Analysis of U.S. Census data using GIS software; data and analytical needs for urban planning and public policy making; coverage of GIS topics including spatial analysis of social science and environmental problems, site selection; graphical display of results, including online maps; development of models in GIS. Same as URP:6225.
- PBAF:6233 Public Finance and Budgeting** 3 s.h.  
Local budgeting process and revenue instruments available for local governments to finance their infrastructure; local budgeting process, mechanics of property tax and other revenue sources, connection between taxation and land use, economic development, growth management, and transportation; issues regarding financing K-12 public schools. Same as URP:6233.

**PBAF:6238 Public Human Resource Management 1 s.h.**

Fundamental human resource management principles; application to a variety of human resource issues in public and nonprofit organizations including recruitment, employee development and evaluation, compensation and benefits, diversity, performance management systems, health/safety systems, and employee relations.

**PBAF:6239 Organizational Dynamics and Leadership 3 s.h.**

Examination of organizational theories and their applications including organizational structures, cultures, and behavioral characteristics as well as issues on management, ethics, and communication; role of a leader in public and nonprofit organizations involves organizing, controlling, planning, and motivating others for their excellent performance; use of articles, cases, and discussions to appreciate the effects of organization dynamics and leadership on organizational performance; students develop and hone their personal leadership philosophies.

**PBAF:6240 Public Management 3 s.h.**

Public management in a democratic society; balancing of administrative and democratic values and interests; examination of institutional, political, organizational, and ethical context of public management and policy making; students acquire important management, leadership, and decision making skills, as well as reflect on their values and behaviors with regard to administration and public service, particularly in a diverse and changing society; service in public sector contrasted with service in private and nonprofit sectors. Same as URP:6240.

**PBAF:6241 Strategic Management of Public and Nonprofit Organizations 3 s.h.**

Application of well-known concepts of strategic planning and management to public and nonprofit organizations; topics include environmental assessment, mission identification, strategic issue identification, strategy formulation, strategic budgeting, strategic management and human relations, information technology and strategic management, performance measurement, strategic communication, strategic management and collaboration, strategic management and politics.

**PBAF:6245 Growth Management 3 s.h.**

Causes and consequences of urban sprawl, shortfalls in conventional land use planning; local and state growth management policies, techniques of policy implementation, positive and negative impacts of such policies; Smart Growth; emerging challenges. Same as URP:6245.

**PBAF:6253 Designing Sustainable and Healthy Cities 1-3 s.h.**

Principles and practical elements of urban design for sustainable and healthy cities; general urban design background for policy makers and planners; impacts of urban design for environmental sustainability and for community health and well-being; physical, mental, social, and environmental health as they are affected by urban form, air and water quality, green spaces and climate change impacts. Same as URP:6253.

**PBAF:6256 Environmental Policy 3 s.h.**

Environmental policy formation and politics; comparative international perspective on the United States' experience. Same as URP:6256.

**PBAF:6257 Environmental Management 3 s.h.**

Environmental best management practices for sustainable management of natural resources; open space and habitat protection, prairie and wetland restoration, water supplies management, natural hazard mitigation, farmland protection. Same as URP:6257.

**PBAF:6258 Systems and Scenario Thinking 3 s.h.**

Quantitative and qualitative methods for complex dynamic systems; participatory modeling; systems thinking, integrated assessment, and scenario planning; decision making, policy development, and evaluation; nonlinear dynamics of cities, materials, energy, and human-environment relationships; numerical modeling; historical and contemporary roles of human activities in the Earth system. Same as URP:6258.

**PBAF:6260 Transportation Policy and Planning 3 s.h.**

Institutional setting for transportation planning, evolution of domestic transportation policy, international influences, transportation modes and markets, current sources of transportation planning information, emerging policy issues. Same as URP:6260.

**PBAF:6265 Planning Sustainable Transportation 3 s.h.**

Theories and methods of exerting public control over passenger and freight transportation; social and environmental regulation; effects of changing finance, regulation, and pricing policies, including privatization, tolls, impact fees. Same as GEOG:6264, URP:6265.

**PBAF:6266 Transportation and Land Use Planning 3 s.h.**

Policies and interactions between transportation and land use; location theories and practices; transportation infrastructure, land use, travel behavior modeling; current policies that influence travel behavior and urban form. Same as URP:6266.

**PBAF:6271 Housing Policy 3 s.h.**

Recent housing policy initiatives at federal, state, and local levels. Same as URP:6271.

**PBAF:6273 Community Development Through Creative Placemaking 3 s.h.**

Examination of practices, ideas, and techniques for community development in small to large communities; particular focus on creative placemaking, in which planners and the public strategically shape the physical and social character of a neighborhood, town, city, or region around arts and cultural activities; students and faculty apply this approach to a specific community project; for students in the arts, humanities, social sciences, and planning and public affairs. Same as URP:6273.

**PBAF:6278 Nonprofit Organizational Effectiveness I 3 s.h.**

Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as HMP:6360, MGMT:9150, RELS:6070, SPST:6010, SSW:6247, URP:6278.

**PBAF:6279 Nonprofit Organizational Effectiveness II 3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for HMP:6365—HMP:6360 or MGMT:9150. Same as HMP:6365, MGMT:9160, RELS:6075, SPST:6020, SSW:6248, URP:6279.

**PBAF:6280 Planning for Disaster Mitigation and Recovery** **2-3 s.h.**

Types of disasters that communities face; what role planners play, what role should they play; importance of hazard mitigation and planning for post-disaster recovery; where planners' unique skills play the most significant roles in aiding a community to redesign a safer future. Same as URP:6280.

**PBAF:6282 Grant Writing** **1-2 s.h.**

Same as SSW:6282, URP:6282.

**PBAF:6295 Economic Development Policy** **3 s.h.**

Business and industrial locations, theories of regional growth and development, tools for regional economic analysis, economic impacts of COVID-19, development strategies in increasingly knowledge-driven and globalizing regional economies, economic development finance and policy, and economic development planning process. Same as URP:6295.

**PBAF:6297 Financing Economic Development for Poverty Alleviation** **3 s.h.**

How public policies in general, and planning practices in particular, have an impact on an individual's likelihood of becoming poor, remaining poor, and getting out of poverty; how land use, housing, transportation, and economic development policies affect distribution and accessibility of jobs, education, housing, and public services. Same as URP:6297.

**PBAF:6335 Internship** **3 s.h.**

Internship; 240 hours of public affairs work with a public or nonprofit organization.

**PBAF:6340 Public Policy Analysis** **3 s.h.**

Rationales and goals of public policy; major steps, key methods, and tools in policy analysis; professional delivery of policy recommendations. Same as URP:6340.

**PBAF:6400 Sustainable Development: The Kerala Experience** **3 s.h.**

Exploration of student interests in social entrepreneurship, global health, microfinance, cultural production, environmental sustainability, or other development issues in India; varied disciplinary perspectives (i.e., public health, business, social work, geography, art); student work with Indian NGOs employing a diverse variety of techniques to address social problems such as child labor, health care for the poor, illiteracy, and disability services. Winter session. Same as URP:6400.

# Master of Public Affairs, M.P.Aff.

One of the enduring grand challenges is how we collectively, creatively, and democratically respond to key challenges facing our communities, nation, and the world. Among these challenges are environmental change, including an increased incidence and intensity of disasters such as flooding, sea level rise, and wildfires attributable to climate change; health care; an aging population; addiction; inadequate infrastructure; inequality; unaffordable housing; racism; transportation; immigration; economic development; and public safety.

In response, the Master of Public Affairs program trains future leaders to systematically and creatively address these and other challenges in the coming years. With its interdisciplinary public affairs infrastructure—representing colleges, departments, and centers across campus—the University of Iowa is a leader in public affairs locally and nationally. The program educates public affairs leaders who will creatively and knowledgeably address society's most critical issues and contribute to addressing the grand challenges of the 21st century.

## Learning Outcomes

### Ability to Lead and Manage in Public Governance

- Understand public administration and management theories and practices.
- Apply public administration and management theories and practices to achieve the goals of public and nonprofit organizations.
- Understand budgeting, financing, and human resource management in public and nonprofit organizations.
- Develop leadership and team-building skills.

### Ability to Participate in, and Contribute to, the Public Policy Process

- Understand the policymaking process in the institutional and market context.
- Identify key stakeholders in the policy process and understand their interactions with the public policy process.
- Conduct policy analysis and make policy recommendations.

### Ability to Analyze, Synthesize, Think Critically, Solve Problems, and Make Evidence-Informed Decisions in a Complex and Dynamic Environment

- Properly frame policy problems, policy goals, and policy alternatives.
- Collect, analyze and report data, and apply economic, statistical and spatial analysis methods in data analysis.
- Synthesize quantitative and qualitative evidence to inform policymaking.

### Ability to Articulate and Apply a Public Service Perspective

- Recognize competing values in public interest and engage the general public in decision making.
- Understand the importance of accountability in public administration.
- Apply professional codes of ethics in policy analysis, policymaking, and administering policy.

### Ability to Communicate and Interact Productively with a Diverse and Changing Workforce and Society at Large

- Understand the changing demographics and values of society and the implications of these changes for public service and public policymaking.
- Value and identify ways to engage and represent the public in the public sector.
- Develop oral, writing, and media skills for effective communication with diverse stakeholders.

### Ability to Pursue Sustainable Outcomes Through Public Policy, Public Administration, and Public Management (Program-Specific Competency)

- Understand complex interactions between public, private, and nonprofit organizations and the role of these organizations within human and natural systems.
- Articulate and apply a sustainability perspective (the implementation of policies, processes, and practices that meet the needs of the present without compromising the ability of future generations to meet their own needs) to public administration, management, and policy.
- Analyze real-world problems through multidisciplinary perspectives and work collaboratively to solve problems.

## Requirements

The graduate Master of Public Affairs (M.P.Aff.) requires a minimum of 42 s.h. of credit. Students must earn a grade of B-minus or higher in all core and concentration area courses and must maintain an overall program g.p.a. of at least 3.00.

The required curriculum includes eight core courses, an internship, electives (including those taken within a concentration area), a one-semester capstone project, and an internship. Courses are offered by the School of Planning and Public Affairs (Graduate College), the Departments of Management and Entrepreneurship (Tippie College of Business), Civil and Environmental Engineering (College of Engineering), Educational Policy and Leadership Studies (College of Education), Geographical and Sustainability Sciences, Political Science, Sociology and Criminology, the M.A. in strategic communication program in the School of Journalism and Mass Communication (College of Liberal Arts and Sciences), the College of Public Health, and the Larned A. Waterman Iowa Nonprofit Resource Center (College of Law).

The Master of Public Affairs requires the following work.

## Core Courses

Code	Title	Hours
All of these:		
PBAF:5117	Bureaucratic Politics and Public Administration	3
PBAF:6200	Analytic Methods I	3
PBAF:6205	Economics for Policy Analysis	3
PBAF:6208	Program Seminar	1
PBAF:6225	Applied GIS for Planning and Policy Making	1
PBAF:6233	Public Finance and Budgeting	3
PBAF:6240	Public Management	3
One of these:		
PBAF:5120	Public Policy Process	3
PBAF:6340	Public Policy Analysis	3

## Concentration Area

Students complete a total of 15 s.h. in consultation with their advisor, with at least 9 s.h. in coursework taken in the public and nonprofit management or public policy concentration area, and 6 s.h. in coursework from any of the two concentration areas or other courses as deemed appropriate. Students further develop in their concentration area by applying the concepts and skills gained in core coursework.

Students in the public policy concentration complete one of the required courses as well as an additional 6 s.h. within the public policy concentration.

## Public and Nonprofit Management Concentration

### Nonprofit Management

Code	Title	Hours
LAW:8753	Nonprofit Organizations: Structure, Governance, and Strategy	3
LAW:8755	Nonprofit Organizations: Advocacy, Collaboration, and Fundraising	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3
MGMT:3600	Nonprofit Organizational Effectiveness II	3
MGMT:4600	Nonprofit Ethics and Governance	3

### Public Management

Code	Title	Hours
PBAF:6238	Public Human Resource Management	1
PBAF:6239	Organizational Dynamics and Leadership	3
PBAF:6241	Strategic Management of Public and Nonprofit Organizations	3
URP:6282	Grant Writing	2

## Strategic Communication

Code	Title	Hours
PBAF:3560	Public Policy and Persuasion	3
JMC:5200	Topics in Strategic Communication	3
JMC:5240	Digital Strategic Communication	3
JMC:5270	Leadership Communication	3
JMC:5300	Foundations of Strategic Communication	3

## Public Policy Concentration

### Required Courses

Code	Title	Hours
One of these:		
PBAF:6201	Analytic Methods II	3
PBAF:6340	Public Policy Analysis	3

## Criminal Justice

Code	Title	Hours
CRIM:3416	Race, Crime, and Justice	3
CRIM:3417	Community Corrections	3
CRIM:3600	Crime and Public Policy	3
CRIM:3425	Women, Crime, and Justice	3

## Economic Development Policy

Code	Title	Hours
URP:6295	Economic Development Policy	3
URP:6297	Financing Economic Development for Poverty Alleviation	3

## Educational Policy

Code	Title	Hours
EPLS:6222	Introduction to Educational Policy	3
EPLS:6225	Higher Education Policy	3
EPLS:6228	K-12 Education Finance and Policy	3

## Environmental Policy

Code	Title	Hours
URP:5800	Environmental Economics and Policy	3
URP:6256	Environmental Policy	3
URP:6257	Environmental Management	3
URP:6258	Systems and Scenario Thinking	3
CEE:3790	Resilient Infrastructure and Emergency Response	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
LAW:8433	Environmental Law	3
LAW:8622	International Environmental Law	3
POLI:3518	Water Wars: Conflict and Cooperation	3



## Health Policy

Code	Title	Hours
URP:6253	Designing Sustainable and Healthy Cities	1-3
HMP:5610	Health Policy	3
HMP:5650	Health Policy Analysis	3
HMP:6710	Federalism and Health Policy	3

## Housing and Community Development Policy

Code	Title	Hours
URP:6271	Housing Policy	3
URP:6273	Community Development Through Creative Placemaking	3

## Methods

Code	Title	Hours
PBAF:6201	Analytic Methods II	3
PBAF:6340	Public Policy Analysis	3

## Politics of Public Policy Making

Code	Title	Hours
PBAF:5120	Public Policy Process	3
PBAF:5200	American State Politics	3
JMC:5248	Strategic Political Communication	3
POLI:3102	The U.S. Congress	3
POLI:3104	Immigration Politics	3
POLI:3118	Interest Groups	3
POLI:3123	State Politics in Iowa	3
POLI:3203	Campaigns, Elections, and Voting Behavior	3
POLI:3204	Public Opinion	3
POLI:3519	Politics of Aging	3

## Sustainable Development

Code	Title	Hours
URP:5800	Environmental Economics and Policy	3
CEE:4107	Sustainable Systems	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
GEOG:3420	Sustainable and Green Building Concepts	3
GEOG:4750	Environmental Impact Analysis	3
GEOG:4770	Environmental Justice	3

## Transportation Policy

Code	Title	Hours
URP:6260	Transportation Policy and Planning	3
URP:6265	Planning Sustainable Transportation	3
URP:6266	Transportation and Land Use Planning	3

## Capstone Course

Students take the public affairs capstone course, typically in their final semester. They work on a community, state, federal, or nonprofit project in which they focus their efforts on an analysis of a contemporary public policy problem, research, development of policy proposals, and recommended action steps. This is done in tandem with the University's Iowa Initiative for Sustainable Communities (IISC), that for ten years has been providing public consultation to communities in Iowa.

Code	Title	Hours
This course:		
PBAF:6210	Public Affairs Capstone	4

## Internship Course

Students are required to complete an approved internship with a public agency or a nonprofit organization. They engage in 240 hours of internship work under the supervision of a public affairs professional.

Code	Title	Hours
This course:		
PBAF:6335	Internship	3

## Final Examination

An oral and written exam constitute the final examination. If the oral exam is passed, then the written exam does not need to be taken.

## Combined Programs

### Undergraduate Degree/M.P.Aff.

Students working on an undergraduate degree program in the Tippie College of Business or the Colleges of Education, Engineering, Liberal Arts and Sciences, and Public Health who are interested in earning the Master of Public Affairs degree may apply to a combined undergraduate degree/ M.P.Aff. graduate degree program. The Undergraduate to Graduate (U2G) program enables students to begin work on the M.P.Aff. degree as they complete their baccalaureate degree. Combined degree programs enable students to earn both degrees in less time than it would take to earn the two degrees separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information, visit Undergraduate to Graduate (U2G) on the Graduate College website.

## Admission

Admission requires an undergraduate degree and fulfillment of the minimum requirements of the Graduate College.

The priority deadline for funding consideration is January 15 for fall admission. Funding for those who submit materials after these dates is considered only as funding permits. Applications for admission are accepted until July 15; April 15 for international students. For spring admission, applications are accepted until December 1.

To apply, follow the directions on the Graduate Admissions website. Applicants can apply online and upload all supporting materials. International students without a U.S. degree or

whose first language is not English must submit official Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Duolingo English Test (DET) scores before admission and then funding decisions can be made. All students requesting funding also must complete and upload the Funding Application/Award Form.

## Financial Support

Students receive financial support from the program primarily from teaching or research assistantships and from contract or grant-funded assistantships. Assistantships typically require 13-20 hours of work per week under the direction of a faculty member and are accompanied by a tuition scholarship.

Students initiate applications for financial support, and awards are made on the basis of merit, experience, and interests. Assistantships may be renewed for a total of up to four semesters.

Fellowships are offered to new students and awarded as a flat sum of money. There is no work requirement for a fellowship.

Students applying for financial support are encouraged to submit application materials and requests for support by January 15 for fall enrollment and November 1 for spring enrollment. Students who apply after January 15 (fall or spring) are considered as remaining funds permit.

## Career Advancement

Graduates land positions in professional policy analytical and/or managerial service in the public and nonprofit sectors. The degree builds knowledge and skills in a mix of topics that includes policy, economics, statistics, research, and management and prepares students for professions that influence public policy through analysis, application, or management. They have a number of career choices available, many of which lead to executive positions in federal, state, and local governments, or in nonprofit agencies.

Example positions in the local, state, federal, nonprofit, and private sectors include:

- local—government specialist leading to a city manager, community health director, or public housing manager;
- state—program manager for a state housing authority or a policy analyst/program manager for a variety of state agencies;
- federal—presidential management fellow, or starting as a GS-9 position in the federal government in a variety of federal agencies;
- nonprofit—program director leading to a nonprofit organization director; and
- public, private, and nonprofit—public and government relations specialist, lobbyist, or elected official.

The School of Planning and Public Affairs provides career assistance efforts for both internship and post-graduation job seekers. It offers job information access and one-on-one advising support from the school's career services coordinator.

# Urban and Regional Planning, M.S.

The M.S. in urban and regional planning is a two-year degree program fully accredited by the Planning Accreditation Board. It is built on the premise that planners must be educated in methods of policy analysis and that there is a common body of knowledge, represented in the core curriculum, that provides a solid foundation for all specializations in the field.

A wide range of educational backgrounds provide good preparation for graduate study in urban and regional planning. Students with undergraduate majors such as environmental policy and planning, architecture, anthropology, public policy, geographic information science, business administration, economics, engineering, communication studies, finance, geography, education, marketing, political science, sociology, history, journalism, and English currently study in the school. With an increasingly diverse student body and a low student-faculty ratio, the School of Planning and Public Affairs is committed to creating an environment that is inclusive and welcoming of all students. Approximately 20 full-time students and some part-time students are enrolled, and about 20 percent are international students.

The common core of courses and the design of the facilities allow students to get to know each other quickly. Students interact closely with faculty members in the classroom, in informal conversation, and while working on research projects. Students and faculty also collaborate in the second year capstone courses, URP:6209 Sustainable Communities Lab I and URP:6210 Sustainable Communities Lab II, to prepare plans and reports for communities throughout Iowa. This work is supported by the University's Iowa Initiative for Sustainable Communities, which was created by the School of Planning and Public Affairs.

Graduate students working toward a master's degree in urban and regional planning may elect to pursue one of the combined degree programs offered by the school in collaboration with the Colleges of Education, Engineering, Law, and Public Health, the Department of Geographical and Sustainability Sciences, and the School of Social Work.

## Learning Outcomes

### General Planning Knowledge

The comprehension, representation, and use of ideas and information in the planning field, including appropriate perspectives from history, social science, and the design professions:

- purpose and meaning of planning—appreciation of why planning is undertaken, impact of planning;
- planning theory—appreciation of the behaviors and structures available to bring about sound planning outcomes;
- planning law—appreciation of the legal and institutional contexts within which planning occurs;
- human settlements and history of planning—understanding of growth and development of places over time and space;
- the future—understanding relationships between past, present, and future in planning domains, potential for intervention; and

- global dimensions—appreciation of interactions, flows of people and materials, cultures, differing approaches to planning.

### Planning Skills

Use and application of knowledge to perform specific tasks required in the practice of planning:

- research—tools for assembling and analyzing information from practice, scholarship, from primary/secondary sources;
- written, oral, and graphic communication—ability to prepare clear, accurate, compelling text, graphics, maps for presentations;
- quantitative and qualitative methods—data collection, analysis, modeling tools for forecasting, analysis, and projects/plans design;
- plan creation and implementation—tools for sound plan formulation, adoption, and implementation and enforcement;
- planning process methods—tools for stakeholder involvement, community engagement, and working with diverse communities; and
- leadership—tools for attention, formation, strategic decision making, team building, and organizational/community motivation.

### Values and Ethics

Values inform ethical and normative principles used to guide planning in a democratic society:

- professional ethics and responsibility—appreciation of key issues of planning ethics, public decision-making, research, and client representation (AICP Code of Ethics);
- governance and participation—appreciation of the roles of officials, stakeholders, community members in planned change;
- sustainability and environmental quality—appreciation of natural resource, how to create sustainable futures;
- growth and development—appreciation of economic, social, and cultural factors in urban and regional growth and change; and
- social justice—appreciation of equity concerns in planning.

### Requirements

The Master of Science program in urban and regional planning requires a minimum of 45 s.h. of graduate credit. The 45 s.h. required to complete the degree must include a minimum of 34 s.h. in the School of Planning and Public Affairs. Students must earn a grade of B-minus or higher in all core and concentration area courses and must maintain an overall program g.p.a. of at least 3.00.

The graduate curriculum is based on the philosophy that planners must develop the theoretical and analytic skills that will permit them to analyze social problems and evaluate public policies. Planners also must cultivate professional skills such as report writing, oral presentation, computer use, and team management in order to work effectively in various organizational and political environments.

Work for the master's degree includes core courses, an area of concentration, electives, and capstone courses. A final examination is required. A thesis is not required, although students may petition to write one. Students are encouraged to complete an approved internship or practicum.

The M.S. with a major in urban and regional planning requires the following work.

## Core Curriculum

The core curriculum helps students develop an understanding of the institutions—social, economic, political, administrative, and legal systems—that provide the context for policy analysis and that constrain public choices. It also promotes development of the ability to identify social goals and normative criteria for evaluating public policies, as well as the analytic skills to perform such investigations.

The core requires a minimum of 24 s.h., including an advanced economic methods course. The advanced economics methods course usually is taken during the first three semesters. Early core courses are drawn primarily from traditional disciplines, particularly economics and statistics, and include an introduction to land use planning and to theories and practice of planning. As students proceed through the curriculum, increasing emphasis is placed on the development of critical judgment and insight, achieved through the application of theory and methods to realistic planning problems and case studies.

The core curriculum includes the following courses; students may request a waiver of selected core courses on the basis of previous coursework.

Code	Title	Hours
All of these:		
URP:6200	Analytic Methods I	3
URP:6201	Analytic Methods II	3
URP:6202	Land Use Planning: Law and Practice	4
URP:6203	The Making of Cities: Histories and Theories of Planning	3
URP:6205	Economics for Policy Analysis	3
URP:6208	Program Seminar	1
URP:6225	Applied GIS for Planning and Policy Making (students may choose the 1 or 3 s.h. option)	1,3
URP:6258	Systems and Scenario Thinking	3

### Advanced Economic Methods

And this course:

URP:6233	Public Finance and Budgeting	3
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## Concentration Area

Beginning in the second semester, students choose a concentration area and develop it by applying the concepts and skills developed in the core. Currently, the school's faculty and course offerings support five concentration areas: transportation planning, housing and community development, economic development, land use and environmental planning, and geographic information systems.

Students complete at least 9 s.h. of courses in their concentration area and 6 s.h. in additional elective coursework. Courses offered by other University departments and programs may supplement those offered by the School of Planning and Public Affairs.

Students may combine two concentration areas. Examples of combined areas are environmental and economic development planning, and transportation and community development planning. Students also may design other concentration areas, subject to faculty approval. For example, they may specialize in health services planning with appropriate coursework in the Department of Health Management and Policy or Occupational and Environmental Health, or in human services planning with courses in the School of Social Work.

## Capstone Courses

Students complete the following two capstone courses, usually during the third and fourth semesters. Students who complete a practicum are exempt from this requirement.

Code	Title	Hours
URP:6209	Sustainable Communities Lab I	3
URP:6210	Sustainable Communities Lab II	3

## Internship

Students are encouraged to complete an internship in a planning agency or related organization. To earn 2 s.h. of credit for the internship, students must submit a brief paper summarizing and evaluating their experience. Internships usually are paid staff positions and are completed during the summer between the first and second years or during the academic year.

Code	Title	Hours
This course:		
URP:6335	Internship	2

## Practicum

An extended internship, consisting of at least five months of full-time employment in a planning-related organization, may qualify as a practicum. A practicum generally takes place during summer after the first year and into the fall semester of the second year. It carries 5 s.h. of credit and substitutes for the internship and the capstone courses.

Code	Title	Hours
This course:		
URP:6229	Practicum	1-5

## Thesis

A thesis is not required, although students may petition to write one. Students may register for up to 6 s.h. of thesis credit. In addition, they may take up to 8 s.h. of readings to develop a thesis topic and prepare a literature review.

Code	Title	Hours
This course:		
URP:6325	Thesis: Urban and Regional Planning	arr.

## Final Exam

A final exam is required for all students. An oral and written examination constitutes the final exam for students who do not write a thesis. If the oral examination is passed, then the written examination does not need to be taken.

## Combined Programs

The School of Planning and Public Affairs participates in several combined degree programs, in which students work toward an M.S. in urban and regional planning at the same time they work toward another degree. Combined degree programs enable students to earn both degrees in less time than it would take to earn the two degrees separately.

### Undergraduate Degree/M.S.

Students working on an undergraduate degree program in the Tippie College of Business or the Colleges of Education, Engineering, Liberal Arts and Sciences, and Public Health who are interested in earning the M.S. in urban and regional planning may apply to a combined undergraduate degree/M.S. graduate degree program. The Undergraduate to Graduate (U2G) program enables students to begin work on the M.S. degree as they complete their baccalaureate degree. Combined degree programs enable students to earn both degrees in less time than it would take to earn the two degrees separately.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information, visit Undergraduate to Graduate (U2G) on the Graduate College website.

### Graduate Degrees/M.S.

See "Two Master's Degrees" under Master's Degrees in the Manual of Rules and Regulations on the Graduate College website for information on earning concurrent master's degrees. The following combined degree programs are available.

- J.D./M.S.; see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.
- M.S. in civil and environmental engineering with a sustainable water development subprogram/M.S.; see the M.S. in civil and environmental engineering [p. 1611] (College of Engineering) in the Catalog.
- M.S. in occupational and environmental health/M.S.; see the M.S. in occupational and environmental health [p. 2142] (College of Public Health) in the Catalog.
- M.S.W./M.S.; see the Master of Social Work, M.S.W. [p. 1061] (College of Liberal Arts and Sciences) in the Catalog.
- M.A. in educational policy and leadership studies with a higher education and student affairs subprogram; see the M.A. in educational policy and leadership studies (College of Education) in the Catalog.

Requirements for each combined degree program can vary. The minimum requirements for the urban and regional planning part of any combined degree include completion of at least 35 s.h. in School of Planning and Public Affairs courses (prefix URP), the core and capstone courses, 9 s.h. of a concentration, and the master's degree final examination. In the case of two master's degrees, all programs require at least 60 s.h. of credit.

Students who wish to enter a combined degree program must apply to the two degree programs separately; they must be admitted to both programs before they may be admitted to the combined program. Other combined degrees may be possible. Contact the admissions coordinator at the School

of Planning and Public Affairs for more information about combined degree programs.

## Admission

Admission to the School of Planning and Public Affairs requires an undergraduate degree and fulfillment of the minimum requirements of the Graduate College. For fall admission, prospective students should submit complete materials to Graduate Admissions by January 15 if funding is requested. Funding for those who submit materials after these dates is considered only as funding permits. Applications for admission are accepted until July 15; April 15 for international students. For spring admission, the deadline is November 1 if funding is requested. Applications are accepted until December 1.

To apply, follow the directions on the Graduate Admissions website. Applicants can apply online and upload all supporting materials. International students without a U.S. degree or whose first language is not English must submit official Test of English as a Foreign Language (TOEFL), International English Language Testing System (IELTS), or Duolingo English Test (DET) scores before admission and then funding decisions can be made. All students requesting funding also must complete and upload the Funding Application/Award Form.

## Financial Support

Students in the School of Planning and Public Affairs receive financial support from the program primarily from teaching or research assistantships and from contract or grant-funded assistantships. Assistantships typically require 13-20 hours of work per week under the direction of a faculty member and are accompanied by a tuition scholarship.

Students initiate applications for financial support, and awards are made on the basis of merit, experience, and interests. Assistantships may be renewed for a total of up to four semesters.

Fellowships are offered to new students and are awarded as a flat sum of money. There is no work requirement for a fellowship.

Students applying for financial support are encouraged to submit application materials and requests for support by January 15. Students who apply after that date are considered only as remaining funds permit.

## Career Advancement

Today's planners find themselves in demand for such diverse jobs as sustainability coordinator and planner, environmental analyst/planner, land use planner, transportation planner, community development planner, zoning coordinator, water resources planner, community organizer, economic development planner, recycling coordinator, planning director, neighborhood planner, state legislative analyst, planning consultant, and nonprofit project manager or director.

Recent graduates have taken positions with city, metropolitan, and regional planning agencies; state and federal government; nonprofit organizations; and private consulting firms. They work in all geographic regions of the United States and in countries around the world.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Urban and Regional Planning, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
45 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Students must earn a grade of B- or higher in all Core and Concentration Area courses and must maintain an overall Graduate College program GPA of at least 3.00; maximum of 8 s.h. of readings credit. <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
URP:6335	Internship <sup>c</sup>	2
URP:6229	Practicum <sup>d</sup>	1-5
<b>Hours</b>		<b>3-7</b>
<b>Fall</b>		
URP:6200	Analytic Methods I	3
URP:6202	Land Use Planning: Law and Practice	4
URP:6203	The Making of Cities: Histories and Theories of Planning	3
URP:6205	Economics for Policy Analysis	3
URP:6208	Program Seminar	1
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
URP:6201	Analytic Methods II	3
URP:6225	Applied GIS for Planning and Policy Making	1, 3
URP:6233	Public Finance and Budgeting	3
Concentration Area course <sup>e</sup>		3
<b>Hours</b>		<b>10-12</b>
<b>Second Year</b>		
<b>Fall</b>		
URP:6209	Sustainable Communities Lab I <sup>f</sup>	3
URP:6258	Systems and Scenario Thinking	3
Concentration Area course <sup>e</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
URP:6210	Sustainable Communities Lab II <sup>f</sup>	3
Concentration Area course <sup>e</sup>		3
Elective course <sup>g</sup>		3
Elective course <sup>g</sup>		3
Final Exam <sup>h</sup>		
<b>Hours</b>		<b>12</b>
<b>Total Hours</b>		<b>48-54</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.
- c Students are encouraged to complete an internship in a planning agency or related organization. To earn 2 s.h. of credit for the internship, students must submit a brief paper summarizing and evaluating their experience.
- d An extended internship, consisting of at least five months of full-time employment in a planning-related organization, may qualify as a practicum. It carries 5 s.h. of credit and substitutes for the internship and the capstone courses.
- e Students must complete at least 9 s.h. in one of the following concentration areas: Transportation Planning, Housing and Community Development, Economic Development, Land Use and Environmental Planning, or Geographic Information Systems. Work with faculty advisor to determine appropriate coursework and sequence.
- f Capstone coursework; grade of B- or better required.
- g Complete at least 6 s.h. of electives. Work with faculty advisor to determine appropriate coursework and sequence.
- h If the oral examination is passed, then the written examination does not need to be taken.

# Public Digital Humanities

## Advisor

- Thomas Keegan (English)

**Graduate certificate:** public digital humanities

**Faculty:** <https://www.lib.uiowa.edu/studio/people/>

**Website:** <https://www.lib.uiowa.edu/studio/pdh-certificate/>

The Certificate in Public Digital Humanities welcomes students with no prior training in the digital humanities. The certificate program offers credentials to graduate students who plan to incorporate digital technology into their future research, teaching, or careers. Students learn interdisciplinary ways of conceiving of their own and other's digital work, while exploring digital tools that underlie many humanistic and social scientific research projects. Students also learn important skills such as how to manage an original project, collaborate with digital humanities scholars and practitioners across different departments, programs, units, and centers, participate in teams, and communicate technical information to a nonspecialist audience.

The certificate provides crucial training and education for the 21st-century humanist interested in the intersection between technology and research.

The Certificate in Public Digital Humanities is administered by the Graduate [p. 1687] College.

## Programs

### Graduate Program of Study

#### Certificate

- Certificate in Public Digital Humanities [p. 1792]

# Public Digital Humanities, Graduate Certificate

## Requirements

The graduate Certificate in Public Digital Humanities requires 12 s.h. of coursework. Students must maintain a g.p.a. of at least 3.00 in work for the certificate.

The Certificate in Public Digital Humanities requires the following coursework.

## Required Course

Code	Title	Hours
This course:		
CLAS:7290/ SLIS:7290	Digital Humanities Theory and Practice	3

## Electives

Students choose elective coursework to suit their disciplinary or technical needs. Since electives are updated every semester, students can view a full list of available elective courses as well as access an elective course petition form; visit Public Digital Humanities Certificate on the University of Iowa Libraries website.

Code	Title	Hours
6 s.h. from these:		
AFAM:6500/ AMST:6500/ ENGL:6050	Critical Readings in Cultural Studies: Stuart Hall's Legacy and Influences	3
AMST:3600/ AFAM:3600	Digitizing Blackness	3
AMST:5000	Interdisciplinary Research in American Cultures	3
ARTH:3000	Digital Approaches to the Study of Art	3
CINE:4620	Topics in Film Form, Style, and Theory (when topic is film adaptation)	3
CLSL:6014	Later Empire (when topic is digital text analysis)	arr.
COMM:6336	Seminar in Rhetorical Theory (when topic is critical approaches to digital culture)	1-4
ENGL:3182	Digital Cultures and Literacies	3
ENGL:6080	New Media Poetics	3
GEOG:3540/ IGPI:3540	Geographic Visualization	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GRAD:6510	Introduction to Programming	1
GRAD:6521	Scholarly Communication and Journal Publishing	1
GRAD:6530	Open Source Web Mapping for Beginners	1

GWSS:3050	Topics in Gender, Women's, and Sexuality Studies (when topic is race, gender, and sexuality in the digital humanities)	1,3
HIST:6002	Introduction to Graduate Studies in History: Historiography and Methods (when topic is digital related)	3
IGPI:4580/ STAT:4580	Data Visualization and Data Technologies	3
JMC:3122	Digital and Gaming Culture	3
JMC:3425	Personal Branding and Building a Niche	3-4
JMC:3640	Information and Data Visualization	3-4
JMC:6333	Seminar in Media Communication (when topic is critical media studies or digital cultures or global digital media)	3
RHET:7500	Science Communication in the Digital Age	2-3
SLIS:6100/ IGPI:6100	Database Management	3
SLIS:6140/ IGPI:6140	Digital Environments	3
SLIS:6145	Digital Preservation and Stewardship	3
SLIS:6155/ IGPI:6155	Information Visualization	3
SLIS:6350	Archives: Theory and Practice	3
SLIS:6411	Topics in Library and Information Science (when topic is designing "dataviz")	1-3
UICB:4340/ ARTS:4340	Digital Design for Artists' Books	3

## Capstone Course

Students should complete all certificate coursework before they enroll in the capstone course.

Code	Title	Hours
This course:		
GRAD:6590/ SLIS:6590	Digital Humanities Capstone	3

View Public Digital Humanities Certificate on the University of Iowa Libraries website for more information.



# Sustainable Development

## Director

- David M. Cwiertny (Chemical and Biochemical Engineering/Chemistry/Civil and Environmental Engineering)

**Graduate degree:** M.S. in sustainable development

**Website:** <https://sdg.grad.uiowa.edu/>

First introduced in the Brundtland Report of 1987, *Our Common Future*, the principle of sustainable development calls for meeting the needs of society today without compromising the ability of future generations to meet their own needs. Today, the United Nations Sustainable Development Goals (UN SDGs) provide a blueprint for sustainable development that addresses global challenges including climate change, access to clean water, healthy air, safe and reliable energy, long-term economic well-being, equity, responsibility to other species, and conflict over limited resources.

Through training centered on the UN SDGs, the sustainable development program prepares students for technical and/or policy leadership roles in the private or public sector to advance the sustainable development of communities in Iowa, across the United States, and around the world. Leveraging existing strengths at the University of Iowa in the areas of resource sustainability and engagement for sustainable communities, the sustainable development program is built on coursework, community-engaged projects, and professional development experiences that culminate in the M.S. in sustainable development.

This program of study aims to train the next generation of sustainability professionals for career placement opportunities at state and federal agencies, national laboratories, policy think tanks, nongovernmental organizations (NGOs), and in the private sector.

## Programs

### Graduate Program of Study

#### Major

- Master of Science in Sustainable Development [p. 1794]

## Courses

### Sustainability Development Goals Courses

**SDG:4000 The United Nations Sustainable Development Goals: A Blueprint for a Sustainable Future** 3 s.h.

Establishment of baseline competencies among students from diverse backgrounds; introduction to the United Nations sustainable development goals framework; foundational concepts for sustainable development (e.g., life-cycle analysis, systems thinking, data processing, visualization). Same as GEOG:4000.

**SDG:5100 Building Future Leaders in Sustainable Development** 3 s.h.

Focus on competencies needed to translate training and research into action for social good; topics include ethics, cultural competency, collaboration and team science, use-inspired design, and engagement.

**SDG:5225 Communicating Data Through Stories** 3 s.h.

How to communicate science effectively and responsively with multiple audiences from peers and professors to potential employers, policymakers, and the lay public; focus on speaking about science clearly and vividly in ways that can engage varied audiences, especially those outside the student's own field; connecting and finding common ground with an audience, defining goals, identifying main points, speaking without jargon, explaining meaning and context, using storytelling techniques and multimedia elements. Same as CEE:5225, GRAD:5225.

**SDG:6000 Sustainable Communities Lab I** 3 s.h.

Experience working on a two-semester project involving a current planning issue, usually for a client. Requirements: urban and regional planning graduate standing. Same as URP:6209.

# Sustainable Development, M.S.

This interdisciplinary program equips students with higher-order learning skills as well as more practical, applied preparation for a variety of careers in sustainable development. The program's goal is to produce trainees with not only the fundamental and theoretical understanding expected from more traditional graduate degree recipients, but also the highly marketable, professional skills of someone graduating from an applied field of study.

## Learning Outcomes

Graduates will be able to:

- analyze problems, conduct research, and make policy recommendations on topics related to the United Nations Sustainable Development Goals (UN SDGs), and anticipate the social, economic, political, technological, human health, and environmental impacts of their proposed interventions;
- communicate science effectively and responsively with diverse audiences, from technical peers to potential employers, policymakers and the public, as well as communicate across modern forms of media intended for public engagement and dissemination of advances toward sustainable development goals; and
- demonstrate qualities essential to thrive across a range of careers, including interpersonal skills (e.g., collaboration, teamwork, and cultural competence), problem-solving abilities (e.g., inquiry, critical thinking, and creativity) and professional strengths (e.g., work ethic, responsible conduct, management, and leadership).

## Requirements

The interdisciplinary Master of Science program in sustainable development requires a total of 30 s.h. of graduate credit to earn the degree without thesis. Students may choose to earn the degree with thesis. All students must maintain a cumulative g.p.a. of at least 2.75.

With the approval of their faculty advisors, students develop a study plan that satisfies the requirements of their chosen curriculum. All students must successfully complete the core courses and take two analytical and methods courses plus elective coursework that is focused around one of the United Nations Sustainable Development Goals (UN SDGs).

The thesis option requires completion of a project with a program partner (e.g., a community, nongovernmental organization (NGO), public agency, or private sector partner) and culminates in a required project portfolio.

The M.S. with a major in sustainable development requires the following coursework.

## Core Courses

Code	Title	Hours
All of these:		
SDG:4000/ GEOG:4000	The United Nations Sustainable Development Goals: A Blueprint for a Sustainable Future	3

SDG:5100	Building Future Leaders in Sustainable Development	3
CEE:5225/ GRAD:5225/ SDG:5225	Communicating Data Through Stories	3
URP:6209/ SDG:6000	Sustainable Communities Lab I	3

## Analytical and Methods Courses

Students choose two courses (at least 6 s.h.) offered by supporting programs. The courses provide students with training in analytical competencies necessary for sustainable development, including spatial analysis, statistics, informatics, data management, and decision analysis.

Code	Title	Hours
Two of these:		
CEE:5310/IGPI:5311	Informatics for Sustainable Systems	3
CEE:5460	Water Quality and Flow	3
GEOG:3050/ IGPI:3050	Geospatial Programming	3
GEOG:3500/ IGPI:3500	Introduction to Environmental Remote Sensing	3
GEOG:3520/ IGPI:3520	GIS for Environmental Studies	3
GEOG:3540/ IGPI:3540	Geographic Visualization	3
GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
GEOG:4520/ IGPI:4520	GIS for Environmental Studies: Applications	3
GEOG:4580/ IGPI:4581	Introduction to Geographic Databases	3
URP:6200/ PBAF:6200	Analytic Methods I	3
URP:6225/ PBAF:6225	Applied GIS for Planning and Policy Making	3
URP:6227	Spatial Analysis in Planning and Policy Making	3
URP:6258/ PBAF:6258	Systems and Scenario Thinking	3

## Electives

Students complete at least 12 s.h. in elective coursework structured around the 2030 Sustainable Development Goals (SDGs). Students are required to focus on one SDG and complete four courses in that specialization area to provide depth in one area.

## Affordable and Clean Energy

Code	Title	Hours
CBE:5405	Green Chemical and Energy Technologies	3
CEE:5410	Politics and Economics of the Food, Energy, Water Nexus	3
CHEM:4760	Radiochemistry: Energy, Medicine, and the Environment	3

GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
ISE:4550	Wind Power Management	3

## Clean Water and Sanitation

Code	Title	Hours
CEE:4102	Groundwater	3
CEE:4119	Hydrology	3
CEE:4150/CBE:4420	Environmental Chemistry	3
CEE:4385	International Perspectives in Water Sciences and Management	3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
CEE:5440	Foundations of Environmental Chemistry and Microbiology	3
CEE:5460	Water Quality and Flow	3
OEH:4240	Global Environmental Health	3

## Climate Action

Code	Title	Hours
CEE:4159/ CBE:4459/IGPI:4159	Air Pollution Control Technology	3
CEE:4180	Fundamentals of Atmospheric Science	3
GEOG:3331	Human Dimensions of Climate	3
GEOG:4470	Ecological Climatology	3
GEOG:5800/ PBAF:5800/ URP:5800	Environmental Economics and Policy	3

## Industry, Innovation, and Infrastructure

Code	Title	Hours
GEOG:3420	Sustainable and Green Building Concepts	3
GEOG:5300/ GHS:5300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
URP:6202	Land Use Planning: Law and Practice	4
URP:6266/ PBAF:6266	Transportation and Land Use Planning	3

## Responsible Consumption and Production

Code	Title	Hours
CEE:4158/ OEH:4920	Solid and Hazardous Wastes	3
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3
GEOG:4750/ URP:4750	Environmental Impact Analysis	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
GHS:3560	Global Garbage and Global Health	3

URP:6256/ PBAF:6256	Environmental Policy	3
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## Sustainable Cities and Communities

Code	Title	Hours
CEE:4107/CBE:4410	Sustainable Systems	3
GEOG:3350	Urban Ecology	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GEOG:4200/ SUST:4200	Sustainability as a System Science	3
GEOG:5300/ GHS:5300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3
URP:6245/ PBAF:6245	Growth Management	3

## The Biosphere (Life Below Water and Life on Land)

Code	Title	Hours
CBE:5405	Green Chemical and Energy Technologies	3
CEE:5350	Watershed Hydrology and Ecosystem Processes	3
GEOG:3310	Landscape Ecology	3
GEOG:3320/ EES:3260	Wetlands: Function, Geography, and Management	3
GEOG:3340	Ecosystem Services	3

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations and the Graduate College Admission Requirements on the Graduate College website and the sustainable development admission requirements.

Prospective students must hold a baccalaureate degree or the equivalent from an accredited institution with preparation appropriate for advanced study in the field of sustainability. Students with an undergraduate degree in natural and social sciences, technology, engineering, and/or mathematics will be well prepared to thrive in this interdisciplinary degree program. The program is intentionally designed to be inclusive for students coming from different and diverse academic backgrounds given the broad range of perspectives and expertise that are needed in moving society closer toward sustainable development goals.

Application materials must include:

- one- or two-page self-statement describing an applicant's interest in the sustainable development program, how formal and informal experiences make the applicant a good fit for the program, and how the applicant can uniquely contribute to the program; the statement should briefly discuss the career path(s) the applicant intends to pursue upon completion of the degree;
- a résumé; and
- three letters of recommendation.

Applicants whose first language is not English must submit official test scores to verify English proficiency. They can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

## Career Advancement

Graduates can obtain employment across a variety of sectors that intersect with sustainability and sustainable development, including jobs in public service at the local, state, or federal level in all areas related to the environment (e.g., watershed management coordinators, state natural resource departments, and sustainability directors for cities across the United States, analysts and scientists at governmental agencies such as the U.S. Department of Agriculture or the U.S. Environmental Protection Agency). Graduates may find employment in the private sector as consultants for industries seeking to improve the sustainability of their operations and processes (e.g., sustainable supply chain, waste management, minimization, and sustainability reporting, metric development, and management).

Graduates are better qualified for positions in the private sector including chief sustainability officer, director of sustainability, and sustainability project manager or coordinator. Opportunities also exist for careers in global development, working internationally with nongovernmental organizations (NGOs), and other organizations that strive to advance sustainable development goals worldwide, particularly in resource-constrained areas of the developing world. In addition, degree recipients are well positioned to pursue additional graduate studies toward a Ph.D., M.B.A., or J.D. degree.

# Translational Biomedicine

## Executive Associate Dean

- Patricia L. Winokur

## Education Directors

- Donna A. Santillan (Obstetrics and Gynecology), Marin L. Schweizer (Epidemiology/Internal Medicine)

**Graduate degree:** M.S. in translational biomedicine

**Website:** <https://icts.uiowa.edu/>

The Translational Biomedicine Program offers training in translational biomedicine, biostatistics, ethics, and in various elective areas while providing time to conduct mentored research under the direction of an interdisciplinary team. It is specifically tailored to clinicians in medicine, nursing, pharmacy, dentistry, and psychology, as well as to Ph.D. researchers conducting translational research in the biomedical sciences.

## Related Programs

### Certificate

The Department of Epidemiology and the Institute for Clinical and Translational Science offer the graduate certificate program in translational and clinical investigation; see the Certificate in Translational and Clinical Investigation [p. 2151] (College of Public Health) in the Catalog.

### Master of Science

The Department of Epidemiology (College of Public Health) offers an M.S. in clinical investigation [p. 2114] which may be a good alternative to the Translational Biomedicine Program.

## Programs

## Graduate Program of Study

### Major

- Master of Science in Translational Biomedicine [p. 1798]

## Facilities

Training is conducted mainly in the laboratories and teaching facilities of the Carver College of Medicine and the College of Public Health. The University's Institute for Clinical and Translational Science is available for research training. The program also is linked with the Carver College of Medicine's graduate training program in clinical research.

## Courses

## Translational Biomedicine Courses

**TBM:5000 Translational Biomedical Research** arr.  
Student research guided by mentor.

**TBM:5001 Introduction to Translational Biomedicine** 3 s.h.

Basis for clinical and translational research; introduction to principles of experimental design for patient- and population-oriented research; approaches available to clinical and translational investigators (e.g., statistics, questionnaires, ethics, imaging, information technology); infrastructure that supports clinical and translational investigators at the University of Iowa and nationally; for early-career clinicians/scientists and established investigators. Requirements: enrollment in translational biomedicine M.S. program.

**TBM:5002 Critical Thinking and Communication: Study Design and Commercialization** 1 s.h.

Various study design methodologies and process of commercialization; presentations of current projects. Requirements: candidacy for M.S. in translational biomedicine.

**TBM:5003 Critical Thinking and Communication: Scientific Writing and Presentation Strategies** 1 s.h.

Grant development and journal writing process; development of effective scientific presentations.

**TBM:5004 Critical Thinking and Communication: Career Development and the Funding Process** 1 s.h.

Introduction to a variety of career development awards and their requirements; opportunity to work on personal career development grant applications.

**TBM:5005 Critical Thinking and Communication: Leadership, Team Science, and Community Engagement** 1 s.h.

Leadership skills for managing and developing a research team; leading and organizing a team; managing and sharing resources with other faculty and fellows; finding, hiring, and keeping good people; leading productive meetings; delegation strategies, resources and tools for quality community engagement; information on applying and teaching leadership skills to mentees.

# Translational Biomedicine, M.S.

## Learning Outcomes

The goals of the M.S. program in translational biomedicine are to:

- promote interaction and collaboration among researchers across the translational research spectrum;
- enrich understanding of T1 research (laboratory), T2 research (application to evidence-based practice), T3 research (implementation and dissemination), and T4 research (population studies and policy development) for basic and clinical scientists to expand the relevance of their work in these areas; and
- develop skills in ethical decision making, scientific leadership, team building, networking, and research program management.

## Requirements

The Master of Science program in translational biomedicine (TBM) requires a minimum of 34 s.h. of graduate credit plus a final project. Students must maintain a cumulative graduate g.p.a. of at least 3.00 in all UI coursework. The plan of study for students in the two-year program is tailored to their scientific goals and interests.

The program is designed to teach members of scientific teams how to move biomedical discoveries into clinical applications and beyond. It is tailored for individuals who have completed doctoral-level training in one area of biomedicine and wish to apply their expertise to the translational research spectrum. The program admits individuals who hold medical or graduate degrees (e.g., M.D., D.O., D.D.S., D.N.P., Ph.D., Pharm.D., D.V.M., or the equivalent) and are employed by the University of Iowa at the faculty ranks of associate professor, assistant professor, instructor/associate, fellow physician, or postdoctoral scholar/fellow.

The M.S. with a major in translational biomedicine requires the following coursework.

## Core Courses

Code	Title	Hours
All of these:		
TBM:5000	Translational Biomedical Research	9
TBM:5001	Introduction to Translational Biomedicine	3
TBM:5002	Critical Thinking and Communication: Study Design and Commercialization	1
TBM:5003	Critical Thinking and Communication: Scientific Writing and Presentation Strategies	1
TBM:5004	Critical Thinking and Communication: Career Development and the Funding Process	1

TBM:5005	Critical Thinking and Communication: Leadership, Team Science, and Community Engagement	1
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3-4
or EPID:5241	Statistical Methods in Epidemiology	
EPID:4400	Epidemiology I: Principles	3
EPID:6950	Clinical Research Ethics	2
<b>Total Hours</b>		<b>27-28</b>

## Electives

Students must earn a minimum of 6 s.h. in graduate-level elective coursework pertinent to their educational goals. Electives may be selected from the lists below, or students may obtain approval for other courses with program administration approval.

### Biostatistics

Code	Title	Hours
BIOS:5130	Applied Categorical Data Analysis	3
BIOS:5310	Research Data Management	3
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
BIOS:7600	Advanced Biostatistics Seminar	0-3

### Device Development

Code	Title	Hours
BME:5101	Biomaterials and Implant Design	3
BME:5530	Design of Circulatory Implants and Artificial Organs	3
BME:5640	Ergonomics of Occupational Injuries	3

### Drug Discovery

Code	Title	Hours
PCOL:4130	Drug Mechanisms and Actions	3
PCOL:5135	Principles of Pharmacology	1
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1
PCOL:6203	Pharmacology for Graduate Students	6
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences	1
PHAR:5512	Drug Discovery and Mechanisms	3

### Epidemiology

Code	Title	Hours
EPID:5214	Meta-Analysis of Epidemiologic Studies	3
EPID:5241	Statistical Methods in Epidemiology	4

EPID:5500	Introduction to Clinical Epidemiology	3
EPID:5560	Introduction to Molecular Epidemiology	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6900	Design of Intervention and Clinical Trials	3

## Genetics

Code	Title	Hours
ACB:6200	Special Topics in Genetics	1
BIOL:3373	Human Population Genetics and Variation	3
BIOL:3713	Molecular Genetics	4
BIOL:5412	Fundamental Genetics - Graduate Lecture	3
GENE:6150	Genetic Analysis of Biological Systems	3
GENE:7191	Human Molecular Genetics	3
MMED:6250	Mechanisms of Parasitism Journal Club	1
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1

## Informatics

Code	Title	Hours
BIOL:4213	Bioinformatics	2,4
BIOL:4386	Introduction to Scientific Computing for Biologists	3
CS:5110	Introduction to Informatics	3
IGPI:3314	Genomics	3

## Innovation

Code	Title	Hours
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:9400	Evaluating Innovation Opportunities	2-3
LAW:9717	Iowa Medical Innovation Group Seminar	arr.
MED:8073	Biomedical Innovation	1
NURS:6553	Seminar on Innovations	4

## Neuroscience

Code	Title	Hours
BIOL:2753	Introduction to Neurobiology	3
NSCI:5212	Foundations in Behavioral and Cognitive Neuroscience	4
NSCI:5653	Fundamental Neurobiology I	3
PSY:6370	Principles of Neuropsychology	3

## Final Project

In addition to completion of the 34 s.h. in required coursework, scholars must submit a final project. The project may be in one of the following formats.

- A complete grant application for a K01, K08, K23, R01, R03, R21, a U.S. Department of Veterans Affairs career development award, or the equivalent. The R03 completed as part of the required grant writing course may not be submitted as the final project.
- An original research manuscript that is of acceptable quality for a peer-reviewed biomedical journal (the paper can be ready for submission, under review, or already published). The manuscript must contain the following components: a structured abstract; an introductory section that adequately frames the research question addressed; and a methodology section that sufficiently describes the following elements (study design, study sample, data collection strategies and sources, data elements, and data analysis), results of the study, and a discussion including a description of the relationship of the current findings to prior relevant research and/or policy implications of the findings and methodological limitations.

## Admission

The Translational Biomedicine Program welcomes applicants who have diverse educational and scientific backgrounds and varied research interests. Applicants must have a strong interest and background in a health science profession and knowledge of basic sciences and medicine.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Translational biomedicine applicants must:

- have a doctoral-level degree in a biomedical discipline (e.g., M.D., D.O., D.D.S., D.N.P., Ph.D., Pharm.D., D.V.M., or the equivalent);
- be employed by the University of Iowa as an associate professor, assistant professor, instructor/associate, a fellow physician, or a postdoctoral scholar/fellow;
- be engaged in scientific research with a University of Iowa mentor who has funding from a peer-reviewed source (e.g. National Institutes of Health, National Science Foundation, and so forth);
- hold a bachelor's degree from a regionally accredited American college or university or an equivalent degree from an international institution, as determined by the University of Iowa Office of Admissions; and
- have a g.p.a. of at least 3.00 or the international equivalent, as determined by the University of Iowa Office of Admissions.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL), a score of at least 7.0 with no subscore lower than 6.0 on the International English Language Testing System (IELTS), or a score of at least 105 on the Duolingo English Test (DET).

Applicants must submit a curriculum vitae, a statement of research interest and career goals, and three letters of recommendation. One letter must be from the applicant's UI research mentor; the program recommends that the second be a letter of support from the applicant's department chair.

Students and their mentors must guarantee sufficient time for coursework and research. The program does not require a specific percent effort, but successful candidates would likely devote 50-75 percent of their time to a combination of coursework and research.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Translational Biomedicine, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
34 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
In addition to completion of the required coursework, students must submit a final project. <sup>b</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
TBM:5000	Translational Biomedical Research	3
TBM:5001	Introduction to Translational Biomedicine	3
TBM:5002	Critical Thinking and Communication: Study Design and Commercialization	1
EPID:4400	Epidemiology I: Principles	3
<b>Hours</b>		<b>10</b>
<b>Spring</b>		
TBM:5000	Translational Biomedical Research	3
TBM:5003	Critical Thinking and Communication: Scientific Writing and Presentation Strategies	1
BIOS:4120	Introduction to Biostatistics	3
EPID:6950	Clinical Research Ethics	2
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
TBM:5004	Critical Thinking and Communication: Career Development and the Funding Process	1
BIOS:5120 or EPID:5241	Regression Modeling and ANOVA in the Health Sciences or Statistical Methods in Epidemiology	3 - 4
Elective course <sup>c</sup>		3 - 4
<b>Hours</b>		<b>7-9</b>
<b>Spring</b>		
TBM:5000	Translational Biomedical Research	3
TBM:5005	Critical Thinking and Communication: Leadership, Team Science, and Community Engagement	1
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>7</b>
<b>Total Hours</b>		<b>33-35</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Complete one of the following formats: a complete grant application (K01, K08, K23, R01, R03, R21, or VA career award) or an original research manuscript (>2500 words) of published or in-publishable quality for a peer-reviewed journal. Additional requirements apply.

c Elective coursework pertinent to educational goals and background may be selected from specific lists in Biostatistics, Device Development, Drug Discovery, Epidemiology, Genetics, Informatics, Innovation, and Neuroscience. Program administration approval required for other courses.



# Transportation Planning

## Director, School of Planning and Public Affairs

- Lucie Laurian

## Coordinator, Transportation Planning

- Steven Spears (Planning and Public Affairs)

**Graduate certificate:** transportation planning

**Faculty:** <https://sppa.uiowa.edu/faculty-staff>

**Website:** <https://sppa.uiowa.edu/>

Transportation is vital to modern society. The United States, like other nations, faces many critical transportation problems and issues. The highway system is reaching an advanced stage of its life cycle, transportation finance is unsustainable, public transit operating deficits are growing, the quality of transportation available to many citizens is unacceptably low, serious inequities exist between transportation modes, and extensive changes are called for in traditional transportation institutions. New approaches to financing the nation's road system are badly needed.

Transportation engineers and planners draw on a number of skills to respond to the challenges they face. They must analyze and forecast the movement of people and goods within and between cities; identify effective and efficient means for providing desired transportation services; price these services properly; and evaluate the impact that transportation changes have on land use, environmental quality, economic activity, the local or regional economy, and various subgroups within society.

The graduate Certificate in Transportation Planning is designed for:

- practitioners in planning, engineering, and other fields who want to increase their transportation planning expertise; and
- graduate students at the University of Iowa or other institutions with an interest in the field.

The Certificate in Transportation Planning is coordinated by the School of Planning and Public Affairs [p. 1775].

## Programs

## Graduate Program of Study Certificate

- Certificate in Transportation Planning [p. 1802]

# Transportation Planning, Graduate Certificate

## Requirements

The graduate Certificate in Transportation Planning requires 12 s.h. of credit. Students must earn a cumulative g.p.a. of at least 3.00 in certificate coursework.

In order to cover the variety of topics needed for professionals in transportation planning, the certificate curriculum includes transportation planning history, policy, analytic methods, and the relationship between travel, city form, and urban design. For the capstone course, students undertake a real-world transportation project in collaboration with a community partner through the Iowa Initiative for Sustainable Communities.

The first course in the certificate program introduces students to fundamentals of urban planning history, theory, and the symbiotic relationship between transportation systems, urban form, and sustainability. Elective courses deepen knowledge through specialization in areas of policy, travel behavior analysis, and traffic safety. Students complete the capstone project as their last course to earn the certificate.

The certificate may be completed in one calendar year or completed over a two-year span if students complete one transportation course per semester. This option accommodates part-time students and those currently enrolled in a two-year master's degree program at the University of Iowa.

Courses are taught primarily in hybrid or online formats. Some elective courses are offered on campus only; however, the certificate may be completed entirely online by selecting courses available in that format. Courses are taught by faculty members in the School of Planning and Public Affairs and the College of Public Health.

The Certificate in Transportation Planning requires the following work.

## Required Coursework

Code	Title	Hours
This course (completed first):		
URP:6266	Transportation and Land Use Planning	3
Two of these:		
URP:4262	Transportation Research Methods and Analysis	3
URP:6233	Public Finance and Budgeting	3
URP:6260	Transportation Policy and Planning	3
CPH:4220	Global Road Safety	3
And this course:		
URP:6270	Transportation Planning Studio (consult advisor)	3

Master of Science in urban and regional planning students may apply to the certificate program through the Graduate College. See Planning and Public Affairs [p. 1775] in the Catalog for information about graduate study and degree requirements in the school.

# College of Law

## Dean

- Kevin K. Washburn

## Associate Deans

- Carin N. Crain, Thomas P. Gallanis, Emily A. Hughes, Robert T. Miller, Adrien K. Wing

## Assistant Deans

- Collins B. Byrd, Jill De Young, Gordon S. Tribbey

## Director, Law Library

- Carissa J. Vogel

**Undergraduate certificate:** human rights

**Professional degrees:** J.D.; LL.M.; M.S.L.; S.J.D.

**Faculty:** <https://law.uiowa.edu/faculty-and-scholarship/meet-our-faculty>

**Website:** <https://law.uiowa.edu>

The University of Iowa College of Law is the oldest law school west of the Mississippi River. Founded in 1865 as the Iowa Law School, the college is a charter member of the American Association of Law Schools and an American Bar Association-approved law school.

The College of Law is part of Iowa City's unique cultural community. Students, faculty, and staff work together in a friendly, relaxed, and productive environment that puts students' needs first.

A longstanding commitment to inclusion and diversity is a source of pride for the College of Law, which was one of the first schools in the nation to grant a law degree to a woman (1873) and to an African American (1879). Diversity is central to the college's educational philosophy and to its core mission of preparing culturally proficient graduates who are capable of intellectual inquiry, critical and reflective thinking, and engagement.

Iowa's challenging law school curriculum carefully balances substantive courses, perspective offerings, examination of ethical values and professionalism, and experiential programs, including a highly active in-house legal clinic. The college's low student-faculty ratio and the faculty's open-door policy ensure that students have opportunities for interaction and collaboration with their law professors.

The college's writing program—one of the strongest among law schools nationwide—is integral to all students' academic experience. During both semesters of their first year, students take a small-section course in legal analysis, writing, and research. During the second and third years, they complete four additional writing units. Among opportunities for completing the writing requirement is work on one of the law school's four student-run scholarly journals: *Iowa Law Review*; *Journal of Corporation Law*; *Journal of Gender, Race & Justice*; and *Transnational Law & Contemporary Problems*.

## Programs

### Undergraduate Program of Study

- Certificate in Human Rights (under University of Iowa Center for Human Rights [p. 1827])

## Professional Programs of Study

- Juris Doctor [p. 1821]
- Master of Laws [p. 1824]
- Master of Studies in Law [p. 1825]
- Doctor of Juridical Science [p. 1826]

## Facilities

### Facilities and Resources

#### Boyd Law Building

The Willard L. Boyd Law Building exemplifies Iowa's continuing commitment to legal education and the legal profession. The building's large, circular structure reflects the special character of the Iowa law school and allows the college to operate in a physical environment in which every square foot of space is designed to promote the college's academic and professional programs.

Among the building's facilities are classrooms, the Levitt Auditorium, the Law Library, faculty and administrative offices, offices for the college's cocurricular programs, meeting rooms, and a bookstore. The first floor features the Lauridsen Family Law Commons, a renovation project completed in 2016. This space provides ample areas for studying, including two conference rooms, two seminar rooms, and the Court Café. The third floor of the Boyd Law Building is where the college's clinical law programs are located. This suite functions as a teaching law firm, offering ease of access, usability, and visibility.

#### Law Library

The centerpiece of the Boyd Law Building is the University of Iowa Law Library. The Law Library has one of the most comprehensive collections of legal materials in the country, containing more than 1.4 million separately cataloged titles. A particular strength of the library is its collection of U.S. legal materials. The Law Library also holds an exceptionally strong collection of materials in foreign, comparative, and international law, including a print collection comprising more than 280,000 volumes and over 1,500 serials and subscriptions.

### Research Centers and Programs

Participation in research centers and outreach programs is an important part of the College of Law's service to professional and civic communities.

#### Iowa Innovation, Business & Law Center

The Iowa Innovation, Business & Law Center is an interdisciplinary teaching and research venture that brings together faculty members who teach and study problems of business, technology, innovation, regulation, and legal policy from diverse perspectives. The center's purpose is twofold: first, it offers an innovative curriculum and outstanding legal training in areas pertaining to government regulation of entrepreneurship, innovation, and management of resources; second, it encourages creative individual and collaborative interdisciplinary research in these areas.

#### Labor Center

The University of Iowa Labor Center provides educational programs and research support to Iowa's working people and

their organizations. Since 1951, the Labor Center has acted as a bridge between the University and Iowa's labor community.

## Larned A. Waterman Iowa Nonprofit Resource Center

The Larned A. Waterman Iowa Nonprofit Resource Center offers information and assistance from across the University of Iowa to help Iowa's charitable nonprofit organizations become more effective in building their communities.

## Law, Health Policy & Disability Center

The Law, Health Policy & Disability Center is a leader in law, technology, education, and research focused on improving the quality of life for persons living with disabilities. Based at the University of Iowa College of Law, the center concentrates on public policy and its impact on persons with disabilities, emphasizing employment, self-determination, and self-sufficiency.

## National Health Law and Policy Resource Center

The National Health Law and Policy Resource Center, founded in 1981, promotes laws and public policies that foster and facilitate accessible, affordable, and quality health services and related services for all Americans, particularly members of vulnerable and disadvantaged populations. The center provides a nonpartisan forum for informed dialogue between academics, practitioners, and public policy makers based on the best available data and information about important health law and policy issues.

## University of Iowa Center for Human Rights

The University of Iowa Center for Human Rights was founded in 1999 as an outgrowth of the University's year-long commemoration celebrating the 50th anniversary of the Universal Declaration of Human Rights. Based in the College of Law, the center engages in human rights teaching, scholarship, and public engagement.

## Courses

- Law Courses [p. 1804]
- Law Study Abroad Courses [p. 1820]

The following courses are those offered by the College of Law during the past four academic years and those scheduled to be offered during the coming academic year. See Courses and Curriculum on the College of Law website for a list of College of Law courses defined by Interpretation 509-1 of the American Bar Association Standards for the Approval of Law Schools.

## Law Courses

### LAW:4800 Undergraduate Clinical Law Internship Program

arr.

Students learn about law school experience and legal careers through intensive training in a range of lawyering skills and collaboration with teams of law students on actual client matters; students enrolled in the Center for Environmental Law and Policy work with law students representing a nonprofit or other entity using nonlitigation means to advance social or economic justice; students enrolled in the Federal Criminal Defense Clinic work as investigators with law students representing indigent criminal defendants in the Northern District of Iowa; involves weekly seminars and team supervision, biweekly undergraduate supervision meetings.

### LAW:8006 Civil Procedure

4 s.h.

Procedure before trial; commencement of a suit; subject matter jurisdiction; jurisdiction over the person and venue; pleadings, motion practice, including summary judgment, simple joinder of parties and claims in determining scope and size of the lawsuit; pretrial discovery procedures, the trial, claim and issue preclusion.

### LAW:8010 Constitutional Law I

3 s.h.

Constitutional allocation of governmental powers; doctrine of judicial review and nature of judicial function in constitutional cases; relationships among several branches of national government; the federal system, including powers delegated to national government, powers reserved to states, and intergovernmental immunities; role of judicial process in structuring limits within which society operates; institutional development of legal system, relationship among institutions within the system.

### LAW:8017 Contracts

4 s.h.

Law that governs the otherwise unregulated sector of the economy and concerns the making and enforcement of promises, usually as part of a bargain; basics-formation of agreements, consideration, invalidating causes, parol evidence and interpretation, conditions, remedies; roles of promises and promissory exchanges in a modern economy; limitations the law places on freedom of contract.

### LAW:8022 Criminal Law

3 s.h.

Basic understanding of substantive criminal law; underlying premises of and justifications for criminal law; emphasis on general doctrines that dictate the minimum elements necessary to impose criminal liability, essential requirements of culpable conduct (an *actus reus*, or guilty act), blameworthy mental state (a *mens rea* or guilty mind); rape, homicide, causation, attempt, conspiracy, accomplice liability; various defenses to criminality, such as self-defense, duress, intoxication, insanity, diminished capacity.

### LAW:8026 Introduction to Law and Legal Reasoning

1 s.h.

Basic concepts and intellectual skills necessary for understanding the first-year curriculum.

### LAW:8032 Legal Analysis Writing and Research I

2 s.h.

Structured development of effective skills in legal analysis, writing, and research; first of a two-semester sequence.

### LAW:8033 Legal Analysis Writing and Research II

3 s.h.

Structured development of effective skills in legal analysis, writing, and research; second of a two-semester sequence. Prerequisites: LAW:8032.

**LAW:8037 Property****4 s.h.**

Concept of private property as one of the legal system's basic foundations; historical development of Anglo-American property law examined in conjunction with changing currents of economic, social, and political thought; emphasis on understanding decision making by courts in the common-law tradition, and its interplay with legislative enactments intended to change the common law; fundamental notions relating to the origins of property rights; relationship of possession and ownership, with emphasis on capacity of property law to recognize a wide range of interest configurations; impetus for promoting ease and reliability in conveyance of property interests, commercially and gratuitously; function of public recording in providing stability to transfers of interest in land; role of adverse possession and prescriptive use in recognizing expectations based on long-standing property relationships; responsiveness of property law to social change as illustrated by modern reforms in landlord-tenant act.

**LAW:8046 Torts****4 s.h.**

Development of tort principles; civil responsibility for harms to tangible personal and property interests; roles of legislatures, judges, juries; intentional harms, negligence, and strict liability considered from perspectives of jurisprudence, economics, and moral philosophy.

**LAW:8105 Administrative Law****3 s.h.**

Formal and informal procedures, processes, and functions of state and federal administrative agencies; legislative, executive, and judicial control of their actions; nature and definition of administrative agencies; permissible delegation of authority to administrative agencies; scope of agency authority; agencies' right to obtain information from members of the public; citizens' right to obtain information in agencies' possession; definition and types of administrative rules; rule-making procedure; agency discretion to make law by rule or adjudication; right to a trial-type hearing before an agency; parties' specific rights in an administrative hearing, including notice, open or closed hearing, right to counsel, evidence, nature and exclusivity of the record; agency decision-making process, including role of hearing officers, separation of functions and bias of decision makers, nature of opinion required; judicial review of administrative action, including reviewability of agency action, primary jurisdiction of agencies, exhaustion of administrative remedies, standing, scope of judicial review, mechanics of judicial review.

**LAW:8112 Advanced Civil Procedure****arr.**

Complex civil litigation; advanced civil procedure topics not taught in first year; essential aspects of civil procedure (e.g., personal and subject matter jurisdiction); joinder devices (intervention, necessary parties, interpleader, consolidation), discovery and confidentiality orders, appellate jurisdiction, mechanisms to structure the trial (e.g., bifurcation of issues); class. Prerequisites: LAW:8006.

**LAW:8121 Advanced Legal Research Methods in Specialized Subjects****1 s.h.**

Legal research methods in specific legal practice and research areas; specific topic rotates each year (litigation and ADR legal research, business and tax legal research, federal legislative history legal research, legal history research); students work with real-world examples to improve research skills related to a particular legal subject.

**LAW:8123 Advanced Legal Research****2 s.h.**

Builds on LAW:8032 and LAW:8033; in-depth exploration of American legal resources; current print and electronic resources that help students develop better, more efficient search techniques and select the most effective formats for their research; opportunity to review the basic sources of legal information, use varied techniques to access legal information, develop personal strategies for managing information; advanced training in LEXIS, WESTLAW, the internet; nonlegal information sources important to the legal community.

**LAW:8125 State Legal Research****1 s.h.**

Legal resources available for a particular state; exploration of current print and electronic resources, particularly low-cost electronic resources such as FastCase and the internet are explored for purposes of developing better, more efficient search techniques; selection of the most effective formats for research; sources of legal information; techniques for accessing legal information.

**LAW:8133 American Governance: Theory and Practice****2-3 s.h.**

Tracing the evolution of our constitutional system by examining specific events in American history; particular emphasis will be given to the role of Congress and its relationship with the Executive Branch and court system. Requirements: open only to students educated outside the United States.

**LAW:8146 Antitrust Law****3 s.h.**

Laws dealing with restraints of trade, monopolization and mergers; history of these laws and their development in the courts; current doctrine and its underlying legal and economic theories; analytical tools of trade: sufficiency of economic efficiency as the measure of justice.

**LAW:8153 Applied Evidence****2 s.h.**

Opportunities to apply the rules of evidence; use of mock case problems presenting evidentiary issues that attorneys in real practice would address by filing motions in limine; students are enabled to more fully comprehend the reasoning and rationale behind the rules, and appreciate the intricacies of applying the rules to a set of facts; focus on pretrial evidentiary litigation and specific rules of evidence. Prerequisites: LAW:8460.

**LAW:8158 Arbitration Principles and Practice****2-3 s.h.**

Introduction to law of arbitration and essential skills and procedures involved in its practice; role of arbitration in modern conflict resolution in various settings in which it is used; conceptual framework and explanatory theories for analysis of issues frequently encountered in arbitration; statutory and contractual grounds for arbitration (e.g., labor relations, employment, consumer and commercial transactions); development of skills and understanding of procedure through use of problems and exercises simulating common arbitration scenarios in which students participate as lawyers, arbitrators, and parties.

**LAW:8164 Art, Law, and Ethics****3 s.h.**

How law and ethics apply to individuals and institutions concerned with visual arts.

- LAW:8186 Bankruptcy** **3-4 s.h.**  
Students study the rights of individuals and entities under the federal bankruptcy laws from the perspective of both debtors and creditors; there are three types of bankruptcy proceedings—liquidation bankruptcy for consumers and businesses (Chapter 7), consumer reorganization, known as "wage earner's plans" (Chapter 13), and business reorganization (Chapter 11); students survey foundational topics relevant to all these forms of bankruptcy—in general, equal weight given to both consumer and business bankruptcies; attention given to some of the intricacies of business reorganizations towards the end of the course.
- LAW:8189 Banking Law** **2 s.h.**  
Overview of various bank and nonbank financial institutions (including national banks and state banks) and federal regulation of these institutions; examination of goals and policies behind bank and nonbank financial institution regulations to determine whether these goals and policies are achieved by the regulations; attention given to recent developments in regulation of bank and nonbank financial institutions.
- LAW:8194 Basic Federal Income Taxation** **3-4 s.h.**  
Operation, policies, principles of federal income tax, including gross income, deductions, property dispositions, tax accounting, assignment of income among family members, time value of money, leveraging.
- LAW:8198 Building the State** **2 s.h.**  
Examination of state building and deconstruction; taxing, spending, fiscal citizenship, theories about state building; topics may include statelessness, legibility and state building, utopian tax regimes, revolutionary tax systems (French, U.S.A., Confederate States of America, potential Scottish state), voluntary taxation and non-state "tax" regimes (ISIS, organized crime).
- LAW:8216 Civil Procedure in Pre-Trial Theory and Practice** **arr.**  
The law of pleadings and other pretrial matters presented in LAW:8006; hypothetical case developed from interview to pleading to early pretrial stages; experience drafting relevant pleadings and motions. Prerequisites: LAW:8006.
- LAW:8218 Civil Rights Law** **3 s.h.**  
Civil rights law; constitutional litigation brought under Section 1983 to enforce the 4th, 8th, and 14th Amendments, specifically exploring prisoners' rights, police abuse, and substantive Due Process claims; examination of Reconstruction Era civil rights statutes (Sections 1981 and 1982) and modern federal statutes prohibiting discrimination such as Title VII and the Americans with Disabilities Act (ADA); cutting-edge civil rights issues such as affirmative action, sexual harassment, and racial identity; interpretive and strategic challenges that arise in civil rights litigation.
- LAW:8224 Client Counseling** **1-2 s.h.**  
Immersion in practice skills fundamental to any attorney-client relationship—interviewing and counseling; exploration of critical unseen factors which impact interviewing and counseling (e.g., self-awareness, cultural competence, bias, beliefs about the role of the lawyer in an attorney-client relationship); introduction and critique of three models of representation including traditional or regnant lawyering, client-centered lawyering, and rebellious or democratic lawyering.
- LAW:8230 Commercial Leasing** **3 s.h.**  
Commercial leasing is perhaps the most important part of the real estate business, and more lawyers practice in the area of commercial leasing than any other real estate area; focus on legal doctrine and foundational skills related to a commercial leasing legal practice. Prerequisites: LAW:8017 and LAW:8037.
- LAW:8237 Comparative Corporate Governance** **2 s.h.**  
Today's global economy has resulted in a proliferation of multi-national corporations, where frequently the parent corporation is governed by the law of one country, and one or more subsidiaries are governed by the laws of other countries; comparative assessment of advantages and disadvantages to incorporating in a particular country; focus on corporations considering mergers, acquisitions, or joint ventures with corporations outside of their own jurisdiction; and consideration of reasons why a corporation might form a subsidiary under the law of another jurisdiction.
- LAW:8241 Comparative Constitutional Law** **2-3 s.h.**  
Comparative focus on the United States Constitution with particular emphasis on the Constitution of France and the freedom of expression in areas such as libel law, hate speech, and more; suitably tailored writing component to help students master course material while also improving their own expressive abilities.
- LAW:8245 Comparative Equality** **arr.**  
Affirmative action or "positive discrimination" for examining/ comparing inequality and inclusion in the countries of France, Brazil, Canada, India, South Africa, and the United States; historical context in which affirmative action or positive discrimination programs have been implemented for certain groups within Brazil, Canada, India, South Africa, and the United States as arguments in favor of and against such programs in those countries; lessons learned from these countries applied to France to answer the question, "is France in need of affirmative action?"
- LAW:8263 Comparative Law** **2-3 s.h.**  
Comparative study of origins, development, and principal features of the world's main legal systems; common and civil law traditions; historical development of the main legal systems, their sources, ideologies, techniques; subjects important to international legal practice (e.g., international judicial assistance, application of foreign law in American courts; in-depth study of modern legal systems of the United States, Britain, France, Germany, Japan, Russia; introduction to other legal traditions, including preliterate tribal law, traditional Chinese and Islamic law.
- LAW:8265 English Law and Literature** **2-5 s.h.**  
Exploration of relationships between English law and English literature at historical, practical, imaginative, and theoretical levels; students read novels, short stories, plays, poems, and nonfiction works—the earliest piece written by Geoffrey Chaucer in 1387 and most recent piece written by a barrister working in London in 2018; selections intended to provide a diverse cross-section of English literary writings that engage with and are shaped by English law.
- LAW:8266 English and European Legal History** **2 s.h.**  
Introduction to English and European legal history; exploration of historical anthropology of law, and, in particular, how written law evolved from custom; development of a single European legal order (medieval England); law of marriage, sexual relations, property and women's rights in comparative perspective; continental and English law.

- LAW:8272 Conflict of Laws** 2-3 s.h.  
Examination of legal problems created when a transaction or relationship has associations with more than one state or nation; students examine questions of judicial jurisdiction (which state's or nation's courts should hear a case?), choice of law (which state's or nation's laws should determine the outcome of a case?), and enforcement of judgments (when will a state or nation enforce the judicial judgments of a different state or nation?).
- LAW:8280 Constitutional Law II** 3 s.h.  
Limits on governmental power imposed by the national constitution for protection of individuals; protection of life, liberty, and property by due process and equal protection; freedom of expression and association; religious freedom and the guarantee against establishment of religion; 1st and 14th Amendments.
- LAW:8288 Consumer Finance Law** 2-3 s.h.  
Consumer spending drives the economy; system of consumer finance—the way in which consumers consumption is financed; focus on empirical state of household finances, psychology and sociology of consumer finance, business of consumer finance, and regulation and political economy of consumer finance.
- LAW:8301 Copyrights** 3-4 s.h.  
Federal law of copyrights, primarily the Copyright Act of 1976; emphasis on copyright protections affecting new technologies, such as videotape, computer hardware and software, electronic data transfer, cable television rebroadcast; ability of legal concepts to keep pace with technological developments. Recommendations: LAW:8643.
- LAW:8303 Corporate Compliance Overview** 2-3 s.h.  
Areas of corporate and regulatory law that impose requirements on corporations including financial services institutions and health care provider organizations; importance of corporate compliance for these organizations and an overview of relevant regulatory authorities and their underlying theories and rationales; pertinent government regulations, guidance documents, and enforcement initiatives forming the framework for corporate compliance; focus on the process of compliance which should be established internally, regardless of the relevant regulatory authority involved; evolving role of compliance and the chief compliance officer. Corequisites: LAW:8331.
- LAW:8307 Corporate Finance** 1-3 s.h.  
Introduction to fundamental principles of corporate finance, including financial statement analysis, valuation of corporate securities and of businesses, capital structure decisions, portfolio theory, and efficient capital markets hypothesis; focus on financial and accounting aspects of corporate decisions than with any particular body of law. Prerequisites: LAW:8331.
- LAW:8309 Principles of Corporate Finance** 1 s.h.  
Fundamental concepts of corporate finance and accounting as accepted by the courts and applied in matters relating to securities regulation and disputes arising from mergers and acquisitions: cash versus accrual accounting; how to read and interpret schedules and disclosures contained in a company's balance sheet, income statement, and statement of cash flows; how to interpret and apply various financial ratios derived from a company's financial statements; how to understand, calculate, and apply net present value principles to evaluate investment opportunities; how to calculate equity values using the CapM equation.
- LAW:8318 Corporate Governance and Control** 1-4 s.h.  
Principal issues in creation of appropriate governance and control systems for large publicly held corporations; questions of corporate structure, shareholder voting rights, duties of directors, derivative suits, indemnification and transfers of control viewed from perspective of Delaware's statutory and common law. Recommendations: LAW:8331.
- LAW:8322 Corporate Taxation** arr.  
Influence of tax considerations on the structure of corporate transaction, from a merger to a restructuring to a securities offering; examination of primary Internal Revenue Code provisions that affect corporations and their shareholders; corporate formations, dividends, redemptions, liquidations, taxable asset and stock acquisitions, tax-free reorganizations; analysis of statutory and regulatory materials; tax reform proposals. Prerequisites: LAW:8194. Corequisites: LAW:8331.
- LAW:8329 Comparative Criminal Procedure** 2 s.h.  
Study abroad program.
- LAW:8331 Business Associations** 3-4 s.h.  
Structure, characteristics of both large publicly and closely held corporations; distribution of powers among management, directors, shareholders; fiduciary duties that limit those powers; enforcement of such duties by shareholder suits; may include basic principles of agency, partnership, and limited partnership law.
- LAW:8342 Topics in Criminal Law Practice** 1-3 s.h.  
Substantive and procedural aspects of criminal law not covered in regular College of Law criminal law and criminal procedure courses; students divided into teams (prosecutors and defense attorneys); hands-on exercises designed to reflect substantive criminal law and procedure discussion; jury selection, jury instructions, pretrial motions, client and witness interviews, depositions, investigation; ethical considerations for prosecutors and defense attorneys, including prosecutorial discretion in charging decisions and conflicts of interest. Prerequisites: LAW:8022.
- LAW:8348 Criminal Procedure: Adjudication** 3-4 s.h.  
Adjudicatory phases of the criminal justice system: indictments and the charging process, preliminary hearings, applications for release on bail and pretrial detention, processes of discovery, guilty pleas, jury selection, conduct of criminal trials, sentencing proceedings and post-trial motions, appellate review, collateral remedies; focus on constitutional rights, specifically the Fifth, Sixth, Eighth, and Fourteenth Amendments; statutory provisions, rules of criminal procedure.
- LAW:8350 Criminal Procedure: Investigation** 3-4 s.h.  
Guarantees and rights of the Fourth, Fifth, and Sixth Amendments to the U.S. Constitution against police and prosecutorial practices designed to investigate and prove criminal cases; protection against unreasonable searches and seizures, guarantee against extraction of involuntary confessions, privilege against self-incrimination constraints upon securing confessions (i.e., *Miranda* doctrine), due process protection against unreliably suggestive identification procedures, right to counsel, protection against inculpatory admissions and identification practices; exclusionary rules and remedies that enforce constitutional guarantees.

- LAW:8362 Critical Race Theory** arr. **LAW:8415 Employment Discrimination** 2-3 s.h.  
 Race relations and racial discrimination in America from perspectives of the Critical Race Theory movement (CRT); affirmative action, hate speech, queer theory, voting rights, postmodernism, liberalism, Asian-critical theory, Latin-critical theory, federal Indian law, critical white studies; critical race feminism—essentialism, motherhood, lawbreaking, employment law, sexual harassment, global issues.  
 Legal prohibitions against discrimination in employment on the basis of race, sex, national origin, age; focus on Title VII of the Civil Rights Act of 1964; procedural and remedial problems, elementary issues of proof.
- LAW:8373 Secured Transactions** 3 s.h.  
 Article 9 of the Uniform Commercial Code; establishment and perfection of security interests pursuant to credit sales contracts; problems focusing on the interface between Article 9 and federal bankruptcy law, Article 9 and real property security; priority disputes among collateral claimants; rules related to default and rights after default; emphasis on developing an understanding of and facility with a code-based statutory scheme.
- LAW:8421 Employment Law** 3 s.h.  
 Legal rights of employers and employees in private workplaces that do not have unions—which is more than 90 percent of work settings; hiring, minimum wage, independent contractors, termination, workplace privacy, employment-related intellectual property issues, covenants not to compete, occupational safety and health, and unemployment eligibility set into a context of historical origins, new developments, and contemporary trends.
- LAW:8374 Debt Transactions** 4 s.h.  
 Examination of laws and practices of modern lending; procedures for collection of unsecured debts including enforcement of judgments, exemptions, prejudgment remedies, fraudulent conveyances, and statutory liens; examination of secured transactions that involve both real property (mortgages) and personal property (security interests governed by Article 9 of the Uniform Commercial Code); equal weight given to consumer and commercial transactions.
- LAW:8423 ERISA: The Basics** 2 s.h.  
 Fundamental requirements, plans and programs covered by the Employee Retirement Income Security Act of 1974 (ERISA) as amended; for students who are interested in employee benefit plans and roles of the Internal Revenue Service (IRS), U.S. Department of Labor, U.S. Government Accountability Office, and Pension Benefit Guaranty Corporation in the regulation of ERISA.
- LAW:8375 Iowa Debt Collection Law** 1 s.h.  
 Examination of legal procedures for judicial enforcement of unsecured debts; complements secured transactions coverage of consensual liens in personal property (security interests) and Iowa real estate finance law coverage of consensual liens in real estate (mortgages). Requirements: no prior enrollment in LAW:8374.
- LAW:8428 British Legal System** 1-2 s.h.  
 Taught in London Law Consortium.
- LAW:8376 Iowa Real Estate Finance Law** 1 s.h.  
 Examination of performance and enforcement of payment obligations secured by interests in real property (i.e., mortgages, land contracts); complements secured transactions coverage of consensual liens in personal property (security interests) and Iowa debt collection law coverage of legal procedures for judicial enforcement of unsecured debts. Requirements: no prior enrollment in LAW:8374.
- LAW:8433 Environmental Law** 2-3 s.h.  
 Role of the legal system in addressing problems of environmental disruption, with special emphasis on air, water, hazardous waste pollution.
- LAW:8380 Entrepreneurship Law and Ethics** 3 s.h.  
 Concepts underlying the role of lawyers in entrepreneurial decision making and professional legal contexts; students gain a perspective of the life cycle of a startup financing deal, exposure to types of problems that arise over the course of a deal that jeopardizes its successful completion, and an opportunity to identify and reflect on ethical considerations that face modern transactional lawyers in the entrepreneurial world.
- LAW:8436 Energy Law and Policy** 3 s.h.  
 Introduction to law and policy of energy generation, transmission, and distribution; focus on public utility regulation, energy efficiency and renewable energy mandates, wholesale and retail electricity markets.
- LAW:8399 Election Law** 3 s.h.  
 The Supreme Court has long declared that the right to vote is fundamental, because it is preservative of all other rights; the right to vote in theory and practice, with focus on its relationship to racial and economic justice; what has been done and what should be done to move us closer to the ideal of political equality; proper role of unelected judges in our democracy; history of the right to vote, "one person, one vote" principle, Voting Rights Act, partisan gerrymandering, voter identification, voter registration, political parties, and campaign finance.
- LAW:8444 Estate Planning** 2-3 s.h.  
 Introduction to will drafting, use of powers of attorney, and advance directives—topics frequently taught in courses on trusts and estates; taxes that can be imposed on the transfer of money or other property by gift (gift tax), at death (estate tax), and by certain generation skipping transfers (generation-skipping tax); interrelationship of these taxes with each other and with the income tax. Prerequisites: LAW:8194. Recommendations: LAW:8981.
- LAW:8452 European Union Law** 2-3 s.h.  
 Law of the European Union; EU legal and institutional structure; role of the European Court of Justice in elaborating constitutional and administrative law for the EU on the basis of treaties and legislation; principle of free movement; progress of European integration.
- LAW:8456 Survey of Iowa Law** 3 s.h.  
 Survey of Iowa law; Iowa constitutional law, torts, criminal law, and other subjects; students gain an appreciation of unique aspects of Iowa law as well as exposure to common areas of law that attorneys practicing in Iowa are likely to encounter; may involve guest lectures from practitioners, judges, elected officials, or other visitors.
- LAW:8460 Evidence** 3 s.h.  
 Rules of evidence developed in common-law courts and under statutes; judicial notice; examination of witnesses; privilege and competence; remote and prejudicial evidence; hearsay; burden of proof and presumptions; roles of judge and jury.



- LAW:8467 Family Law** 3-4 s.h.  
Creation, dissolution of marriage and parent-child relationships; lawyer's practical approach to family law problems combined with a broader view of how the law might treat those problems in light of findings from social and behavioral sciences.
- LAW:8481 Federal Courts** 3-4 s.h.  
Role of the federal courts in our federal system of government; the federal courts' original and appellate jurisdiction; Supreme Court review of state courts' judgments; Congress' power to strip the federal courts of jurisdiction; development of federal common law; federal writ of habeas corpus; abstention doctrines; state sovereign immunity; federal remedies against state and local action; and Congress' power to create non-Article III adjudicative tribunals. Prerequisites: LAW:8006 and LAW:8010.
- LAW:8497 Federal Criminal Practice** 2 s.h.  
Introduction to each step in the criminal process together with instruction in advocacy skills required for the effective practice of law; complete chronology of a typical federal criminal case, from grand jury investigation through post-trial motions; importance of strategic thinking. Prerequisites: LAW:8350.
- LAW:8498 Federal Sentencing Advocacy** 1-2 s.h.  
Examination of federal sentencing scheme and procedures; application to a mock criminal case from which students draft a sentencing memoranda and present mock oral sentencing arguments to instructor; effective written and oral advocacy in federal sentencing proceedings.
- LAW:8504 Corporate Crimes** 1-3 s.h.  
Introduction to corporate criminal law; black letter doctrines of corporate liability and sentencing; Department of Justice policies and practices that shape the course of corporate prosecutions; criminal statutes that are of frequent concern for corporations, including those that address false claims, securities fraud, bribery, and mail and wire fraud; developments occurring in this evolving area of law.
- LAW:8513 Foreign Comparative and International Legal Research** 1-2 s.h.  
Treaty research, locating and identifying documents from international organizations and tribunals, legal research in selected jurisdictions outside the United States; variety of print and electronic sources; research methods in foreign and international law.
- LAW:8558 Genetics and the Law** 3 s.h.  
Introduction to legal issues raised by genetic and genomic technologies; genetic privacy, uses and abuses of genetic testing, prenatal diagnosis, mandatory screening, genetic discrimination, regulation of genetic research, DNA banking, research on stored tissue samples, ownership of genetic material and information, and provision of genetic services including informed consent, disclosure, and duties to family members at risk for genetic disease.
- LAW:8562 Health Law** 2-3 s.h.  
Major areas of concern in health law; tension between quality, access, costs; may include malpractice, quality control, health care financing, access (insurance, Medicare, and Medicaid), licensing, bioethics (end-of-life decisions, informed consent, surrogacy, organ transplantation).
- LAW:8563 Global Health Law** 3 s.h.  
Examination of legal, economic, social, ethical, and political aspects of global health; emergence of global health law commencing with acknowledgment of the human right to the highest attainable standard of health; establishment of the World Health Organization; use of international treaties and other understandings to address cross-border disease threats, including bilateral and multilateral assistance to low-income countries; increasing adoption by countries, including the United States, of a standard core of public health laws.
- LAW:8566 Health Care Financing and Delivery** 2-3 s.h.  
Major areas of concern in health law with focus on health care financing and delivery, health care organizations, fraud and abuse, and antitrust.
- LAW:8567 Health Care Quality and Regulation** 3 s.h.  
Major areas of concern in health law with focus on quality and patient experiences; tension between quality, access, and costs; may include malpractice, quality control, licensing, and bioethics (i.e., end-of-life decisions, informed consent, surrogacy, organ transplantation).
- LAW:8570 Human Rights in the World Community** 1-3 s.h.  
Introduction to established and developing legal rules, procedures, and enforcement mechanisms that govern protection of international human rights; liberal western and developing world notions of human rights, recent examples of human rights controversies worldwide; international human rights of women.
- LAW:8575 Seminar: Approaches to Human Rights** 3 s.h.  
Engagement with historical events, philosophical narratives, legal cases, institutional reports, lived experiences, and theoretical works to study origins, functions, and history of the discourse on human rights; application of a systems thinking framework to events involving treatment of women, Indigenous peoples, disabled persons, racial and ethnic groups, and other disempowered social groups across cultures and throughout history; examination of writings that attempted to explain key historical events and ideas relevant to human rights. Same as RELS:6710.
- LAW:8577 Immigration Law and Policy** 1-3 s.h.  
Legal, historical, social, philosophical, and policy foundations of immigration control; modern debate over immigration; criteria and procedures that govern admission of non-U.S. citizens to the United States for permanent residence and temporary visits; deportation criteria and processes; national security and civil liberties implications of immigration policy; refugees and political asylum; undocumented migrants; acquisition, loss, and significance of U.S. citizenship; focus on U.S. law with introduction to perspectives from comparative and international law; experience analyzing varied fact problems that require strategic decision making and interpretation of complex statutory provisions.
- LAW:8584 Insurance Law** 1-3 s.h.  
State regulation of insurance, adverse selection and moral hazard, risk classification and rate regulation, and insurance contracts; emphasis on life, long-term care, and disability insurance; may include health insurance, reinsurance, and other types of insurance; focus on social and economic underpinnings of insurance.
- LAW:8593 Federal Indian Law** arr.  
Specialized body of law allocating power and authority in Indian country that has grown up around native American peoples and their reservations; sovereignty, jurisdiction, federal Indian policy, tribal self-government.

**LAW:8594 Interest-Based Negotiation for Lawyers** 2-3 s.h.

Theory and practice of an approach to negotiation, known as interest-based or problem-solving negotiation; focus of this negotiation model is not on positions of disputants, but interests that underlie these positions; interest-based negotiators attempts to generate options that satisfy, at least minimally, interest of all parties and can lead agreements from which all parties realize some gains; emphasis on acquisition and enhancement of skills necessary to apply this negotiation approach; in-class exercises. Requirements: no prior enrollment in LAW:8720.

**LAW:8599 International and Comparative Inequality Law** 3 s.h.

**LAW:8618 International and Comparative Family Law** 1-3 s.h.

Introduction to family law system in England; issues of international legal practice in family cases; international legal instruments for protection of children, including U.N. Convention on the Rights of the Child, Hague Convention on the Civil Aspects of International Child Abduction, and Hague Convention on Intercountry Adoption. Corequisites: LAW:8467.

**LAW:8622 International Environmental Law** 3 s.h.

Laws and institutions developed by the international community to deal with international environmental problems, including those of the atmosphere (acid rain, ozone depletion, radioactive fallout, climate change), hydrosphere (land-based sea pollution, sea-based vessel pollution, transboundary groundwater diversion), lithosphere (hazardous waste disposal, toxic pollutants, decertification), biosphere (driftnet fishing, endangered elephants, loss of tropical rainforests).

**LAW:8629 Taxation of International Business Transactions** 2-3 s.h.

Introduction to United States aspects of international taxation and international tax policy issues; how the U.S. taxes foreign persons on income they derive from U.S. sources; taxation of U.S. persons on their worldwide income; U.S. bilateral tax treaty network under which many of the statutory rules regarding the taxation of foreigners are modified or supplanted; solving problems that illustrate the operation of the Code and regulations. Prerequisites: LAW:8194. Corequisites: LAW:8331.

**LAW:8631 International Trade Law: Basic Norms and Regulations** 3 s.h.

Basic norms and legal framework of international trade as expressed in the GATT/WTO regime and U.S. trade laws; issues raised by regional trade blocs such as NAFTA; controversies such as the economic and philosophical justifications for, and objections to, free trade from a variety of perspectives.

**LAW:8643 Introduction to Intellectual Property** 1,3-4 s.h.

Introduction to some of the most important intellectual property rules; goals and theories underlying these rules; common ways in which ideas may be protected—from basic form of protection (secrecy and trade secrecy) to exclusive rights granted over inventions (patents) and creative works (copyright), and concluding with rights related to market-based identities (trade and service marks); brief exploration of ways in which debates over intellectual property rights have permeated modern culture.

**LAW:8645 Introduction to Quantitative and Computational Legal Reasoning** 3 s.h.

Basic principles of probability, statistics, and computational reasoning (including elementary programming) for law students; emphasis on mathematically modest intuition, practical skills, and legal applications; introductory level, no mathematical background beyond high school algebra is assumed. Requirements: no substantial preexisting computer programming or statistical background.

**LAW:8649 Foundations of International Law** 1-3 s.h.

Introduction to fundamentals of international law; focus on aspects of international law that concern interests in the United States; survey of sources, methodology, and major doctrines of international law within framework of understanding diverse jurisprudential approaches; international law's relationship to U.S. domestic law and institutions; procedural aspects of international law involving international institutions, including the International Court of Justice; foundation course for students interested in international trade, business, family law, human rights, environmental law, and an interest in European Union law.

**LAW:8653 Juries and Jury Selection** 1-2 s.h.

The law and art regarding juries and jury selection; legal issues arising in jury selection and trial advocacy in context of jury selection; legal issues (challenges to representation of jury venires, changes of venue due to pretrial publicity, challenges for cause to prospective jurors, Batson challenges to exercise of peremptory strikes, anonymous juries, sequestered juries, attorney errors and juror misconduct during jury selection); trial advocacy (drafting and use of jury questionnaires, role and effectiveness of jury consultants, viewing jury selection as part of entire process, effective voir dire techniques, strategy in making for cause challenges, exercising peremptory strikes).

**LAW:8658 Jurisprudence** 2-3 s.h.

Exploration of questions central to jurisprudence by looking at positions that have been adopted by legal positivist, natural law theory, and sociological models of jurisprudence (i.e., is there more to legal argument than the strategic battle for a favorable judicial ruling? How would one have to conceive of legal reasoning if one were a judge? Are there right answers to legal questions? Do they presuppose a necessary connection between law and morality? Is any exchange of pros and cons merely a spectacle created in order to hide from the dumbfounded public that legal reasoning does not really matter?); comparative dimension provided in readings with background in civil law.

**LAW:8660 Justice101** 1 s.h.

Immersive course on Fourth Amendment rights; students are equipped with tools necessary to teach Justice101 curriculum to the community-at-large with a goal to increase student and community awareness of what is allowed and prohibited during different types of contact with law enforcement; focus on changes in power dynamics in four situations where interactions are most likely to occur—walking in the street, traveling in a vehicle, at school, and at home.

**LAW:8666 Law and Development** 2-3 s.h.

Origin of development law and institutions that were created in order to advance it, including the World Bank and International Monetary Fund.

**LAW:8670 Labor Law****3-4 s.h.**

How national labor law regulates labor relations in the private sector; law relating to unionized employees and firms; right of employees to organize into unions; limits of concerted activities by employees; scope and provisions of collective bargaining; enforcement of the collective bargaining agreement; rights of individual employees in collective units and in labor organizations; lawyer's role in dealing with judicial, administrative, and arbitral tribunals involved in enforcing labor law; lawyer's role in complex interrelationships between policy, statute, judicial, and administrative decisions.

**LAW:8671 Worker Rights on the Front Lines: Workplace Experiences with ADA, FMLA, and Workers' Compensation****1 s.h.**

Development of a detailed understanding of two federal statutes, Family and Medical Leave Act (FMLA) and Americans with Disabilities Act (ADA), and one state statute, Iowa Workers' Compensation.

**LAW:8677 Accounting, Tax, and Business Considerations for Lawyers****1-3 s.h.**

Accounting, tax, and business considerations for lawyers and why these are important considerations for lawyers; changes occurring in today's business models; discussions on choosing a legal structure for a business; financial statements basics, detailed example of a financial statement, and discussion on accounting basics expanded; advanced topics in accounting to allow some background on these topics.

**LAW:8680 Law and Economics****arr.**

Introduction to economics analysis of law; how economic reasoning is used to explain and predict the effects of legal rules; fundamental areas of American law (e.g., property, contracts, torts, criminal law); use of economic efficiency as a normative criterion for evaluating legal rules; efficiency compared to various moral concepts to evaluate such rules.

**LAW:8683 Law and Economics of Money and Banking****3 s.h.**

Money as a legal institution, legal structure and powers of the Federal Reserve System, multiple deposit creation, and the money supply process; tools and goals of monetary policy, and theory of interest rates; legal structure of banking industry including dual banking system, regulation by the Office of the Comptroller of the Currency of national banks under the National Bank Act (with special emphasis on capital regulation), deposit insurance and the Federal Deposit Insurance Corporation, and regulation of bank holding companies by the Federal Reserve.

**LAW:8698 Law in the Muslim World****2-3 s.h.**

International and comparative law issues relevant to countries in the Muslim world; legal cultures, institutions, rules, actors, processes of several jurisdictions including Afghanistan, Saudi Arabia, Iran, Iraq, Algeria, Nigeria, Palestine, Pakistan; Islamic sharia law as practiced in Sunni and Shiite countries; the role of church versus state, fundamentalism versus secularism, as manifested in the legal system; tension between communitarianism and individualism in modern constitutionalism; intertwining of customary and religious legal practices; first, second, and third generations of human rights; international law on issues such as terrorism, self-determination; women's rights, including polygamy, divorce, child custody, inheritance. Requirements: junior or senior standing.

**LAW:8709 Introduction to French Law****1-3 s.h.**

Introduction to laws of France, characteristic features, and role of main institutions; civil law, contracts, tort, family law, commercial law, criminal law, labor law; visits to a French law school, Paris Court, and Ecole of Magistrature National (ENM), the National Judge School in Bordeaux. Summer abroad program.

**LAW:8712 Legislation****2-3 s.h.**

Issues related to legislation and legislative process; introduction to legislation, legislative process, legislative advocacy, statutory interpretation, and statutory drafting; students gain an understanding of the role of lawyers in legislative process and formation of public policy.

**LAW:8720 Mediation: Theory and Practice****2-4 s.h.**

Essential characteristics; comparison of mediation with litigation and other alternative dispute resolution processes; stages of mediation; confidentiality; enforceability of agreement; ethical problems, particularly lawyer-mediator; student role playing; short writing assignments.

**LAW:8726 Mergers and Acquisitions****3 s.h.**

Significant legal and financial aspects of business combination transactions; transaction documents (e.g., stock purchase agreements, asset purchase agreements, merger agreements); valuation of companies and pricing of deals; legal and financial considerations affecting the structuring of deals; tender offers and their regulation under the Williams Act, tender offer rules; fiduciary duties of target board, including Revlon duties and the Unocal standard; anti-takeover devices (e.g., poison pills and staggered boards, deal protection devices, freezeout transactions); state anti-takeover statutes. Prerequisites: LAW:8331.

**LAW:8728 Start-Up and Emerging Companies****3 s.h.**

Exposure to myriad legal issues and obstacles faced by start-ups and emerging companies and the lawyers who represent them.

**LAW:8742 Negotiations****1-3 s.h.**

Nature and theory of negotiations, diverse rhetorics (including the rhetoric of legal argument) relevant to conduct of negotiations, conflict between ethics and effectiveness; readings from game theory, social psychology, anthropology, rhetoric and ethics.

**LAW:8753 Nonprofit Organizations: Structure, Governance, and Strategy****3 s.h.**

Focused examination of internal operations of nonprofit organizations; introduction to historical conditions that generated an incredible expansion of diverse and complex organizations that make up the nonprofit sector in the U.S., as well as a multitude of contemporary, real-world obstacles and opportunities leaders and managers navigate within their organizations; topics include issues of accountability, board governance, budgeting, financial management, leadership, strategic planning, taxation, and more; what is a nonprofit organization and what makes a nonprofit organization effective; development of valuable skills necessary to improve the performance of nonprofit organizations.

**LAW:8755 Nonprofit Organizations: Advocacy, Collaboration, and Fundraising** 3 s.h.

Broad overview of the role nonprofit organizations play in building and enhancing communities; focused examination of the external operations of these organizations; students explore numerous threads that connect nonprofit organizations to outside individuals and entities and are presented with a multitude of contemporary, real-world obstacles and opportunities that leaders and managers navigate outside their organizations; topics focus on issues of advocacy, government relations, fundraising, leadership, marketing, partnerships, public relations, volunteerism, and more.

**LAW:8763 Patent Law** 2-4 s.h.

All aspects of U.S. patent law; patent claims, adequacy of disclosure, statutory subject matter, validity, inequitable conduct, infringement, remedies, varied specialized doctrines; focus on recent pronouncements from the Court of Appeals for the Federal Circuit. Recommendations: LAW:8643.

**LAW:8765 Licensing** 1 s.h.

Licensing covers a broad range of business arrangements among commercial stakeholders; much of licensing law practice falls into the transactional category including matters pertaining to online commerce, music, intellectual property, research and development, joint ventures, distribution, OEM, manufacturing, services, and other agreements; contractual arrangements that are shaped by scope and nature of underlying assets and rights; limiting doctrines in business practices that are relevant to a transactional attorney.

**LAW:8770 Payment Law** 1-3 s.h.

Law that governs methods by which businesses and consumers typically pay for goods and services in modern economy; legal rules applicable to traditional paper-based payment system, including negotiable instruments (checks and notes) and bank collection of checks; modern payment methods (credit cards, debit cards, wire transfers); focus on Articles 3, 4, and 4A of the Uniform Commercial Code and related federal law and regulations.

**LAW:8789 Private Companies** 3 s.h.

Successful business lawyers are expected to advise clients about the business entity most suitable for their needs and then customize it to fit specific requirements of their business strategy; general focus on one entity—the corporation—and a brief introduction to agency law and general partnerships; a wide number of popular business entities receive little to no coverage and this gap is filled with an introduction to structure and substance of private company forms including limited partnership, limited liability partnership (LLP), and limited liability company (LLC). Prerequisites: LAW:8331.

**LAW:8791 Professional Responsibility** 2-3 s.h.

Public and private professional responsibility of lawyers; organization of the profession; its economics, ethics, and sociology.

**LAW:8796 Property II** 3 s.h.

Continuation of LAW:8037; limits on landowner's use of property by private agreements, judicial actions, public regulations; problem areas (servitudes, nuisance, eminent domain); constitutional limits on government activities adversely affecting private property, community planning, zoning, other forms of local land use control; discrimination related to land development, housing; effectiveness of private ordering, judicial decisions, legislative enactments, administrative processes for resolving conflicts over use of land resources; relationships between law and other disciplines in forging solutions to land use issues; law as instrument for achieving societal objectives regarding land use.

**LAW:8798 Real Estate Transactions** 3 s.h.

Examination of acquisition, financing, and development of real estate; topics include listing agreements, purchase agreements, conveyancing, real estate finance and security instruments, foreclosure, mechanics' liens, and forms of real estate development, including homeowners/condominium associations and other kinds of common interest communities.

**LAW:8819 Judicial Remedies** 3 s.h.

The law of remedies is the working tool kit for civil litigators, offering various ways to redress a given wrong; remedies to be examined include compensatory damages, injunctive orders, restitution, declaratory judgment, contempt, garnishment, asset tracing, punitive damages, and methods to preserve assets before judgment; cases are drawn from diverse substantive fields, including tort, contract, intellectual property, civil rights, administrative, antitrust, attorneys' fees, and constitutional law.

**LAW:8856 Securities Regulation** arr.

Examination of law regulating the issuance and sale of securities (i.e., stocks, bonds, other investment vehicles) in the United States; topics include initial public offerings (IPOs), regulation of stock exchanges, private placements of stock, securities fraud litigation, and insider trading law; relevant statutes are the Securities Act of 1933 and the Securities Exchange Act of 1934. Corequisites: LAW:8331.

**LAW:8857 Market Regulation** 3 s.h.

Examination of how capital markets are regulated; primary emphasis on secondary markets which trade on national stock exchanges, rather than on primary market activity such as initial public offerings (IPOs). Prerequisites: LAW:8331.

**LAW:8877 Sex-Based Discrimination** 2-3 s.h.

Survey of sex-based discrimination and legal responses in the United States and worldwide; American context—constitutional guarantees and various statutory guarantees, including Title VII of the Civil Rights Act of 1964 and Title IX of the Education Amendments of 1972; global context—examination of various regions of the world, emphasis on France, South Africa, and countries with majority Muslim populations; issues involving customary law, affirmative action/quotas, and constitutional reform.

**LAW:8879 Sports Law** 2-3 s.h.

Various legal issues relating to the structure and operation of amateur and professional sports industries; topics include labor law and collective bargaining in professional sports, history and status of collective bargaining efforts by college athletes, antitrust law as applied to professional and intercollegiate sports, the NCAA enforcement process, Title IX as applied to intercollegiate sports, the NCAA principle of amateurism and legal challenges, representation of professional athletes and negotiation of sports contracts.

**LAW:8880 Baseball Salary Arbitration 1-3 s.h.**

Major league baseball salary arbitration process that sports agents, attorneys, and team executives participate in, presided over by panels of lawyer arbitrators; students develop written and oral advocacy skills while participating in mock salary arbitration hearings; three students are chosen to represent the UI College of Law at the Tulane University Law School International Baseball Arbitration Competition in mid-January.

**LAW:8881 College Athletics Infractions Process 1-2 s.h.**

Moot court competition involving college athletics rules violations; the National Collegiate Athletic Association (NCAA) processes major rules infractions (e.g., recruiting violations) through a hearing process that is similar to an administrative law proceeding; NCAA infractions process; participation in mock hearings.

**LAW:8891 State and Local Taxation 2-3 s.h.**

Limitations on state taxing powers under the United States Constitution, including Commerce, Due Process, and Privileges and Immunities Clauses; subnational jurisdictions, particularly states with an emphasis on sales tax and corporate income taxes, gross receipts taxes, and excise taxes; issues relating to ecommerce.

**LAW:8929 Taxation of Partnerships 2-3 s.h.**

Introduction to federal tax treatment of partnerships and limited liability companies, the most common business entities in use in the United States today; classification of entities as partnerships for federal tax purposes; formation of partnership and subsequent contributions to partnership capital; flow-through tax treatment of partnership operations; tax-sensitive allocations of items of partnership income, deduction, credit and loss; partnership distributions and related tax-sheltering strategies, liquidation or sale of partnership interests; death or retirement of partners, tax treatment of partnerships compared with S corporations. Prerequisites: LAW:8194.

**LAW:8933 Tax Practice and Procedure 2-3 s.h.**

Issues relating to proper tax liability of a taxpayer, not necessarily how the IRS collects taxes and administers tax laws; judicial deference to agency guidance; procedural issues related to examination and filing of returns and payment of taxes; attorney-client and other privilege matters; ethical issues related to tax practice; IRS investigatory powers; IRS assessment and collection procedures; assignment of problems and discussion of current issues in tax policy. Corequisites: LAW:8194.

**LAW:8936 Estate and Gift Tax 1-3 s.h.**

Justification for wealth taxation, effectiveness of current law, and alternative methods of wealth taxation; two key wealth transfer taxes—estate tax and gift tax; emphasis on identification of tax base and taxpaying unit; may include income tax effects which flow from an individual's death, income taxation of grantor trusts, and related income tax issues. Corequisites: LAW:8194.

**LAW:8937 Cybercrime and Security 3 s.h.**

Global reach of the internet, low cost of online activity, and relative anonymity of users has contributed to a wide escalation in cybercrime and in cybersecurity concerns; fast-evolving subject areas with discussion of current developments and events.

**LAW:8938 Technology in Law Practice 2 s.h.**

Introduction to selected technologies that affect modern law practice including cloud computing, document preparation tools and techniques, e-discovery tools and issues, practice management, professional responsibility concerns, legal project management, courtroom technology, and legal research analytics.

**LAW:8954 Trademarks and Unfair Competition Law 3 s.h.**

Law of unfair competition with primary emphasis on trademarks; subjects include policies underlying unfair competition law, creation and establishment of trademark and trademark-like rights, enforcement of those rights, non-trademark concepts of false advertising, rights in one's persona, and the intersection of the First Amendment and trademark law; practical aspects of trademarks including mechanics of the federal registration process; for students who have an interest in trademark and unfair competition law, both specifically and as part of a broader business law practice.

**LAW:8981 Trusts and Estates I 1-4 s.h.**

Law of succession and trusts; topics include policy basis of inheritance and the changing character of intergenerational wealth transfer; intestate succession; the requirements for executing and revoking wills; the rise of will substitutes; spousal protection against disinheritance; the creation, modification, and termination of trusts; the particular rules applicable to charitable trusts; the fiduciary duties of trustees; the nature of a beneficiary's interest in trust, the range of the trustee's discretion, and the rights of a beneficiary's creditors; recurring construction problems and pitfalls in drafting.

**LAW:8987 Veterans Benefits Law 2-3 s.h.**

Theory of veterans' benefits law and introduction to skills necessary to represent veteran clients at every stage of the U.S. Department of Veterans Affairs (VA) adjudication process; how many veterans struggle to navigate the complex VA benefits system without assistance of counsel; law that governs administration and adjudication of these benefits; fundamental law of VA claims adjudication process; dispute resolution and federal agency litigation practice; what is required to effectively represent veterans in their appeals for much needed benefits.

**LAW:8992 Water Law arr.**

Legal schemes for securing and using water rights in surface water and groundwater for private and public uses in the United States; riparian and prior appropriation doctrines of water allocation, groundwater management regimes, federal water management and regulation, and interstate and transboundary allocation devices; evolving role of science, economics, and policy in water allocation law; does not address issues of water quality, which are covered in environmental law.

**LAW:9010 Appellate Advocacy I 1 s.h.**

Experience based on an assigned fictitious case: writing an appellate brief asserting the client's position, and arguing the case before a panel of students, faculty, community attorneys. Prerequisites: LAW:8032 and LAW:8033.

**LAW:9011 Client-Centered Public Defense Advocacy 1-3 s.h.**

Introduction to core elements of court-appointed representation in criminal courts.

**LAW:9021 Van Oosterhout Baskerville Moot Court Competition 1 s.h.**

Single-elimination tournament culminating in the final four advocates arguing before a panel of judges; advocates write a portion of the brief, argue for and against the issue they briefed. Prerequisites: LAW:9010.

**LAW:9028 Jessup Moot Court Competition Team 1-2 s.h.**

Participation as team member in Jessup International Moot Court Competition; preparation of memorials in fall, travel to February regional rounds; travel to international competition in Washington, D.C., for top two teams. Prerequisites: LAW:9010.

**LAW:9033 National Moot Court Competition Team 1 s.h.**

Participation by third-year students as law school's representatives in the National Moot Court Competition. Requirements: placement as one of four finalists in LAW:9021.

**LAW:9034 National Moot Court Tutorial 2 s.h.**

For students participating in the National Moot Court competition; provides a problem and a substantial record, which provide basis for appellate brief and oral argument competition; integrates teaching of substantive law with development of oral and written advocacy skills in preparation and application for the national competition.

**LAW:9037 Advanced Moot Court Competition Team 1 s.h.**

Advanced Moot court team; members are top advocates from previous year's Van Oosterhout/Baskerville competition. Fall of third year.

**LAW:9038 Jessup International Moot Court Competition 1 s.h.**

Participation by second-year students in intramural regional- and national-level moot court competition in international law; intensive criticism in appellate brief writing and oral argument. Prerequisites: LAW:9010.

**LAW:9041 Vis International Moot Court 1-3 s.h.**

Participation for up to four students in the Vis International Moot Court, an annual international moot competition concerning international commercial arbitration under the Vienna Convention on the International Sale of Goods (CISG); under close supervision of instructor, students prepare two briefs, one for the claimant and one for the respondent, are mooted repeatedly by instructor and practicing attorneys (often alumni of the competition), and then participate in multiple rounds of moot court competition in the United States and, ultimately, either Hong Kong or Vienna. Recommendations: one course in international arbitration or international business transactions.

**LAW:9046 Moot Court Board 1-3 s.h.**

Experience as member of the Moot Court Board administering the Appellate Advocacy Program, researching appellate cases used in the program, judging appellate arguments. Requirements: membership based on performance in LAW:9010.

**LAW:9051 Advanced Arbitration Advocacy Competition Team 1-2 s.h.**

Students represent the College of Law at the ABA Regional/ National Arbitration Competitions held in fall of second or third year; team members prepare to argue both sides of a dispute in front of a panel of arbitrators at the competition; topics include a review of basic presentation skills, essential elements of arbitrating a dispute, and proper decorum in front of the panel as well as in-depth practice and analysis of the national case problem assigned; students spend time crafting legal arguments, practicing the effective use of exhibits and arbitration booklets, engaging in opening statements, direct examination of witnesses, cross examination, and closing arguments.

**LAW:9060 Trial Advocacy 1-2 s.h.**

Opportunities to develop and refine skills used in preparation and trial of civil and criminal cases; students are "on their feet" during most class sessions, practicing the arts of voir dire, opening statement, direct and cross examination, introduction of exhibits, use of expert testimony, and closing argument; the course culminates with a full-scale trial, from filing of pretrial motions to rendering of a jury verdict conducted by student co-counsel; students receive extensive criticism on the effectiveness of their classroom and final performances, and all class sessions are frequently recorded for review and critiqued by instructors and fellow students. Prerequisites: LAW:8460.

**LAW:9061 Advanced Trial Advocacy - Stephenson Competition 1-2 s.h.**

Review and expansion of topics presented in the initial trial advocacy course; preparation and application of these principles in the Stephenson trials; introduction to additional advanced problems such as the evidentiary issues raised in the trial problem. Corequisites: LAW:9060.

**LAW:9062 Trial Advocacy Board 1-2 s.h.**

Administration of Trial Advocacy Program and Stephenson Competition; research and writing in connection with trial problems and readings used in program; critique of performances of trial problems. Prerequisites: LAW:8460 and LAW:9060.

**LAW:9066 Stephenson Trial Advocacy Team arr.**

Student participation as College of Law representatives in Stephenson Trial Advocacy Competition. Prerequisites: LAW:9061.

**LAW:9115 Law Review 1-2 s.h.**

Performance of substantive tasks to produce a first-rate scholarly journal; writing a substantial note; comprehensive legal research experience; analysis of complex legal issues with enhanced critical-reasoning skills and command of the legal standard, The Bluebook citation system; selection of students that transfer to UI College of Law after their first year and rising second-year students is based on the Write-On Competition.

**LAW:9118 Student Journal Editor - Law Review arr.**

Experience on the *Iowa Law Review* editorial staff: managing production, overseeing business operations, administering student writing program, selecting and editing articles for publication, supervising student research and writing. Eligibility based on previous writing for the journal. Prerequisites: LAW:9115.

**LAW:9124 Journal of Corporation Law 1-2 s.h.**

Experience editing articles and writing commentaries for *The Journal of Corporation Law*, a student-operated scholarly publication that examines subjects of current importance to businesses and the bar.

**LAW:9127 Student Journal Editor - Journal of Corporate Law** arr.

Experience on *The Journal of Corporation Law* editorial staff: managing production, overseeing business operations, administering student writing program, selecting and editing articles for publication, supervising student research and writing. Eligibility based on previous writing for the journal. Prerequisites: LAW:9124.

**LAW:9142 Transnational Law and Contemporary Problems Journal** 1-2 s.h. arr.

Experience researching and writing on issues in international and comparative law for the journal *Transnational Law & Contemporary Problems*. Requirements: second- or third-year law standing.

**LAW:9145 Student Journal Editor - TLCP Journal** arr.

Experience researching, writing, and editing on issues in international and comparative law for the journal *Transnational Law & Contemporary Problems*. Requirements: second- or third-year law standing.

**LAW:9163 Journal of Gender, Race and Justice** 1-2 s.h. arr.

Academic year experience on *The Journal of Gender, Race & Justice*: writing two journal pieces, including a recent development and a note or a comment, and performing office duties. Requirements: second- or third-year law standing.

**LAW:9166 Student Journal Editor - Gender, Race and Justice** arr.

Experience on *The Journal of Gender, Race & Justice* editorial staff: managing student writing program, overseeing business operations and production, selecting symposium topic and participants, selecting and editing all publications pieces; eligibility based on writing and editing experience.

**LAW:9302 Clinical Law Program: Internship** arr.

Experience working directly with faculty members on cases and in-house program; full participation in interviewing, fact investigation, negotiation, courtroom proceedings.

**LAW:9303 Advanced Clinical Law Internship** arr.

Continued representation of a specific client or matter; or continued representation of clients in the practice group in which students worked their first semester, but with more ownership and greater independence; opportunity to serve as mentors to new clinical law internship students. Prerequisites: LAW:9302.

**LAW:9320 Field Placement: District of Columbia Program** arr.

Students work closely with attorneys and enroll in a weekly seminar with other externs in the Washington, DC, area; through seminar and field work, students examine the role of attorneys in the nation's capital, witness the function of administrative agencies and the process of federal lawmaking, and engage in self-evaluation and reflection on field work.

**LAW:9322 Field Placement: Judicial** arr.

Close work with a federal district court judge or state appellate judge conducting research and drafting a wide variety of legal memoranda, orders, and opinions; assist in hearings and perform other duties generally associated with a judicial clerkship; weekly meetings with a faculty supervisor to discuss student's work in chambers; participation in biweekly classroom discussions.

**LAW:9324 New York Pro Bono Scholars Program** arr.

Students spend 12 weeks working full time in a pro bono placement while also completing an academic component at their law school; students are permitted to take the New York bar examination in February of their final year of study before they graduate; after successful completion of the program and any other graduation requirements, students are admitted to practice as soon as practicable after they receive their J.D. degree (typically in June).

**LAW:9331 Field Placement: General** arr.

Students earn credit working closely with attorneys in a wide range of placements; field placements designed so that students are directly involved in activities characteristically performed by attorneys in a real-world setting; some placements routinely offered and arranged by the law school, others by students and approved by faculty; some placements are local and students take them along with their other classes; other placements are full-time, located across the country and around the world; in addition to fieldwork, students are enrolled in a seminar with other externs.

**LAW:9335 Summer Legal Placement** 1-3 s.h. arr.

Externship opportunities for direct involvement in activities characteristically performed by attorneys (e.g., research and writing, document drafting, client interviewing and counseling, fact investigation, negotiations, court appearances); in-depth exposure to as many facets of the actual practice of law as practicable in each externship.

**LAW:9346 British Legal Methods Clinical Program** 3 s.h. arr.

British Law externship; placement in London law office under guidance of barrister or solicitor; seminar and enrollment in course on English legal system taught by faculty of King's College, University of London.

**LAW:9413 Health and Elder Law Practicum** 1-6 s.h. arr.

Opportunity to participate in research involving current health and elder law and policy issues, in collaboration with public health agencies, legislators, professional organizations, and advocacy organizations.

**LAW:9423 Tutorial** arr.

Different types of pedagogical techniques.

**LAW:9429 Intellectual Property Advocacy** 1-4 s.h. arr.

Integrates teaching of substantive intellectual property law with development of oral and written advocacy skills in intellectual property field; builds on earlier learning in preparation for practice of law.

**LAW:9444 Tutorial for Foreign-Trained Lawyers** 1 s.h. arr.

Introduction to the legal system and legal educational system of the United States; particular emphasis on those aspects of the U.S. system that present a strong contrast with other countries' legal systems, whether from civil or common law traditions; for foreign-trained law students (LL.M., J.D., or S.J.D.) who have not earned a U.S.-based J.D. or U.S.-based LL.M. degree that includes an introduction to U.S. law and legal system.

**LAW:9445 Foreign-Trained Lawyer Orientation** 1-2 s.h. arr.

Orientation for foreign-trained student to U.S. legal system; introduction to U.S. patterns of legal argumentation, main institutional structures of U.S. legal system, and other distinctive aspects and/or fundamental principles of U.S. law; material drawn from basic areas of law (e.g., constitutional law, civil and criminal procedure, contracts, torts, property).

- LAW:9455 Medical Tutorial for Law Students** arr. Participation on medical and/or surgical rounds under supervision of attending physician; didactic sessions on legal, medical, and ethical issues arising from the clinical experience, and issues such as peer review, credentialing, quality assurance, cost containment, AIDS, reproductive technology; recent developments in medical technologies. Cosponsored by Carver College of Medicine. Prerequisites: LAW:8562.
- LAW:9460 S.J.D. Tutorial** 5 s.h. Thesis work under supervision of Doctor of Juridical Science (S.J.D.) committees; dissertation committee chairs conduct an irregular series of meetings to learn about and discuss issues common to research and writing of each thesis involved; students develop full thesis proposals and draft individual chapters; forum provided for workshopping student work and development of students' abilities to discuss and critique legal scholarship; for all S.J.D. students during their two semesters of residency at the College of Law.
- LAW:9473 Writing Tutorial** arr. Writing project on a subject or topical area specified by the supervising faculty member; group meetings; writing tutorial.
- LAW:9478 Advanced Legal Writing: Writing Center** 2 s.h. Qualities of good legal writing including predictive, persuasive, and academic writing; how to teach those skills to others. Requirements: College of Law writing center tutor.
- LAW:9486 Directed Research and Writing** arr. Research and writing project unrelated to any substantive course, supervised by a faculty member.
- LAW:9490 Independent Research Project** arr. Work under faculty supervision; research.
- LAW:9491 Independent Research and Writing** arr. Independent research and writing under thesis advisor/committee chair. Requirements: S.J.D. enrollment.
- LAW:9503 Advanced Immigration Law and Policy** arr. Examination of issues arising out of contemporary problems of immigration law and policy; topics vary, may include critical analysis of initiatives for national, state, and local immigration reform; traditional class-based component, experiential component, advanced legal research component, and rigorous writing requirement. Requirements: LAW:8577 or legal clinic experience.
- LAW:9509 Advanced Problems in International Environmental Law** arr. Research and writing seminar exploring selected topics that may be encountered in practice; topics vary.
- LAW:9510 Climate Change Law and Policy** 3 s.h. Introduction to law and policy related to climate change; seminar readings provide an overview of laws and policies that seek to mitigate climate change and adapt to its effects; fundamentals of climate science including scientific knowledge regarding impacts of climate change and obstacles to effective communication about climate science; various private and public responses to climate change at local, state, federal, and international levels; exploration of different trends in climate change litigation.
- LAW:9518 Advanced Topics in Corporate Law** arr. Wide range of topics; theory of the firm, fiduciary duties, corporate counseling issues, history of corporate law, and so forth. Requirements: one law or business course in corporate law.
- LAW:9528 Advanced Topics in International Law** arr. Contemporary problems of public international law and policy; issues arising from armed conflict, use of force, pacific settlement of disputes; human rights law and policy (individual civil, political, economic, social, and cultural rights; group rights such as self-determination, development, environment, peace); trade and development; environmental law and policy (e.g., climate change, species extinction, pollution).
- LAW:9532 Agricultural Law** arr. Agricultural law as a complex and highly integrated field with a number of unique characteristics; examination of the field's defining laws and controversies; focus on current issues of significance including environmental regulation of agriculture, financing and economic viability of small- and medium-scale operations, discrimination against minority and female farmers, labor protections for farm workers, animal welfare, food safety, and biotechnology; students critically engage with course materials and develop well-rounded arguments for and against specific policies and legal positions.
- LAW:9545 Tax Policy** 2-4 s.h. Tools to evaluate existing and proposed changes to state and federal tax systems; evaluation of tax systems through numerous perspectives whether economic, philosophical, or comparative, depending on student interest; specific attention to tax policy proposals that command popular and congressional attention; students write a policy paper that evaluates a current tax policy proposal. Requirements: prior or concurrent enrollment in any tax course.
- LAW:9550 Capitalism** arr. Economic and moral aspects of capitalism as a system for organizing a society's economic activity; major topics including the beginnings of capitalist theory in Smith, Marxist critiques of capitalism in 19th century, capitalism and its critics in the Gilded Age and Progressive Era, the Great Depression and Keynesianism, modern defenses and criticisms of capitalism in Hayek, Habermas, Friedman, Rawls, and others.
- LAW:9554 Compliance, Ethics, and Risk Management** arr. Public and private organizations—including corporations, nonprofits, universities, and government agencies—are responsible for ensuring that their personnel comply with legal and regulatory requirements; organizations must find mechanisms to develop strategies and cultures of compliance; students develop an understanding of the field of organizational compliance and issues that compliance professionals are responsible for overseeing, establish a strong foundation in behavioral and traditional legal ethics, and develop persuasive arguments regarding strengths and weaknesses of compliance efforts undertaken by organizations. Corequisites: LAW:8331.
- LAW:9558 Corporate Boards Seminar** 2 s.h. Simulation of seven meetings of a board of directors of a hypothetical company; students act as board members facing a discrete issue of corporate governance and take turns acting as chair of the board or as general counsel, leading the board of directors through a discussion of the issues; focus on the normal functioning of United States publicly listed companies, as well as on the duties of directors in times of crisis or significant change to the corporation. Prerequisites: LAW:8331.



- LAW:9559 Corporate Ethics** arr. Examination of ethical issues that businesses and their attorneys confront in multiple contexts; particular emphasis on analyzing the meaning of ethical behavior, approaches to ethical decision making, issues of sustainability, development of social enterprise business models, and attorney's role in counseling corporate clients on ethical issues. Prerequisites: LAW:8331.
- LAW:9582 Deals** arr. Economic structure of complex commercial transactions as memorialized in agreements including bank credit facilities, indentures, underwriting agreements, other documents governing equity financings and financings involving convertible or preferred securities, venture capital agreements, securitization documents, business combination agreements, joint venture and shareholders agreements, limited liability company operating agreements, project finance documents; commercial agreements and how sophisticated parties order their private relationships to achieve efficient results. Prerequisites: LAW:8331.
- LAW:9591 Family Law in the World Community** arr. Family law from a global perspective; treatment of family law problems in varied legal systems; application of international treaties and conventions to issues such as child custody, adoption and foster care, education and child labor, juvenile crime and punishment, child trafficking and exploitation, migrant and refugee children, child soldiers.
- LAW:9630 Leadership in Higher Education** 3 s.h. Introduction to leadership in higher education; readings provide an overview of leadership skills needed to navigate some of the most pressing issues in higher education; students consider the role of professional schools operating within a larger university; discussion topics may include academic freedom, diversity/equity/inclusion, and intercollegiate athletics; assessment and development of individual leadership skills while analyzing policy questions associated with institutional responses to everyday decision making and crisis management.
- LAW:9631 Higher Education and the Law** arr. Introduction to the most pressing legal issues facing colleges and universities today; free speech on campus; academic freedom and tenure; diversity; student discipline; student privacy, safety, and well-being; Title IX; and intercollegiate athletics; a major goal is to consider the policy questions associated with institutional responses to these legal issues.
- LAW:9635 Happiness and the Law** 3 s.h. Happiness, law, and public policy; lawyer and client relationship; how to be a happy lawyer; pedagogical mix of Socratic discussion of readings and experiential components through which students experiment with mindfulness techniques and constructing an actionable and personal career-life plan that takes into account themes explored; additional experiential exercises.
- LAW:9639 History of Regulation of Smoking and Tobacco** arr. Regulation of smoking and tobacco use; history, beginning with 19th and early 20th centuries; state statutes and case law; OSHA, EPA, and FDA regulations; class action litigation, involvement of law firms in formulating tobacco company strategies, use of medical studies, economic history of the tobacco industry.
- LAW:9645 Race, Class, and Education** 2-3 s.h. Education plays a crucial role in sustaining a democratic society, and as such, it is critical to understand and be able to critique legal and public policy choices that shape educational systems; exploration of issues of equity, access, and reform in American education, particularly as pertains to race and class.
- LAW:9681 Elder Law** arr. With the aging population, elder law has become one of the fastest growing areas of law practice; examination of legal, policy, and planning issues related to aging in America; topics include planning for incapacity, guardianship, end-of-life planning (advance medical directives), social security, Medicare and Medicaid, planning for catastrophic illness and long-term care, elder abuse and neglect; exploration of ethical issues dealing with elderly and adult children of elderly.
- LAW:9701 International Criminal Law** arr. Available legal responses to ISIS; topics include the law of genocide, war crimes (including gender crimes), crimes against humanity, terrorism, human trafficking, money laundering, the International Criminal Court, and alternatives to prosecution including national truth commissions; strengths and weaknesses of international criminal law as a response to mass atrocity; practical considerations that limit and permit the effective functioning of this burgeoning legal experiment.
- LAW:9708 International and Comparative Labor and Employment Law** 2-3 s.h. Survey of labor and employment laws and norms developed and promulgated by the International Labor Organization (ILO), the European Union, free trade agreements, and corporate codes; comparative focus on laws of the United States, Germany, and China—three leading world economies with vastly different labor and employment law systems; how to make informed questions, including to local counsel, when cross-border, employment-related legal issues are encountered; why countries have different systems of labor and employment protection despite the fact that they all try to solve similar problems; how the United States is, or is not, unique.
- LAW:9717 Iowa Medical Innovation Group Seminar** arr. Interdisciplinary seminar intended to simulate the experience of product development, including potential business and legal issues; over the course of a year a team of students, with at least one law student on each team, will originate an idea for a medical device, design it and produce figures or a prototype, design a business model for marketing it, and evaluate legal issues and prepare draft legal documents; law students will analyze and counsel team members on intellectual property and business law issues and prepare draft contracts, licensing agreements, and materials for procuring intellectual property rights.
- LAW:9723 Seminar on Islamic Law and Government** 3 s.h. Islamic legal and political legacy from formative period until modern time; critical analysis of logic and context of development; development of jurisprudential, legal, and political literature; overview of theories and practices of governance in Islam beginning with Caliphate system and ending with modern nation-state models. Same as RELS:6723.
- LAW:9739 Topics in the Philosophy of Law** arr. Opportunity to explore certain questions in law and philosophy at greater depth; topics vary, ranging from foundational questions to issues with strong practical implications for public policy; readings specifically selected to fit topic area.

- LAW:9761 Law and the Trump Presidency** arr. 3 s.h.  
 Legal issues raised by the Trump administration that have drawn unusual public attention, ranging from matters related to immigration law, national security law, constitutional law, criminal law, campaign finance law, tax law, and administrative law, among other fields; oftentimes, issues raised lack clear legal answers or even relevant case; students study a selection of these novel issues as determined by current events and participant interest; includes substantial research and writing component; students lead a class discussion around their chosen research topic.
- LAW:9770 Latinx and the Law** 3 s.h.  
 Exploration of legal and theoretical issues relevant to Latina/o/x people in the United States; topics include role of law in defining Latinx identity, legal histories of Latinx subgroups (e.g., Mexican Americans, Puerto Ricans, Cuban Americans), legal regulation of language and accent, immigration and citizenship law, and antidiscrimination law.
- LAW:9804 Legislative Redistricting Seminar** 3 s.h.  
 Examination of redistricting—the process of drawing lines for legislative elections in the United States; issues of the Census; vote dilution; one person, one vote; the Voting Right Act; partisan and racial gerrymandering; special purpose districts; theories of democracy inevitably play a significant role in discussions, and political science often informs evidence at the heart of disputes about election law.
- LAW:9811 Law of War, Peace, and Military Affairs** arr. 3 s.h.  
 How does the law seek to restrain use of force in armed conflict? When may sovereign states lawfully take up arms? Once war begins, what methods may states and soldiers employ? How does and should the law of war deal with non-state actors, notably terrorists and private military contractors? Must the world reassess its answers to these questions in light of geostrategic developments since 9/11? When and why is a soldier's obedience to illegal orders an acceptable excuse? Is the Nuclear Non-Proliferation Treaty a success or failure?
- LAW:9820 The Law of Low-Wage Workers** 3 s.h.  
 Exploration of how traditional labor and employment law might be insufficient to properly protect low-wage workers; focus on alternative representational institutions (e.g., worker centers) and the special role that federal, state, and local law enforcement agencies and attorneys general play in this area; special concerns of particular groups of low-wage workers (e.g., agriculture, meatpacking, the “gig” economy, households/domestic work); may include immigrant and prison labor. Prerequisites: LAW:8421 or LAW:8670 or LAW:8415.
- LAW:9826 LL.M. Seminar** arr. 3 s.h.  
 Basic research and analytical methodologies for the international and comparative law fields; workshop approach to project proposals, drafts.
- LAW:9829 Media Law** 3 s.h.  
 Overview of law that applies to mass media, citizen media, and social media; how law has attempted to define “the Media,” and how it has distinguished between distribution platforms in treatment of media rights and obligations; American press and notions of press freedom at time of founding; tracking evolution of law governing injuries inflicted by speakers beginning with common-law treatment of libel and slander to constitutionalization of those torts; examination of law that applies to various journalistic tools; problems of jurisdiction and choice of law posed by online news; examining market influence on content; comparing American system with other countries approaches to media law.
- LAW:9830 Housing Law and Policy** 3 s.h.  
 Examination of how housing laws and policies in this country have fallen short of realizing the Housing Act's lofty ideal; exploration of challenges and tradeoffs inherent in developing effective legal solutions to the housing crisis through class discussions and exercises, research papers, and moderated presentations by housing professionals—from community organizers to legal aid lawyers to real estate developers and public officials.
- LAW:9834 Transportation Law and Policy** 3-4 s.h.  
 Transportation plays an outsized and understudied role in day-to-day life, economy, and society; law plays a similarly vital and underappreciated role in determining transportation policy; introduction to the law and policy of transportation.
- LAW:9860 Inside-Out: Social Justice Issues and Critical Theory** 2-4 s.h.  
 Use of Inside-Out model; law students (outside students) co-learn with incarcerated students (inside students) at the Iowa Medical and Classification Center (IMCC), also known as Oakdale, a medium security state prison and the site for the University of Iowa Liberal Arts Beyond Bars (UI LABB) program; analysis and discussion of current social justice issues through a critical legal theory lens (i.e., critical race theory, feminist legal theory, LatCrit, ClassCrits, queer theory, critical disability theory).
- LAW:9861 Current Social Justice Issues and Critical Theory Perspectives** 2-4 s.h.  
 Use of critical theories as a tool to examine current social justice issues; creation of a learning environment that adheres to the values of critical legal theories—which is non-hierarchical, values expression in all forms from a broad range of authors/creators, and disrupts traditional understanding of the classroom.
- LAW:9863 Patent Prosecution Seminar** 3-4 s.h.  
 Drafting seminar on patent application preparation and prosecution; student drafting exercises and presentations on advanced patent law topics; administrative rules and procedures governing practice before the U.S. Patent and Trademark Office; for students who plan to practice patent law. Prerequisites: LAW:8643.
- LAW:9865 Intellectual Property Scholarship Seminar** 3-4 s.h.  
 Exploration of major themes in intellectual property law scholarship through juxtaposition of classic and contemporary intellectual property law articles.

**LAW:9871 Privacy Law and Technology 3-4 s.h.**

We have become, wittingly or not, compulsive data makers; every day we shed reams of personal information that those who have an interest in empowering, monetizing, manipulating, or suppressing us are eager to acquire; this dynamic is redrawing the line between what it means for information to be private/public, personal/commercial, ours/theirs; privacy law and technology serves an interdisciplinary introduction to technologies, laws, and policies that shape how that information is collected, who has access to it, and what it can reveal about us; class sessions alternate between focusing on legal frameworks and the technologies they implicate.

**LAW:9873 Contract Drafting Boot Camp 1 s.h.**

Contracts are an essential part of the practice of law for transactional lawyers who draft contracts, and litigators who often argue about what contracts mean; introduction to the parts of a contract and the principles of contract drafting in a week-long intensive simulation; students consider doctrine, theory, skills, and ethics associated with contract drafting, and engage in multiple contract drafting exercises. Requirements: no prior, current, or future enrollment in LAW:9874.

**LAW:9874 Principles of Contract Drafting 3 s.h.**

Principles of drafting business contracts; focus on structure of contracts, how to draft each of the parts of a business contract, and how to translate the needs of the business into clear and understandable contractual language; examination of typical business contracts (e.g., nondisclosure agreements, letters of intent, purchase agreements, and other types of agreements); students complete drafting exercises and a series of larger contract drafting projects.

**LAW:9875 Judicial Opinion Drafting 3 s.h.**

Introduction to duties and responsibilities of judicial clerkships; writing bench memoranda and draft opinions at trial and appellate levels.

**LAW:9882 Public Health Law arr.**

Introduction to scope, function, and history of governmental activities and programs encompassed by public health regimes (primarily in the United States); legal and constitutional powers and duties of states to create prerequisites for health of population as a whole; limitations on exercise of that power to restrict individuals interests (inter alia) in liberty, autonomy, privacy, and property; tensions and conflicts that arise when collective action on behalf of public/common good constrains what the state deems to be acceptable risks triggered by actions of private individuals.

**LAW:9883 Health Disparities and the Law 3-4 s.h.**

Examination of relationship between race, racism, health disparities, and law; use of readings, video clips, and class discussions to trace history of racism in health care and development of scientific racism; how race became incorporated into our systems of law and governance; how race can lead to disparities in exposure to health hazards and diagnosis and treatment of illness.

**LAW:9886 Reconstruction and the Constitution arr.**

After the Civil War, during Reconstruction, Congress enacted the 13th, 14th, and 15th Amendments that changed the constitutional course of the nation and took place during the period of most progressive reform in U.S. history; students address: How do these amendments fit together? Where did the language of these amendments come from? How did these relate to the Dred Scott case? How did this constitutional change occur? What was necessary for this reform to come about? What was necessary legally? What was necessary in terms of social context for this progressive reform to occur? How do these amendments relate to the Bill of Rights and the 17th Amendment for women's suffrage? Prerequisites: LAW:8010.

**LAW:9912 Selected Issues in Family Law arr.**

In-depth look at an issue or set of issues in family law; relevant cases, statutes, scholarship; class visits or on-the-job observations with community members who play roles in the family law process being examined.

**LAW:9936 Selected Topics in Immigration Law arr.**

Issues arising out of contemporary problems of immigration law and practice; topics may include immigration enforcement policy, draft immigration legislation, initiating representation, bond hearings, suppression/other motions practice, defensive asylum/related claims, appellate practice, "know your rights" counseling, establishing powers of attorney/other forms of legally binding substitute decision making pertaining to family members/property/other assets, identifying and working with local resources/community organizations that can assist with or reinforce goals of individual client representation; may involve guest speakers/field trips to local nonprofits/government agencies. Recommendations: no specialized knowledge of immigration law is presupposed and no prior immigration law courses required.

**LAW:9941 State Constitutional Law arr.**

Power of state courts to independently interpret state constitutional provisions that are identical or similar to the federal counterparts; various approaches taken by state courts with respect to this issue; in-depth analysis of cases where a state court has departed from the federal interpretation. Prerequisites: LAW:8280.

**LAW:9950 S.J.D. Continuous Enrollment 1 s.h.**

Intended for S.J.D. students working on their dissertation with no mandatory classes left to take; continuous registration is a College of Law policy and students should register for continuous registration only if they are not going to register for any other tuition and fee-assessing courses. Requirements: S.J.D. enrollment, completion of required coursework, and promotion to candidacy.

**LAW:9959 Supreme Court Seminar arr.**

Supreme Court practice, procedure, jurisdiction; the art of opinion writing; in-depth analysis of cases on the court's pending docket; writing briefs, conducting research, conferencing cases, assigning and preparing opinions, and persuading colleagues; preparation of an opinion.

**LAW:9960 Crime and Punishment in American History** 3 s.h.

As reasons behind punishment shifted, so did its methods change; sometimes these developments occurred amidst great public debate and scrutiny; at other times, they proceeded almost without notice; students are challenged to think critically about the relationship between laws on crime and punishment on one hand, and American society, politics, and culture on the other (What did it mean to be “criminal” at various points in American history? How have criminal laws both reflected and shaped their times? And what does this history mean for modern crime control and its reform?).

**LAW:9965 Empirical Analysis of Crime and Criminal Justice Policy** 3 s.h.

Selected readings of social science articles on criminal justice system; basic concepts needed to become educated consumers of empirical research in general.

**LAW:9989 Litigation for Decarceration** 2-3 s.h.

Analysis and discussion of recent criminal-legal reforms aimed at reducing the number of individuals who are imprisoned in the federal system.

**LAW:9990 Wrongful Convictions and the American Criminal Justice System** arr.

Over 300 innocent persons in the United States have been exonerated through DNA evidence after being convicted of crimes they did not commit since 1989; how wrongful convictions occur, how they are remedied, how future injustices can be prevented; introduction to criminal appeals and postconviction proceedings; examination of cases of wrongful convictions; common factors that contribute to conviction of innocent; challenges of proving innocence under statutory and constitutional law; how the system can be reformed to prevent wrongful convictions.

## Law Study Abroad Courses

**LWAB:8230 France Summer Program: Paris and Arcachon** arr.

Intensive coursework in France taught by professors from Iowa and France; program begins in Paris where students visit courts and a law school with speakers including prominent judges and lawyers; students then travel to Arcachon for remainder of stay. Five-week courses in May and June.

**LWAB:8250 Law Study Abroad at Peking University School of Transnational Law** arr.

Exchange study program at Peking University of Transnational Law in China.

**LWAB:8360 Law Study Abroad at KoGuan Law School of Shanghai Jiao Tong University** arr.

Exchange student study abroad program at KoGuan Law School of Shanghai Jiao Tong University.

**LWAB:8825 London Law Program** 2-3 s.h.

London Law Program is open to second- and third-year law students who spend ten days taking classes in the heart of London; students visit parliament, the UK supreme court, the Inns of Court, and attend a symposium at Oxford University as part of their coursework; each course offered includes a strong comparative dimension. Winter session.

**LWAB:9215 Law Study Abroad at Beijing Normal University** arr.

Exchange Student study abroad program at Beijing Normal University, Beijing, China.

**LWAB:9223 Law Study Abroad at Catolica University** arr.

Exchange student study at the University of Católica in Lisbon, Portugal.

**LWAB:9226 Law Study Abroad at Radboud University Nijmegen** arr.

Exchange student study at Radboud University in Nijmegen, Netherlands.

**LWAB:9230 Law Study Abroad at Ewha Womens University** arr.

Exchange student study at Ewha Womens University in Seoul, South Korea.

**LWAB:9234 Law Study Abroad at Korea University** arr.

Exchange student study at Korea University in Seoul, South Korea.

**LWAB:9238 Law Study Abroad at National University Ireland** arr.

Exchange student study at National University Ireland, Galway, Ireland.

**LWAB:9242 Law Study Abroad at Pontifica Comillas University** arr.

Exchange student study at Pontifica Comillas University, Madrid, Spain.

**LWAB:9244 Law Study Abroad at the University of Vienna** arr.

Exchange student study abroad program at the University of Vienna, Austria.

**LWAB:9246 Law Study Abroad at the University of Pristina** arr.

Exchange student study at the University of Pristina, Kosovo.

**LWAB:9300 Law Study Abroad at Zhejiang University Guanghau Law School** arr.

Students enroll in classes linked to Zhejiang University's LL.M. programs and earn up to 15 credits, choosing from a variety of courses taught in English; students with adequate fluency also can take law courses taught in Chinese; exchange program is for one semester, and students can make arrangements with Zhejiang University for an additional semester to complete an LL.M.

**LWAB:9301 Law Study Abroad at University of Zagreb** arr.

Exchange student study abroad at University of Zagreb in Croatia.

## Juris Doctor, J.D.

The Juris Doctor (J.D.) is a professional degree awarded by the College of Law. The University of Iowa College of Law is approved by the Council of the Section of Legal Education and Admissions to the Bar of the American Bar Association.

The first year of the J.D. program offers the personal connection and attention students need to develop a strong intellectual foundation for legal thinking and writing. The College of Law has one of the lowest student-faculty ratios of any law school. Professors have an open-door policy, and they serve as models for the kind of highly collaborative, rigorously professional behavior that prepares students to serve as counselor to their clients. Students get intensive, individualized instruction from legal writing faculty; the College of Law is one of the few law schools in the nation with a full-time faculty dedicated solely to a student's growth as a legal writer.

In the second and third years, students focus on the areas of law that most interest them, drawing from a rich menu of mainstream, specialized, and clinical courses. A wide array of opportunities provides experiential learning: moot court competitions, the field placement and the clinical law programs that allow students to take the lead with real clients, or allowing students to write for one of the four student-run scholarly journals. The Field Placement program, in particular, provides a wide range of placements for students still in law school. Students have worked in U.S. District Courts, legal aid centers, federal public defenders' offices, and nongovernmental organizations (NGOs) around the world. Students also may add distinction to their résumés by participating in study abroad or exchange programs.

Details about applications and admission to the program are available on the College of Law website.

### Cocurricular and Extracurricular Programs

Students enrich their course of study by participating in the college's cocurricular and extracurricular programs which include Moot Court, the Trial Advocacy Program, and four student-produced journals.

#### Moot Court

In the Moot Court appellate advocacy programs, students draft appellate briefs, build expertise with citation form, develop research skills, and strengthen their persuasive abilities through oral arguments.

#### Trial Advocacy

The Trial Advocacy Program is a student-run, faculty-supervised program in which students develop and refine skills used to prepare and try civil and criminal cases. The heart of the program is LAW:9060 Trial Advocacy, a course taught by law school faculty, federal and state judges, and experienced trial attorneys. Students are on their feet during most class sessions, practicing the arts of jury selection, opening statement, direct and cross examination, introduction of exhibits, use of expert testimony, and closing argument. The course culminates with a full-scale trial—from the filing of pretrial motions to the rendering of a jury verdict—conducted by student co-counsel before a visiting judge and a jury of laypersons.

The Stephenson Competition is named after Judge Roy L. Stephenson, a U.S. District Court and Eighth Circuit Court of Appeals judge and a 1940 graduate of the College of Law. Students who demonstrate superior ability in advocacy skills during the trial advocacy courses participate in a series of mock trials judged by local members of the bench and bar. Individuals selected from the competition represent the University of Iowa in the national trial competition.

### Iowa Law Review

Since its inception in 1915, the *Iowa Law Review* has served as a scholarly legal journal, noting and analyzing developments in the law and suggesting future paths for the law to follow. Students have managed the review since 1935, editing and publishing articles by professors and students. To learn more, visit the Iowa Law Review website.

### Journal of Corporation Law

The *Journal of Corporation Law* is the nation's oldest and most cited student-published legal periodical specializing in corporate law. The journal's scope includes antitrust, intellectual property, labor law, securities, taxation, employment discrimination, insurance, products liability, and regulated industries, as well as traditional corporate topics. Selected articles submitted by practitioners and academics are published in each of four annual issues. See the Journal of Corporation Law website.

### Journal of Gender, Race & Justice

The *Journal of Gender, Race & Justice* pushes the boundaries of legal scholarship and theory in its focus on social justice issues. The journal hosts a symposium at the College of Law every third year, bringing together nationally renowned legal scholars and practitioners to discuss the relationships among the law and race, gender, sex, sexual identity, economic class, ability, and other identity characteristics. The journal publishes an annual volume of legal works that includes symposium papers, papers from conferences outside the college, and articles written by Iowa law students. To learn more, visit the Journal of Gender, Race & Justice website.

### Transnational Law & Contemporary Problems

*Transnational Law & Contemporary Problems* addresses issues and problems that transcend traditional political boundaries, that are of interest to the international and comparative law community, and that are not commonly found in other journals and reviews. One issue takes the form of a symposium addressing specific topics; this issue has a guest editor who is a legal scholar noted for work on the symposium topic. The second issue is submission based. Every other year the journal organizes and sponsors a symposium on a contemporary international issue; past topics include climate change, the European Union's sovereign debt crisis, and war crimes. For more information, visit the Transnational Law & Contemporary Problems website.

## Requirements

The Juris Doctor (J.D.) requires a minimum of 88 s.h. to earn the degree. To be eligible for a J.D. degree, students must meet the credit hour requirements, meet the length of study requirements, achieve a cumulative g.p.a. of at least 2.1, take and complete all required courses, satisfy the writing requirements, and satisfy the experiential course requirement.

## First-Year Curriculum

The first-year curriculum emphasizes development of analytical skills, a sense of the role of legal institutions in society, and essential writing skills. Each course in the first-year curriculum shares these emphases and conveys substantive knowledge about a particular area of the law.

First-year students take the following courses.

### First Year, Fall

Code	Title	Hours
LAW:8017	Contracts	4
LAW:8026	Introduction to Law and Legal Reasoning	1
LAW:8032	Legal Analysis Writing and Research I	2
LAW:8037	Property	4
LAW:8046	Torts	4

### First Year, Spring

Code	Title	Hours
LAW:8006	Civil Procedure	4
LAW:8010	Constitutional Law I	3
LAW:8022	Criminal Law	3
LAW:8033	Legal Analysis Writing and Research II	3
Elective		3

The two-semester sequence LAW:8032 and LAW:8033, Legal Analysis Writing and Research (LAWR), is designed to equip students with effective skills in legal analysis, writing and oral communication (oral advocacy), and research.

## Second- and Third-Year Curriculum

Second- and third-year courses cover the range of specialties within the legal profession, allowing students to explore and follow their professional interests in a particular career specialization, to write for one of the school's four student-run scholarly journals, to pursue combined degrees in law-related graduate programs, or to simply obtain the widest possible exposure to the legal landscape.

All second- and third-year students must complete the following work.

Code	Title	Hours
LAW:8280	Constitutional Law II	3
LAW:8791	Professional Responsibility	3
Experiential course requirement		
Four writing units beyond the writing requirements of the first year		

## Combined Programs

### J.D./Graduate Degrees

Some students want to explore areas beyond the law, whether it is to maximize their skill sets for future careers, gain in-depth knowledge in a second subject matter, or simply to broaden their minds. Combined degree programs allow students to pursue two degrees simultaneously, taking advantage of synergies between degree requirements while gaining significant exposure to a second area of study. Juris

Doctor students may pursue combined degree programs with most graduate and professional programs at the University of Iowa. Students may earn a J.D. degree and another graduate or professional degree in a shorter amount of time than if the two degrees were pursued independently.

### Admissions Qualification

To pursue a combined degree, students must apply to and be accepted separately into the J.D. program and another graduate or professional program. Students typically seek admission to the second degree-granting program after matriculation at the College of Law by applying to the graduate program of interest during their first year of law school. In some cases it is possible to apply to both programs simultaneously. Students who have already begun graduate work at the University of Iowa may apply to the College of Law. Once students have been accepted into the J.D. program and another graduate or professional program, they must obtain the permission of the associate dean for student affairs or the dean of the College of Law to be classified as a combined degree candidate. Prospective students interested in a combined degree program should contact the admissions offices of both programs to discuss the proposed program of study.

Students who wish to pursue a combined degree program and obtain admission into one college but not the other may enter the college in which they were admitted. However, they are not granted combined degree status. Likewise, combined degree students who terminate work toward one of the degree programs may typically continue to work toward the other degree.

### Admissions Procedures

Prospective combined degree students must submit separate applications to the College of Law and the graduate program of interest. They must take the Law School Admission Test (LSAT) and comply with all College of Law admissions requirements. Students also must meet the admission requirements of the other graduate program by taking tests such as the Graduate Record Examination (GRE) General Test or the Graduate Management Admission Test (GMAT). Prospective students should inform the Admissions Offices of both programs that they are applying to a combined degree program to confirm the admissions requirements for the other program.

Students interested in a combined degree program at the beginning of their legal studies should indicate they are seeking a combined degree on their application. Students who are admitted to both colleges will receive separate letters of admission from those colleges as well as an official notification of being admitted to the combined degree program from the Office of Admissions.

Admission information for the Juris Doctor (J.D.) is available on the College of Law Admissions page. For information about other graduate programs of interest, visit Academics on the University of Iowa home page.

### Shared Credit Policies

Students enrolled in a combined degree program must satisfy the semester hours and course requirements that all students must satisfy for each degree separately. However, they have the option of using credit for some courses toward both degrees. These courses are typically electives in each discipline. For example, students enrolled in a combined J.D./M.P.H. program may be able to count the family law and

introduction to U.S. health care system courses toward the graduation requirements of both the J.D. and M.P.H. degrees.

The amount of shared credit that may be applied toward both programs of study varies by program. Generally, combined degree program students may apply up to 12 s.h. earned in their second program of study toward the J.D. provided that the courses satisfy the College of Law policy on non-law courses. The J.D./M.P.H. degree permits up to 12 s.h. of specific College of Law courses to count toward M.P.H. graduation requirements. Some degree programs allow students to count up to 6 s.h. of College of Law courses toward a non-law degree. Details on the Graduate College policy may be found in the Manual of Rules and Regulations on the Graduate College website. Prospective students should check with their graduate or professional program of interest to determine the law semester hours that count for both programs as well as other rules or restrictions concerning counting of courses toward both degrees with the College of Law.

Additional details about College of Law graduation requirements and other policies may be found in the College of Law Student Handbook. Students considering a combined degree program should be aware that the first-year program in the College of Law consists of required courses and they typically may not take courses outside the College of Law.

### **Student Tuition Assessment Policy**

Students in a J.D. and a graduate/professional degree combined program are assessed tuition at the College of Law rate if the tuition in the other college is lower than in the College of Law, except for any semester or summer session in which they are not enrolled in any law courses and none of the semester hours being earned in other colleges are applied toward their J.D. degree. All combined degree students pursuing a J.D. degree are assessed at least six semesters of law school tuition.

# Master of Laws, LL.M.

The Master of Laws (LL.M.) is designed for two types of students, either the legal practice or the research track.

## Legal Practice Track

This track is for foreign-trained jurists who seek a comparative introduction to, and specific training in, aspects of United States law and legal institutions, and a path to state bar admission. Students benefit from the College of Law's legal analysis, writing, and research course, and core courses including contracts, property, torts, and professional responsibility. An extended orientation provides an introduction to United States law.

## Research Track

This track is for foreign-trained jurists or graduates of J.D. programs in the United States who wish to deepen their understanding of law and are interested in research. The program encourages close collaboration with renowned experts in comparative law; anti-competition law; law and economics; law and society; international law, including the law pertaining to international business transactions and/or human rights; and business and innovation.

The LL.M. program admits fewer applicants so that students receive substantial attention from the faculty. Admission is competitive. All applicants must present evidence of high academic potential and strong recommendations, especially from law professors who supervised their work in classes or seminars.

## Requirements

The Master of Laws program requires that students successfully complete a minimum of 24 s.h. of credit, as approved by their faculty advisor. Coursework is selected from the College of Law's general course offerings and from LL.M.-specific courses.

## Required Courses

Code	Title	Hours
All of these:		
LAW:8026	Introduction to Law and Legal Reasoning	1
Two faculty-supervised writing units		1-4
Two first-year courses, including at least one of these:		
LAW:8017	Contracts	4
LAW:8037	Property	4
LAW:8046	Torts	4
May include one of these:		
LAW:8006	Civil Procedure	4
LAW:8010	Constitutional Law I	3
LAW:8022	Criminal Law	3

## Legal Practice Track

This track is open to foreign-trained lawyers who do not have a J.D. earned in the United States. Students enroll in the LL.M. orientation to the U.S. legal system course in two parts; a course in professional legal writing; a course in professional responsibility; and at least two basic bar exam courses, such as contracts, torts, or constitutional law. This track is designed

to qualify students to take the bar exam in states that allow graduates of LL.M. programs to complete the bar exam.

## Research Track

This track is open to both foreign-trained students and students who hold a J.D. degree earned in the United States. LL.M. students without a J.D. degree must take the LL.M. orientation to the U.S. legal system course in August before the start of the fall semester. Students take the LL.M. seminar, a research and writing course in which they write a research paper on a topic chosen with the approval of their advisor. This track is especially suitable for those seeking to enter into an academic career or one that primarily involves policy formulation or research.

Students who earned a J.D. in the United States and international students who have been trained in another common-law jurisdiction, whose English competence is sufficiently high, and who choose the research track are required to undertake a more ambitious research project intended to lead to the production of a publishable paper. Others suitably qualified also may attempt the longer research paper with their advisor's approval.

With the exception of the LL.M. orientation course and the LL.M. seminar, courses are taken with other J.D. students from law course offerings, especially offerings on U.S., international, and comparative law. This method of instruction ensures a very effective comparative experience through broad contact with U.S. law students and professors, and U.S.-trained students similarly benefit from close contact with foreign-trained lawyers.



# Master of Studies in Law, M.S.L.

Application materials are reviewed by the M.S.L. Faculty Oversight Committee.

The Master of Studies in Law (M.S.L.) degree is primarily intended to educate students and professionals in other fields who do not wish to practice law but who need to recognize and respond effectively to legal issues arising in their work. Individuals who have completed their B.A. or B.S. degree may choose to better position themselves in the job market. Others may be on an established career path but seek to increase their skill set and enhance mobility and promotion opportunities.

The M.S.L. program provides professionals with an overview of the legal system as a whole, as well as an introduction to some of the legal issues that they are likely to confront in their fields. Students take existing courses in the College of Law alongside J.D. students.

The degree may be completed in as little as one year of full-time study or in not more than four years of part-time study. The M.S.L. program does not qualify graduates to practice law.

## Requirements

The Master of Studies in Law program requires 30 s.h. of credit. With law school approval, M.S.L. students may take up to 9 s.h. in related coursework from other colleges across campus. Students complete common requirements and customize their curriculum based on interest. Students also may choose to pursue a specialty track such as the law and public policy track or the business and innovation track.

## Common Requirements

All students must take the following.

Code	Title	Hours
Both of these:		
LAW:8026	Introduction to Law and Legal Reasoning	1
One or more College of Law writing seminars, independent studies, or tutorials		
Two first-year courses required of J.D. students, including at least one of these:		
LAW:8017	Contracts	4
LAW:8037	Property	4
LAW:8046	Torts	4

## Admission

Applicants must submit an application for admission; a short statement detailing their reasons for pursuing the M.S.L. degree; a current résumé; official transcripts from all institutions students have attended; two letters of recommendation; and an official ACT, SAT, Graduate Record Examination (GRE) General Test, Graduate Management Admission Test (GMAT), or Law School Admission Test (LSAT) score.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS) or the Duolingo English Test (DET).

# Doctor of Juridical Science, S.J.D.

The Doctor of Juridical Science (S.J.D.) program is intended for students who wish to conduct original and advanced legal research in law under faculty supervision.

## Requirements

The Doctor of Juridical Science program includes five requirements for earning the S.J.D. degree.

### Year of Residency

Doctor of Juridical Science students must spend at least one academic year (two semesters) in residence in the S.J.D. program at the College of Law.

Students must complete 18 s.h. of credit during their first year of residency; students who have not earned an LL.M. degree complete 24 s.h. They must enroll in the S.J.D. tutorial (5 s.h. each semester; 10 s.h. total) to conduct research and writing under the supervision of their S.J.D. dissertation committee. The work in the S.J.D. tutorial focuses on formulating a detailed dissertation proposal, beginning research for and writing of portions of the dissertation, and completing one or more chapters.

Students are expected to write a dissertation of publishable quality making a significant and original contribution to legal scholarship. The dissertation should be a book-length manuscript or a series of related articles of equivalent intellectual ambition and scope.

The balance of the required 18 s.h. will be earned through research and writing related to a student's dissertation, supervised by the student's S.J.D. chair. However, at the discretion of a student's S.J.D. committee, some of the semester hours may be allocated to courses or seminars that the committee feels a student needs to strengthen the ability to write a successful dissertation.

### Admission to S.J.D. Candidacy

Admission to candidacy is a formal step that must be achieved before a student has the right to continue in the S.J.D. program to complete a dissertation and is determined by the student's committee on the basis of the work done during the student's year of residency in the program.

As part of the assessment process, the S.J.D. committee holds an oral examination toward the end of a student's year of residency that focuses on the work the candidate has completed on the dissertation, the candidate's general knowledge and understanding in relation to the subject matter of the dissertation, and the candidate's further plans for completion of the dissertation. If the committee is not able to admit the student to S.J.D. candidacy at the conclusion of the first year of residency, the committee may give an extension of up to one calendar year if it finds a sufficient basis to believe that the student likely will be able to satisfy the necessary standard within that time.

### Presentation of Dissertation Work

Each student is required to make at least one substantive presentation of dissertation work at a meeting of the S.J.D.

tutorial to a specially constituted group of faculty, or in a public meeting, as arranged with the student's S.J.D. committee.

### Completion of the Dissertation

Students admitted to S.J.D. candidacy continue to enroll in 1 s.h. of dissertation credit, which provides access to University resources, including the Law Library. However, students admitted to S.J.D. candidacy are free to complete their dissertation wherever they wish. In any event, they must continue to coordinate with their committee and continue to register each fall and spring semester as an S.J.D. candidate in the college.

### Oral Defense of the Dissertation

Before a student's S.J.D. committee decides whether to approve the student's completed dissertation, the student must successfully defend the dissertation in an oral defense led by the committee. A student must complete the dissertation and have it approved by the committee within five calendar years from the date of admission to S.J.D. candidacy.

## Admission

To be admitted to the S.J.D. program, students typically first complete the LL.M. degree at the University of Iowa or a similar masters-level degree at another law school, either in the United States or at an English language law school with academic standards equivalent to those of highly ranked United States LL.M. programs. In appropriate circumstances, the admissions committee will consider applications from excellent students without an English language master's-level degree who wish to proceed directly to work on their S.J.D. degree. All applicants must show strong evidence of scholarly research and writing abilities.

For more information, visit the S.J.D. application process web page.

# University of Iowa Center for Human Rights

## Director, Center for Human Rights

- Adrien K. Wing

## Director, Human Rights Certificate Program

- Brian R. Farrell

**Undergraduate certificate:** human rights

**Faculty:** <https://uicvr.uiowa.edu/academics/faculty>

**Website:** <https://uicvr.uiowa.edu/>

The Certificate in Human Rights involves an integrated, specific course of study that includes an introduction to foundational concepts in human rights as they have been informed by political, ethical, moral, legal, and historical thought. Through the curriculum, students explore specific, pressing human rights topics from interdisciplinary perspectives, identify solutions to global challenges, learn to translate foundational human rights concepts into effective advocacy, and strengthen their ability to communicate with academic and nonacademic audiences.

The certificate provides preparation for a future in which students can apply knowledge gained to their professional career or field of study and one in which they learn to appreciate the value of empathy, social responsibility, and engaged global citizenship.

Human rights purport that all people deserve to live life with dignity; that human beings are owed the protection of these rights simply because they are human. Universal human rights apply to all equally and without discrimination. They encompass civil and political rights; economic, social, and cultural rights; and apply to both individuals and groups. The rights set forth in human rights doctrines, such as the Universal Declaration of Human Rights, are interrelated, interdependent, and indivisible.

The Certificate in Human Rights is administered and awarded by the College of Law.

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Human Rights [p. 1828]

## Courses

### University of Iowa Center for Human Rights Courses

**HRTS:2115 Introduction to Human Rights** 3 s.h.  
Analysis and evaluation of the international human rights program; relationship between human rights and international law. Same as IS:2115.

**HRTS:3903 Technology and Human Rights** 1-3 s.h.  
Examination of emerging human rights issues in technology from an interdisciplinary and international perspective. Same as IS:3903.

**HRTS:3904 Business, Labor, and Human Rights** 1-3 s.h.  
Examination of emerging human rights issues in labor and business from an interdisciplinary and international perspective. Same as IS:3904.

**HRTS:3905 Topics in Human Rights** 1-3 s.h.  
Examination of emerging human rights issues from an interdisciplinary and international perspective. Same as IS:3905.

**HRTS:3906 Global Crises and Human Rights** 3 s.h.  
Exploration of human rights in context of global challenges; multidisciplinary; topics may include military conflict, nuclear war, human trafficking, environmental disasters, and other international human rights crises.

**HRTS:3907 Literature and Human Rights** 1-3 s.h.  
Examination in human rights in literature from an interdisciplinary and international perspective. Same as IS:3907.

**HRTS:3908 Governance and Human Rights** 1-3 s.h.  
Examination of emerging human rights related to governance issues from an interdisciplinary and international perspective. Same as IS:3908.

**HRTS:3909 Human Rights Lab** 1-3 s.h.  
Discussion-based examination of emerging human rights issues from an interdisciplinary and international perspective. Same as IS:3909.

**HRTS:3910 Human Rights Advocacy** 3 s.h.  
Theoretical foundations and critical issues for international human rights advocacy and international humanitarian movements. Same as IS:3910.

**HRTS:3920 Seminar in Human Rights Praxis: Supervised Internship** 3 s.h.  
Supervised internship in human rights praxis; focus on field-based advocacy and human rights frameworks.

# Human Rights, Certificate

## Learning Outcomes

Students who earn the Certificate in Human Rights will be able to:

- critically analyze real-world global challenges from a human rights perspective;
- articulate creative and effective solutions to real-world global challenges from interdisciplinary perspectives by applying human rights principles, advocacy strategies, and tactics grounded in the basic concepts of human dignity, nondiscrimination, equality, diversity, and pluralism;
- identify and trace the impact of the major events that have led to the formation of contemporary human rights concepts, norms, and institutions;
- explain the historical underpinnings of international human rights advocacy and international institutions that emerged in response to doctrines of racial superiority, inequality, discrimination, imperialism, and conflict during the 20th century;
- apply human rights frameworks to other fields of study, including student's primary major and professional work;
- integrate concepts from other fields of study into their human rights coursework;
- critically analyze the major scholarly debates about human rights, past and present;
- articulate justifications of human rights frameworks and regimes as well as critiques of discourses on, and approaches to, human rights;
- explain foundational international human rights legal concepts and the interpretation and application of norms as well as the limits of the law in advancing human rights;
- identify human rights violations based on existing international human rights legal frameworks;
- identify the basic operational functions of international and domestic legal regimes involved with the promulgation, promotion, and protection of modern human rights standards;
- analyze and evaluate the relationship of human rights to individuals, governments, corporations, and civil society organizations and to analyze and evaluate the role of each in the promotion and protection of human rights and in relationship to other social priorities;
- identify specific target audience(s) with capacity to raise awareness about and to mitigate human rights abuses and to effectively communicate desired actions and outcomes to these diverse audiences in both academic and/or non-academic settings; and
- develop critical thinking, reading, listening, writing, research, and analytical skills.

## Requirements

The undergraduate Certificate in Human Rights requires 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in certificate coursework. They may count a maximum of 6 s.h. of transfer credit toward the certificate with approval from the certificate program's faculty advisory group.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to

Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Individuals should declare their intent to earn the certificate in MyUI.

The Certificate in Human Rights requires the following coursework.

## Foundations in Human Rights

Code	Title	Hours
All of these:		
HRTS:2115/IS:2115	Introduction to Human Rights	3
HIST:4101	History of Human Rights	3
PHIL:3430	Philosophy of Human Rights	3

## Contemporary Global Issues in Human Rights

These courses are repeatable if the topic differs.

HRTS:3909/IS:3909 Human Rights Lab is offered without topics, but may be repeated.

Code	Title	Hours
6 s.h. from these:		
HRTS:3903/IS:3903	Technology and Human Rights (8-week course)	1-3
HRTS:3904/IS:3904	Business, Labor, and Human Rights	1-3
HRTS:3905/IS:3905	Topics in Human Rights	1-3
HRTS:3906	Global Crises and Human Rights	3
HRTS:3907/IS:3907	Literature and Human Rights (8-week course)	1-3
HRTS:3908/IS:3908	Governance and Human Rights (8-week course)	1-3
HRTS:3909/IS:3909	Human Rights Lab	1-3

## Human Rights in Practice

Code	Title	Hours
One of these:		
HRTS:3910/IS:3910	Human Rights Advocacy	3
HRTS:3920	Seminar in Human Rights Praxis: Supervised Internship	3

## Career Advancement

The Certificate in Human Rights benefits students interested in careers in government, social services, the nonprofit sector, business, and education, as well as those pursuing law school or other professional or graduate degrees.

## Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Human Rights, Certificate

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
HRTS:2115	Introduction to Human Rights <sup>a</sup>	3
Certificate: Contemporary Global Issues in Human Rights course(s) <sup>b</sup>		1 - 3
<b>Hours</b>		<b>4-6</b>
<b>Spring</b>		
HIST:4101	History of Human Rights <sup>a</sup>	3
Certificate: Contemporary Global Issues in Human Rights course(s) (HRTS:3909 Human Rights Lab is recommended but not required) <sup>b</sup>		1 - 3
<b>Hours</b>		<b>4-6</b>
<b>Second Year</b>		
<b>Any Semester</b>		
HRTS:3910 or HRTS:3920	Human Rights Advocacy <sup>c</sup> or Seminar in Human Rights Praxis: Supervised Internship	3
<b>Hours</b>		<b>3</b>
<b>Fall</b>		
PHIL:3430	Philosophy of Human Rights <sup>a</sup>	3
Certificate: Contemporary Global Issues in Human Rights course(s) <sup>b</sup>		1 - 3
<b>Hours</b>		<b>4-6</b>
<b>Spring</b>		
Certificate: Contemporary Global Issues in Human Rights course(s) (HRTS:3909 Human Rights Lab is recommended but not required) <sup>b</sup>		1 - 3
<b>Hours</b>		<b>1-3</b>
<b>Total Hours</b>		<b>16-24</b>

a Courses for the Certificate in Human Rights may be taken in any order. HRTS:2115 Introduction to Human Rights is taught in fall, spring, and summer terms. Most other courses are offered only one semester each year.

b Complete a total of 6 s.h. of Contemporary Global Issues in Human Rights courses numbered HRTS:3903 through HRTS:3909. Many Contemporary Global Issues in Human Rights courses are one semester, six- to eight-week courses.

c Complete the 3 s.h. Human Rights in Practice requirement by taking HRTS:3910 (typically offered in the fall) or HRTS:3920 (typically offered in the spring).

# Carver College of Medicine

## Vice President for Medical Affairs and the Tyrone D. Artz Dean

- J. Brooks Jackson

## Executive Dean and Senior Associate Dean for Clinical and Translational Medicine

- Patricia L. Winokur

## Vice Dean, Clinical Affairs

- Douglas J. Van Daele

## Senior Associate Dean, External Affairs

- Gerard P. Clancy

## Senior Associate Dean, Medical Education

- Christopher S. Cooper

## Associate Dean, Continuing and Integrated Medical Education

- Joseph F. Szot

## Associate Dean, Diversity, Equity, and Inclusion and Interim Associate Vice President for Health Parity

- Denise A. Martinez

## Associate Dean, Faculty Affairs and Development

- Peter M. Snyder

## Associate Dean, Graduate and Postdoctoral Studies

- Daniel T. Tranel

## Associate Dean, Graduate Medical Education

- Mark C. Wilson

## Associate Dean, Information Technology

- Boyd Knosp

## Associate Dean, Medical Education

- Amal Shibli-Rahhal

## Associate Dean, Medical Education and Professional Programs

- David P. Asprey

## Associate Dean, Research

- Robert C. Piper

## Assistant Deans

- Ken L. Cheney, James Y. Choi, Gregory C. Nelson

**Undergraduate majors:** medical laboratory science (B.S.); nuclear medical technology (B.S.); radiation sciences (B.S.)

**Undergraduate certificate:** EMT paramedic program

**Professional degrees:** M.C.A.; M.C.N.; M.D.; M.P.A.

**Graduate degrees:** M.A.; M.M.E.; M.S.; D.P.T.; Ph.D.

**Website:** <https://medicine.uiowa.edu/>

The Roy J. and Lucille A. Carver College of Medicine is an integral part of the University of Iowa. It contributes to the education of thousands of University students, is home to ground-breaking research in a wide array of disciplines, and provides a statewide health care resource.

The Carver College of Medicine is the only college in Iowa that offers a curriculum leading to the Doctor of Medicine. It also offers a Bachelor of Science in medical laboratory science, nuclear medicine technology, and radiation sciences (see "Undergraduate Programs of Study" under Programs [p. 1831] in this section of the Catalog). It offers Master of Science and Doctor of Philosophy degrees in several disciplines, the Master in Medical Education, and the Doctor of Physical Therapy (see "Graduate Programs of Study" under Programs [p. 1831] in this section of the Catalog). In addition, the Carver College of Medicine offers professional degrees: the Doctor of Medicine, the Master of Clinical Anatomy, the Master of Clinical Nutrition, the Master of Physician Assistant Studies (see "Professional Programs of Study" under Programs [p. 1831] in this section of the Catalog).

Doctor of Medicine and other health sciences students have a number of opportunities to gain experience in medical clinics, community hospitals, and a major academic medical center. M.D. graduates may pursue further training in the specialties of family medicine, internal medicine, surgery, and pediatrics at one of 13 University of Iowa-affiliated residency programs in six Iowa cities. The college also participates in the education of students in the Colleges of Dentistry, Nursing, Pharmacy, and Public Health and in the life sciences and health-related programs of the College of Liberal Arts and Sciences, the College of Engineering, and the Graduate College.

Health professionals from throughout the Midwest take part in the college's year-round continuing medical education programming, updating their knowledge and skills through refresher courses, clinics, and conferences. The college also offers a variety of services that support Iowa physicians and community hospitals.

In addition to providing education and resources for physicians and other health care organizations, the college addresses broad public issues of distribution and organization of health care services. Its faculty members advise and serve on national, state, and regional health planning councils, health boards, and various health agencies.

Accredited by the Liaison Committee on Medical Education of the American Medical Association and the Association of American Medical Colleges, the Carver College of Medicine meets the requirements of all state licensing boards. Its M.D. diploma admits the holder to all privileges granted to graduates of all medical colleges before such boards. All other professional programs administered by the college are accredited by their respective accrediting bodies.

## Doctor of Medicine (M.D.)

The Doctor of Medicine is a four-year program that prepares students to practice primary care medicine and to pursue further education and training in specialized areas of medicine. For a description of the M.D. curriculum and information about admission to the program, financial support, and academic rules and procedures, see Doctor of Medicine [p. 1868] in the Catalog.

## Programs

### Undergraduate Programs of Study

The Carver College of Medicine offers a Bachelor of Science with majors in medical laboratory science, nuclear medicine technology, and radiation sciences. The medical laboratory science major is offered through a partnership with Allen College, in Waterloo, Iowa. See Medical Laboratory Science [p. 1885], Nuclear Medicine Technology [p. 1909], and Radiation Sciences [p. 1949] in the Catalog. In addition, the college offers an undergraduate certificate; see the EMT Paramedic Program [p. 1834] in this section of the Catalog.

### Graduate Programs of Study

The Carver College of Medicine offers graduate programs leading to the M.S. in athletic training (see the Department of Orthopedics and Rehabilitation [p. 1920]), the M.S. and Ph.D. in biochemistry (see the Department of Biochemistry and Molecular Biology [p. 1847]), the M.S. and Ph.D. in microbiology (see the Department of Microbiology and Immunology [p. 1890]), the M.S. in pathology (see the Department of Pathology [p. 1927]), the Doctor of Physical Therapy and the Ph.D. in physical rehabilitation science (see the Department of Physical Therapy and Rehabilitation Science [p. 1930]), and the Master in Medical Education (see the Medical Education Program [p. 1881]). Departmental participation and teaching leads to the Graduate College's M.S. and Ph.D. in biomedical science [p. 1702] with cell and developmental biology, free radical and radiation biology, molecular physiology and biophysics, and pharmacology subprograms.

The college also offers a combined M.D./Ph.D. degree through the Medical Scientist Training Program [p. 1888]; see Combined Programs [p. 1870] in the Doctor of Medicine section of the Catalog.

Many of the college's faculty members participate in the Graduate College's interdisciplinary programs in genetics [p. 1733], immunology [p. 1739], molecular medicine [p. 1770], and neuroscience [p. 1772].

### Professional Programs of Study

The Carver College of Medicine offers the Doctor of Medicine [p. 1869] degree, the Master of Clinical Nutrition [p. 1866] (M.C.N.), the Master of Physician Assistant Studies [p. 1943] (M.P.A.), and the Master of Clinical Anatomy [p. 1843] (M.C.A.).

## Undergraduate Rules and Procedures

Undergraduate study in the Carver College of Medicine is guided by the following academic rules and procedures.

### Health Insurance, Immunizations

All health professions students are required to provide proof of health insurance coverage annually. Contact the University Benefits Office or visit its website.

All health sciences students must show proof of health examinations and screenings annually. For more information, contact Student Health and see Student Requirements and Forms on its website.

### Application for Degree

Students who want to be considered for graduation must submit a Degree Application with the Office of the Registrar through MyUI before the deadline for the session in which the degree is to be conferred. Students who have fulfilled the requirements for a minor or a certificate must indicate this on the degree application form filed through MyUI so that completion of the requirements for the minor or certificate can be verified and noted on their transcript.

### Academic Recognition

The University of Iowa and the Carver College of Medicine recognize academic achievement every fall and spring semester.

### Graduation with Distinction

Graduating students may be recognized for their scholastic achievement upon recommendation by their academic program and with the dean's approval. Graduation with distinction, high distinction, or highest distinction is determined by both the cumulative and the University of Iowa grade-point average. Highest distinction requires a g.p.a. of 3.85 or higher; high distinction requires a g.p.a. of 3.75 to 3.84; and distinction requires a g.p.a. of 3.65 to 3.74.

To graduate with distinction, students must have completed a minimum of 60 s.h. of graded coursework at the University of Iowa. Both S (satisfactory) and A-F (letter) grades are included in the total semester hour total. However, S grades are not calculated into the grade-point average. Radiologic technology certificate course grades are not included in the grade-point average and are not considered graded coursework.

Students graduating with distinction have a notation added to their transcript and diploma. To be recognized for distinction, students must have completed 45 of their final 60 s.h. and earned the required grade-point average before their final semester of graduation.

### Dean's List

Undergraduate students who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded coursework during a given semester or summer session and who have no semester hours of I (incomplete) or O (no grade reported) during the same semester are recognized by inclusion on the Dean's List for that semester. Students may qualify for the Dean's List with fewer than 12 s.h. of graded credit if deemed appropriate by the college.

### President's List

University of Iowa undergraduate students who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded coursework and who have no semester hours of I (incomplete) or O (no grade reported) for two consecutive semesters (excluding summer sessions) are recognized by inclusion on the President's List.

### Financial Support

Students are eligible to apply for undergraduate financial aid. Scholarships, grants, loans, and part-time job placement are administered by the University's Office of Student Financial Aid. Part-time work in related areas is sometimes available.

## Registration, Credit, Grading

### Registration

Information about tuition and fees, registration, and deadlines is available from the Office of the Registrar. Students who add or drop a course after registration or who register late may be assessed a fee. Each course dropped after the deadline results in a W (withdrawn) on the transcript (see Changes in Registration below). Students are not allowed to register for full-semester courses after the second week of the semester or the first week of the summer session. Students must register for off-cycle courses before the first day of the course.

The maximum permitted registration for fall and spring semesters is 18 s.h. per semester. The maximum registration for summer session varies: 4 s.h. for the four-week session; 9 s.h. for the eight-week session; 9 s.h. for the six- and eight-week sessions combined; 12 s.h. for the four-week session and the eight-week session; and 12 s.h. for the four-, six-, eight-, and twelve-week sessions combined. Students may register for a maximum of 16 s.h. of fall semester or spring semester coursework during early registration. Students must obtain permission from the head of the division to register for more than the maximum semester hours allowed.

### Changes in Registration

Students may change their registration on MyUI. After the start of the semester, students should view Changes in Registration for information on how to change their schedule of courses and the permissions that are required.

Courses may be added with the approval of the advisor at any time during the first one-fifth of the course. They may be dropped at any time during the first two-thirds of the course. Approval is required from the dean of the Carver College of Medicine for all other changes in registration and is granted only in extraordinary circumstances. Students are assigned a mark of W (withdrawn) for any course dropped after the first one-fifth of the course. Students whose drop of one or more courses results in a registration of 0 s.h. for the semester must follow the procedure for withdrawal from the University instead of the add/drop procedure.

Students who have registered for courses offered for variable or arranged credit may change the number of semester hours with the signatures of the instructor, the advisor, and the head of the division at any time before the end of the first two-thirds of the course.

Other changes in registration (such as to audit for zero credit) may be made only during the first one-fifth of the course.

It is the student's responsibility to obtain the required permissions and to understand any consequences that may happen by processing the drop. Information regarding permissions and consequences will be posted on MyUI, but the student should contact their advisor with any questions. See Drop or Withdraw Tuition Responsibility on the Office of the Registrar website.

The Course Deadlines look-up on the Office of the Registrar website provides course specific deadlines. The cut-off time for obtaining any permissions on deadline days is 4:30 p.m. Students have until 11:59 p.m. to process a drop in MyUI if they have obtained all required permissions by 4:30 p.m.

### Withdrawal of Registration

Removing all courses from a schedule (even if only registered for one course) is considered a withdrawal of registration.

Students may withdraw their registration without academic penalty at any time before the end of the first four-fifths of the course, but no credit is subsequently given. Later withdrawal results in automatic assignment of an F. Students who withdraw are not reinstated after the deadline for that session.

It is the student's responsibility to obtain the required permissions and to understand any consequences that may happen by processing the withdrawal. Information regarding permissions and consequences will be posted on MyUI, but the student should contact their advisor with any questions. See Drop or Withdraw Tuition Responsibility on the Office of the Registrar website.

### Auditing Courses

Students may register to audit a course with approval of the appropriate program director and course instructor. In addition to obtaining these signatures, students must register for zero credit in the course to be audited. The mark of AUS (audit successful) is assigned if a student's attendance and performance are satisfactory; if they are unsatisfactory, the mark of AUU (audit unsuccessful) is assigned. Courses completed with a mark of AUS do not meet any college requirement and carry no credit toward graduation. Auditing may not be used as a second-grade-only option.

### Courses Offered by Other University of Iowa Colleges

Students who enroll in courses offered by other University of Iowa colleges are governed by those colleges' rules in matters regarding the courses. See Cross-College Enrollment and Records Policy on the College of Liberal Arts and Sciences website.

### In-Residence Requirement

The in-residence requirement may be met by earning the final consecutive 30 s.h. in residence at the University of Iowa, or 45 of the last 60 s.h. in residence, or an overall total of 90 s.h. in residence.

Nonresident instruction includes coursework and correspondence study at other colleges, universities, and institutions. Undergraduate coursework in other University of Iowa colleges counts toward in-residence requirements.

Because the Carver College of Medicine partners with Allen College for the medical laboratory science major, students are not held to the University of Iowa in-residence requirement.

### Duplication and Regression

Duplication occurs when students take the same course more than once or when they take a course that duplicates the content of a course they already have completed satisfactorily. Regression occurs when students take a course that is less advanced or at a lower level than one in the same subject that they already have completed satisfactorily. Duplication and regression are assessed by the registrar. Semester hours earned by duplication or regression do not count toward graduation.

### Minimum Grade Requirement

Students must earn a g.p.a. of at least 2.00 each semester in all college work attempted, all work undertaken at the University of Iowa, and all graded work attempted after admission to the Carver College of Medicine. Students enrolled in a program that uses the pass/fail/honors grading



system must pass all courses required to complete the program.

Students must earn a C or higher in professional specialty (modality) courses.

## Grading Procedures

Grading procedures vary from program to program. Students should consult individual program policy statements for information.

## Pass/Nonpass

Students have the option of taking elective courses pass/nonpass (P/N) with the permission of the course instructor and/or the department offering the course. Students may register for the P/N grading option from the first day of classes until the last day for undergraduates to add a course; see Academic Calendar on the Office of the Registrar website.

To register for a P/N course, the student must print the Grading Option Change Form, have it signed by the course instructor and the academic advisor, and submit the completed form to the UI Service Center before the published deadline.

Semester hours graded P/N are not used in computing a student's grade-point average. Semester hours graded P count toward graduation; those graded N do not. The college accepts a maximum of 15 s.h. of University of Iowa credit graded P toward the bachelor's degree, and it accepts a maximum of 30 s.h. of credit graded P and/or S from all sources (UI and transfer credit) toward the bachelor's degree. Students must be in good academic standing to be eligible for the pass/nonpass option.

## Satisfactory/Fail or Satisfactory/Unsatisfactory

A number of courses only use satisfactory/fail (S/F) or satisfactory/unsatisfactory (S/U) grading. All students registered for these courses receive a grade of S, F, or U. Students do not need special forms or permission in order to register for S/F or S/U courses.

Semester hours graded S or U are not used in computing a student's grade-point average, but semester hours graded F are used in grade-point average computation. Semester hours graded S count toward graduation; semester hours graded F or U do not.

Students may use coursework graded S to fulfill General Education Program requirements and/or the requirements of their major, a minor, or a certificate. The college accepts a maximum of 15 s.h. of University of Iowa credit graded S toward the bachelor's degree, and it accepts a maximum of 30 s.h. of credit graded P and/or S from all sources (UI and transfer credit) toward the bachelor's degree.

## Second-Grade-Only Option

Repeating courses for the second-grade-only option is allowed in extraordinary circumstances. To repeat a course for the second-grade-only option, students must obtain the permission of the course instructor, the program director, and the dean before the end of the first one-fifth of the course. Both grades remain on the permanent record, but only the second one is used to calculate grade-point average and credit earned. Students using the second-grade-only option for courses that are not part of their major must follow the procedure for the college that offers the course.

Since clinical skills development is impacted by course sequence and many courses are prerequisites to others, it may not be possible to repeat a course. If course sequencing will have an impact on program progression, the decision will be made by the program faculty and/or the promotions committee.

On the permanent record, the second-grade-only option appears as a pound symbol (#), showing that the first grade has been replaced by the second grade in grade-point average calculations, and that only the hours from the second registration have been counted as hours earned.

Students must request the second-grade-only option before the last day of class in order for the second grade to appear on the next grade report. The request also may be made after the close of the semester. The second-grade-only option cannot be applied to coursework for which a student has already been awarded a UI degree.

## Incomplete

A grade of I (incomplete) may be reported if the reasons for inability to finish the course satisfactorily are acceptable to the program director and the course instructor. There also must be evidence that the coursework will be finished within a reasonable length of time, usually by the end of the next academic session. Incompletes not removed by the deadline for submission of final grades for the next session result in the assignment of a grade of F. A student must work with the instructor so that an incomplete grade may be rectified by official action.

## Reports to Students

Instructors notify any student whose work falls below the minimum acceptable level once the problem is recognized. Grades are reported on a student's transcript, following University protocol. No formal midterm reports are given.

## Degrees and Minors

### Two Bachelor's Degrees

Students who want to earn two bachelor's degrees, each from a different college, must communicate the request to their academic advisor, who will then contact the University's Office of Admissions. Interested students must complete the degree requirements for both majors, including the residency requirements.

### Second Bachelor's Degree

Students who already hold a bachelor's degree and wish to earn an additional bachelor's degree must complete at least 30 s.h. consecutively in the Carver College of Medicine and must meet college and program degree requirements. Individuals interested in earning a second bachelor's degree must apply for admission to the degree program at the University's Office of Admissions.

### Minors

Students graduating from the Carver College of Medicine may earn a minor or minors in any degree-granting department or program in the college outside of their major department or in another college of the University by meeting that department's requirements for the minor.

## Academic Progress, Probation, Dismissal

Students are expected to maintain satisfactory academic and professional standards and to demonstrate reasonable progress toward the Bachelor of Science. Students who fail to maintain satisfactory academic progress or professional standards of behavior as determined by their program may be placed on probation or dismissed from the program. Probation serves as a warning that students will not graduate unless their academic performance and/or professional behavior improves.

Students on probation are restored to good standing upon evidence that the problem has been corrected, as determined by the program director and/or the promotions committee. Such action is usually taken at the end of a semester or session. Entering students may be admitted on probation if they fail to meet the minimum stated standards for admission.

Continued unsatisfactory scholarship or unprofessional behavior may result in dismissal from a program. Students dismissed from a program must reapply for admission through the regular, established program admissions process, following review by a faculty committee, at least four months before the requested date of readmission.

Radiation sciences RT to B.S. online students placed on probation or dismissed from a program are notified by email; copies are saved in their files. An academic probation notation is placed on the transcript.

Radiation sciences RT to B.S. students on academic probation are restored to good standing after they successfully complete a total of 9 s.h. either in one semester or cumulatively. Their University of Iowa cumulative and semester grade-point averages must be equal to or exceed 2.00. Students on academic probation who fail to meet the grade-point average requirement in the designated time frame for restoration to good standing are subject to dismissal.

Students are expected to attend classes regularly. Students who miss classes or examinations because of illness are expected to present evidence that they have been ill. Any other absences must be approved in advance by the course instructor.

Any offense against good order committed by a student in a classroom, clinical setting, or laboratory may be dealt with by the instructor or referred to the program director. The instructor reports in writing any disciplinary action taken against a student to the program director. Repeated or exceptional instances are reported to the dean.

## Academic Misconduct Plagiarism and Cheating

All cases of plagiarism and cheating in the Carver College of Medicine are reported to the dean with a statement of relevant facts. The program director and the instructor may submit recommendations for appropriate disciplinary action.

The individual instructor may reduce the student's grade, including assignment of the grade of F in the course. A report of this action is sent to the student, the program director, and the dean.

The dean, or a faculty committee appointed by the dean, may impose the following or other penalties, as the offense warrants: disciplinary probation, requirement of additional hours for the degree, suspension from the program for a

period of time, or recommendation of expulsion from the program.

## Appeals Procedure

Students who want to appeal a decision should appeal in writing to the dean within two weeks after the date of receipt of the decision in writing.

## EMT Paramedic Program

### Emergency Medical Technology (EMT) Paramedic Program

**Website:** <https://uihc.org/paramedic-education-program>

This nationally accredited 1,200-hour program leads to national and Iowa certification as a paramedic. The full-time academy program which begins each spring, consists of 16 weeks of intensive classroom training at University of Iowa Hospitals & Clinics, four to five days a week. A part-time program which begins in the fall semester meets every third weekday for two semesters and is based on a fire service work schedule. A second segment consists of 320 hours of supervised clinical experience in a hospital setting. The third segment is a minimum of 360 hours of a supervised paramedic field internship with a paramedic-level ambulance service. Field internships are available at a number of approved sites in Iowa.

Students obtain credentials in advanced cardiovascular life support, advanced medical life support, geriatric education for EMS, pediatric advanced life support, pediatric education for prehospital professionals, and prehospital trauma life support.

The program is conducted twice each year. The full-time academy begins in January and the part-time program begins in August.

## Goals

The goal of the University of Iowa Hospitals & Clinics Emergency Medical Services Learning Resources Center (EMSLRC) paramedic program is to prepare competent entry-level paramedics in the cognitive (knowledge), psychomotor (skills), and affective (behavior) learning domains.

## Curriculum

The program adheres to the National Emergency Medical Services Education Standards as defined by the National Highway Traffic Safety Administration (NHTSA). Students who successfully complete the program are eligible for the National Registry paramedic examination.

All students enroll in the courses EMTP:3101 Emergency Medical Technician - Paramedic I and EMTP:3102 Emergency Medical Technician - Paramedic II.

## Accreditation

The University of Iowa Health Care Emergency Medical Services Learning Resource Center (EMSLRC) Paramedic Program is accredited by the Commission on Accreditation of Allied Health Education Programs (CAAHEP) upon the recommendation of the Committee on Accreditation of Educational Programs for the Emergency Medical Services Professions (CoAEMSP).

The University of Iowa Health Care EMSLRC is approved by the Iowa Department of Public Health Bureau of Emergency and Trauma Services as an EMS training program (#018).

## Facilities

The Carver College of Medicine consists of twelve buildings containing 1.6 million square feet of space with one building (College of Medicine Administration Building) dedicated to administrative departments only. The other eleven buildings house research activities which include research centers, programs and institutes, as well as the Core Research Facilities which are a collection of centralized laboratories dedicated to developing and providing state-of-the-art research resources to facilitate biomedical research. They are available on a fee-for-service basis to the entire health sciences community along with outside entities.

The Medical Education Research Facility houses medical education space and research laboratories, including the Holden Comprehensive Cancer Center and the Institute for Vision Research. It also contains the college's four learning communities. The communities group students who are at different stages in their medical education, encouraging peer-to-peer learning and emphasizing leadership and community service. Each learning community features small-group rooms, study and social spaces, computer workstations, a kitchen area, and staff offices. The Medical Education Research Facility also houses the Performance-Based Assessment Program, which evaluates students' clinical and communication skills by reviewing simulated physician-patient encounters recorded in mock patient examination suites.

Students acquire clinical skills experience at the University of Iowa Hospitals & Clinics, the VA Iowa City Health Care, and in affiliated hospitals and ambulatory care centers throughout Iowa. University of Iowa Hospitals & Clinics serves as a tertiary care center for Iowa and portions of adjoining states. Many patients are referred to University of Iowa Hospitals & Clinics for care and treatment not available in their home communities.

Eckstein Medical Research Building is the home of the Iowa Institute of Human Genetics Genomics Division, Viral Vector Core Facility, Flow Cytometry Facility, and the Biomedical Research Store.

The five basic science departments are housed in the Bowen Science Building and include the Departments of Anatomy and Cell Biology, Biochemistry and Molecular Biology, Microbiology and Immunology, Molecular Physiology and Biophysics, and Pharmacology.

The Medical Education Building houses research and educational space for the Department of Physical Therapy and Rehabilitation Science. It also houses research space for the Department of Psychiatry and is the home of the Office of Consultation and Research in Medical Education (OCRME). OCRME is staffed by education specialists from a range of disciplines who serve the faculty, staff, and administrators in all Carver College of Medicine programs. The office provides educational consultation, initiates and cooperates in educational research endeavors, and conducts faculty development activities.

There are teaching laboratories located in the Medical Education Building, the Bowen Science Building, and the Medical Research Facility.

Other buildings that house a wide range of College of Medicine departments, administration, and research activities are the Carver Biomedical Research Building, Westlawn,

Medical Laboratories, the Medical Research Facility, the Medical Research Center, and the Multi-Tenant Facility.

The newest building, completed in 2014, is the Pappajohn Biomedical Discovery Building. The Iowa Neuroscience Institute is located on the first and second floors of the building. Third and fourth floors house the Fraternal Order of Eagles Diabetes Research Center and the Abboud Cardiovascular Research Center, on the fifth floor is the Auditory Research Group, and on the sixth floor is the Lung Biology and Cystic Fibrosis Research Center. The Iowa Institute for Biomedical Imaging is on the lower basement levels housing the 7 Tesla MRI scanner (one of few such devices in the U.S.), 3T along with several smaller devices, and a 3D visualization lab. All researchers in this building are chosen by the Pappajohn Biomedical Institute in which scientists from across the University collaborate to explore high-risk/high-yield scientific questions in the life sciences with the goal of advancing treatments for a wide array of human diseases.

## Interdisciplinary Programs and Centers

The college's interdisciplinary programs and centers draw strength from college faculty members and the facilities available to them, without regard to departmental units or to the distinction between graduate and postgraduate training. For more information, contact the vice dean for research.

The following centers are subdivisions of the Carver College of Medicine.

### Alzheimer's Disease Research Center

The Alzheimer's Disease Research Center studies Alzheimer's disease and related neurological conditions from the viewpoint of neuroanatomy, neuroimaging, neuropsychology, and neurochemistry. The center's purposes are to improve the diagnosis and treatment of these conditions, to disseminate information on new research to the public, and to contribute to a better understanding of the neural basis of cognition.

### Carver Genetic Testing Laboratory

The John and Marcia Carver Nonprofit Genetic Testing Laboratory provides genetic testing for rare eye diseases, especially diseases so rare that commercial tests are unavailable for them. The laboratory's test results provide information to patients and their families while keeping the tests affordable.

### Holden Comprehensive Cancer Center

The Holden Comprehensive Cancer Center (HCCC) coordinates the efforts of University of Iowa faculty and staff in research, education, and clinical programs related to all aspects of cancer. The HCCC is recognized by the National Cancer Institute as an NCI-designated cancer center and has comprehensive status, a designation that recognizes the depth and breadth of interdisciplinary cancer research activity taking place at the University of Iowa.

### UI Heart and Vascular Center

The UI Heart and Vascular Center coordinates research and training programs related to cardiovascular diseases. It encompasses several programs: Program Project Grant on Integrative Neurobiology of Cardiovascular Function, Program Project Grant on Cerebral Blood Vessels, Program Project Grant on Oxidative Mechanisms in Vascular Disease, Program Project Grant on Genetic and Signaling Mechanisms in the

Central Regulation of Blood Pressure, Program Project Grant on Airway Physiology and Pathophysiology in a Porcine CF Model, Program Project Grant on Gene Therapy for Cystic Fibrosis Lung Disease, a Leducq Foundation Consortium grant, and a Cystic Fibrosis Foundation research and development program. It also coordinates several training programs and a program of other interdisciplinary research supported by a number of individual project grants. The center occupies two floors of cardiovascular research laboratories and administrative offices in the Medical Research Center.

## Courses

- Carver College of Medicine Courses [p. 1836]
- EMT-Paramedic Program Courses [p. 1839]
- Orthoptics Teaching Program Course [p. 1839]

Most Carver College of Medicine courses are offered by the college's departments and programs. They are listed and described in the corresponding General Catalog sections. The college also offers the following nondepartmental courses.

## Carver College of Medicine Courses

**MED:1100 Introduction to Health Care Professions** 3 s.h.  
Introduction to current U.S. health care system and changes that are likely in the near future; information about distinct health care professions grouped by discipline (e.g., nursing, pharmacy, public health), and less traditional career pathways in health care fields; how health care professionals across disciplines coordinate to deliver better health care; instruction by prominent health care faculty at the University of Iowa; for students considering a career in the health care field.

**MED:3740 End-of-Life Care for Adults and Families** 3 s.h.  
End-of-life issues in care of adults, older adults, and their families. Same as ASP:3740, NURS:3740.

**MED:5300 Health Informatics** 3 s.h.  
Technological tools that support health care administration, management, and decision making. Same as HMP:5370, IGPI:5200, ISE:5860, SLIS:5900.

**MED:5416 Foundations in Healthcare Ethics** 3 s.h.  
Major ethical traditions, ideas, and frameworks that have shaped contemporary approaches to healthcare ethics in morally pluralistic Western cultures; topics include four prominent frameworks in healthcare ethics—virtue based, principle based, circumstance based, and consequence based—that emphasize four aspects of ethical decision making—agent, action, context, and outcome.

**MED:8001 Medical Elective** arr.

**MED:8003 Clinical Clerkships** arr.

**MED:8005 Medical Student Research Fellowships** 0 s.h.

**MED:8010 Introduction to Medical Education at Iowa** 0 s.h.  
Introduction to first-year fall courses; advanced concepts in anatomy, biochemistry, cell biology, and clinical reasoning skills; for M.D. students.

**MED:8021 Community Health Outreach I** 0-1 s.h.  
Presentations and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.

**MED:8022 Community Health Outreach II** 1-2 s.h.  
Presentations, patient-based learning groups, readings, and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.

**MED:8023 Community Health Outreach III** 1-2 s.h.  
Presentations, patient-based learning groups, readings, and practical experience working with agencies that provide health care and wellness promotion to communities; substance abuse; child, adolescent, and adult health; aging; interpersonal violence; homelessness.

**MED:8028 Introduction to U.S. Health Care System** 1 s.h.  
Structure, function, and finance of U.S. health care system; access, cost, quality, finance mechanisms, reform process.

**MED:8029 Disruptive Forces in Medicine** 1 s.h.  
Exploration of the pathogenesis of COVID-19 and its impact on medicine at University of Iowa Hospitals & Clinics; students gain perspective and knowledge about the virus, its impact on medical practice, and future consequences; mechanisms of COVID-19 pathogenesis; racial and social inequities highlighted by the pandemic; insight into clinical challenges (i.e., telemedicine); best practices for patient education and clinician safety in different fields. Requirements: M.D. enrollment.

**MED:8031 Reproductive and Gynecological Health Seminar** 1 s.h.  
Education on reproductive and gynecological health topics, service opportunities, and mentorship. Requirements: M.D. standing.

**MED:8033 Clinical Skills for Responding to Sexual Violence** 1 s.h.  
Training that focuses specifically on epidemiology, screening, clinical presentation, initial evaluation, and medical management of sexual violence and interpersonal violence victimization; opportunity to apply preclinical and/or concurrent coursework to true-to-reality, clinically relevant, and medically complex health problems with sexual violence as the underlying cause; development of communication and clinical skills necessary to address sexual and interpersonal violence in a clinical setting. Requirements: M.D. standing or physician assistant standing or enrollment in degree-seeking graduate or health professional program.

**MED:8070 The Examined Life: Writing and Medicine** 1 s.h.  
Literature, essays, poetry; discussion of participants' writing; students prepare portfolios of their own writing.

**MED:8071 Career Life Planning** 1 s.h.  
Students' individual interests, values, and decision-making processes important in selecting a specialty, engaging in the match process, and integrating oneself into the medical profession; personal career development, culture and climate in which physicians work and learn.

**MED:8073 Biomedical Innovation** 1 s.h.  
Introduction to all phases of medical device/technology development; development of knowledge of entire medical innovation process through didactic sessions, faculty, interactions, and interdisciplinary collaboration; interdisciplinary approach; research and development of a novel medical device, therapy, or model of care. Requirements: M.D. enrollment.

- MED:8074 Research Skills Seminar** 1 s.h.  
Seminar series designed to bridge gap from undergraduate and medical student experiences to research during residency and beyond; topics include identification of projects and mentors, leadership, collaboration, translation, evidence-based medicine, project development, statistical analysis, presentation, publication, and career progression.
- MED:8076 Bioethics and Humanities Seminar** 1 s.h.  
Broad range of topics in bioethics and medical humanities, including philosophical principles, clinical ethics, research ethics, medical professionalism, narrative ethics, and historical and cultural aspects of medicine. Requirements: enrollment in Carver College of Medicine humanities distinction track.
- MED:8077 Personal-Professional Compass** 1 s.h.  
Provides help for medical students to understand, articulate, and integrate personal and professional values and goals while making their way through medical school; promote student growth as humanistic professionals through written reflections on personal experience, readings from medicine and the humanities, and discussions with peers and mentors; preparation to write an authentic and compelling personal statement for residency applications. Requirements: M.D. enrollment.
- MED:8081 Global Health Issues I** 1 s.h.  
Core issues in the current field of global health, including history of global health, health and development, social determinants of health, measuring health and disease, disparities in the American health care system, poverty and health, gender issues and reproductive health, child health, immigrant and migrant health issues, and introduction of major players in global health. Requirements: M.D. enrollment.
- MED:8082 Global Health Issues II** 1 s.h.  
Core issues in the current field of global health, including health care as a human right, why the Third World is the Third World, communicable disease issues, outbreaks and pandemics, noncommunicable issues, malnutrition and obesity, cultural context of health care, violence as a health issue, and emergency response and transition to development. Prerequisites: MED:8081. Requirements: M.D. enrollment.
- MED:8083 Global Cross-Cultural Elective** arr.  
Cross-cultural medical program with focus on health care problems of a domestic or international community; individually arranged.
- MED:8084 Global Health Seminar** 1 s.h.  
Presentations by faculty members, University special guests, and alumni on their current work in global medicine/global health; implementation of global health concepts. Requirements: M.D. enrollment.
- MED:8121 Clinical and Professional Skills I** 3 s.h.  
Introduction to concepts of clinical reasoning, communication, physical examination, and evidence-based clinical practice; principles of biomedical ethics; early clinical interactions and placement of classroom experiences into context of patient care through the Early Clinical Experiences (ECE) program; interaction with students from other health sciences colleges to explore the interprofessional approach to caring for patients. Requirements: M.D. enrollment.
- MED:8122 Medicine and Society I** 3 s.h.  
Delivery of individual disease prevention/health promotion services; introduction to social determinants of health; influence and impact of culture and community on health care; community resources; application of health and risk assessment to individual patients and self. Requirements: M.D. enrollment.
- MED:8123 Foundations of Cellular Life** 5 s.h.  
Genetics, embryology, molecular biology, biochemistry, cell biology and histology; molecular events required for cellular life; how cells grow and interact to form basic tissues of human body; necessary framework to explore six mechanisms of health and disease. Requirements: M.D. enrollment.
- MED:8124 Mechanisms of Health and Disease I** 8 s.h.  
Normal and healthy processes within and among mechanisms of oxygenation, metabolism, and genetics/development; first in a series on multisystem mechanisms of health and disease. Requirements: M.D. enrollment.
- MED:8131 Clinical and Professional Skills II** 4 s.h.  
Interpersonal skills, lifelong learning, interviewing skills, physical examination skills, ethical issues in patient care, and basic approach to patients in terms of prevention, treatment, and follow-up care. Second in a sequence during preclinical semesters of medical school and continuing as an integrated strand throughout curriculum. Requirements: M.D. enrollment.
- MED:8132 Medicine and Society II** 4 s.h.  
Knowledge and skills related to health promotion and disease prevention from a medicine and society perspective, including impact of behavior, environment, culture, and socioeconomics; identification of major public health problems associated with mechanisms of health and disease. Second in a sequence during preclinical semesters of medical school and continuing as an integrated strand throughout curriculum. Requirements: M.D. enrollment.
- MED:8133 Mechanisms of Health and Disease II** 7 s.h.  
Normal and healthy processes within and among mechanisms of Immunology/Inflammation, locomotion/integument, and neuropsychiatry; second in a series on mechanisms of health and disease. Requirements: M.D. enrollment.
- MED:8134 Mechanisms of Health and Disease III** 11 s.h.  
Abnormalities or disruptions leading to disease within and among mechanisms of oxygenation, metabolism, and genetics/development; third in a series on multisystem mechanisms of health and disease. Requirements: M.D. enrollment.
- MED:8199 First-Year Special Study** arr.  
First-year special study. Requirements: M.D. enrollment.
- MED:8221 Clinical and Professional Skills III** 4 s.h.  
Advanced clinical reasoning skills through focused patient encounters and interactions with special patient populations; emphasis on integration and use of concepts for cost conscious, patient-centered, interdisciplinary care. Requirements: M.D. enrollment.
- MED:8222 Medicine and Society III** 4 s.h.  
Health services organization and delivery; emphasis on community dimensions of medical practice and patient safety. Requirements: M.D. enrollment.
- MED:8223 Mechanisms of Health and Disease IV** 10 s.h.  
Abnormalities or disruptions leading to disease within and among mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry; fourth in a series on multisystem mechanisms of health and disease. Requirements: M.D. enrollment.

- MED:8224 Mechanisms of Health and Disease Keystone** 7 s.h.  
Transition between classroom instruction in mechanisms of health and disease and clinical practice; foundational information from mechanisms of health and disease sequence approached from perspective of what is commonly encountered in clinics; application of information to making diagnostic and management decisions of common important clinical problems. Requirements: M.D. enrollment.
- MED:8299 Second-Year Special Study** arr.  
Second-year special study. Requirements: M.D. enrollment.
- MED:8301 Community-Based Primary Care** arr.  
Introduction; clinical activities, work with community agencies and resources; didactic and conferences. Requirements: M.D. enrollment.
- MED:8320 Transition to Clerkships** 1-2 s.h.  
Two weeks of skills training prior to start of core clinical clerkships. Requirements: M.D. or M.P.A. enrollment.
- MED:8401 Medicine, Literature, and Writing** arr.  
Insights, freedom, joy, responsibilities, and challenges of a life in medicine; reading, discussion, individual creative writing.
- MED:8403 Teaching Skills for Medical Students** 4 s.h.  
Practical teaching techniques; opportunity for students to develop teaching skills before they become medical residents.
- MED:8404 Advanced Teaching Skills for Medical Students** 2 s.h.  
Opportunity to expand knowledge and experience in medical education; investigation of medical education in students' specialty of interest through literature research and interaction with faculty; primary focus is to design and successfully complete a faculty approved project. Prerequisites: MED:8403. Requirements: fourth-year M.D. enrollment.
- MED:8405 Leadership for Future Physicians** 2 s.h.  
Formal training in multiple aspects of leadership; offers future leaders in health science specialties an earlier opportunity to consider leadership abilities and perspectives; for fourth-year medical, physician assistant, nursing, pharmacy, public health, and dental students. Requirements: health science enrollment.
- MED:8410 Quality Improvement and Patient Safety** 2 s.h.  
Students work with faculty and staff involved in quality improvement and patient safety (QI/PS) at University of Iowa Hospitals & Clinics (UIHC); readings, didactic sessions, and hands-on activities to advance knowledge and practice of QI/PS in health care; activities include review of ongoing QI/PS projects at UIHC, application of QI/PS methodologies to project development and analysis, individual and team-based simulations, interdisciplinary collaboration and communication, participating in conferences related to QI/PS, and reflecting on these experiences with peers.
- MED:8411 Foundational Science and Drug Therapy** 2 s.h.  
Advanced medical students partner with advanced pharmacy students and work together to devise evidence-based treatments for patients suffering from common illnesses; foundational science concepts from each student's respective discipline—including mechanisms of health and disease and principles of pharmacokinetics and pharmacodynamics—are used to design and explain proposed treatments; two weeks, case-based.
- MED:8412 Improvisation: A Life Skill** 4 s.h.  
Drawing from interpersonal communication techniques, experiences that help students communicate more empathically with their patients, patients' families, and other health care team members in order to create a safe and trusting exchange.
- MED:8413 Oaths and Ethics** 4 s.h.  
History and purpose of medical oaths; medical oaths compared with professional codes; content of medical oaths in terms of ethical principles and virtues; review of ethical values communicated in ethics-related seminars at University of Iowa Hospitals & Clinics; students write a medical oath that crystallizes their own most important professional commitments.
- MED:8414 Health Policy Advocacy Des Moines** 4 s.h.  
Health policy advocacy experience in Des Moines while Iowa Legislature is in session; students choose an area of interest in health policy advocacy and work with senior legislators, policy advisors, state health department representatives, or advocates of various professional organizations involved in advocacy efforts for health policy; students receive prior approval regarding which health policy issue they want to work on and which individual or professional organization they plan to work with during their onsite experience. Requirements: M.D. enrollment.
- MED:8415 Financial Management for Rising Interns** 2 s.h.  
Foundational concepts of personal financial management; topics include personal budgeting, educational loan management, investing, risk management and mitigation, medical practice investment, taxation, and additional relevant areas of interest for rising resident physicians. Requirements: M.D. enrollment.
- MED:8416 Foundations in Healthcare Ethics** 3 s.h.  
Major ethical traditions, ideas, and frameworks that have shaped contemporary approaches to healthcare ethics in morally pluralistic Western cultures; topics include four prominent frameworks in healthcare ethics—virtue based, principle based, circumstance based, and consequence based—that emphasize four aspects of ethical decision making—agent, action, context, and outcome.
- MED:8470 Self-Directed Learning in Advanced Clinical Topics** 0 s.h.  
Online learning modules on advanced clinical topics; for students in M.D. program.
- MED:8480 Global Health Clerkship** arr.  
Cross-cultural medical program at an international site; focus on health care problems of a specific community; individual educational objectives set in advance.
- MED:8499 Individually Arranged Medicine Elective** arr.  
Individually arranged elective through the Office of Student Affairs and Curriculum.
- MED:9701 Instructional Design and Technology** 3 s.h.  
Skills and techniques necessary for analysis, design, development, implementation, and evaluation of effective instruction.
- MED:9702 Clinical Teaching in Medical Education** 3 s.h.  
Principles and methods for teaching individuals and small groups in outpatient and inpatient settings. Prerequisites: MED:9701 or PSQF:6205. Recommendations: educational psychology course.
- MED:9703 Educational Research and Evaluation** 3 s.h.  
Research design and program evaluation; approaches relevant to medical education.

**MED:9711 Teaching Methods in Medical Education** 3 s.h.

Principles and methods for teaching in large and small classrooms. Recommendations: educational psychology course.

**MED:9712 Introduction to Educational Measurement in Medical Education** 3 s.h.

Classical test theory; overview of medical education assessment methods; practical information for designing and critiquing assessments.

**MED:9713 Assessment in Medical Education** 3 s.h.

Medical education assessment methods; research methods and literature that support current practices; research project. Prerequisites: MED:9712.

**MED:9714 Current Issues in Medical Education** 3 s.h.

Selected issues, policies, and research.

**MED:9720 Portfolio Project** 3 s.h.

Production of individual student portfolios used to integrate knowledge across courses; capstone activity.

**MED:9721 Study in Faculty Development** 3 s.h.

Academic credit for approved project or other assigned activities for students in the Teaching Scholars program.

**MED:9722 Independent Study** arr.**MED:9724 Leadership in Medicine** 3 s.h.

Introduction to basic leadership and management theories pertaining to a health care setting; focus on the history of leadership development, various components of leadership, and how these components can be used to be a successful leader/administrator. Requirements: Master in Medical Education degree program enrollment.

**MED:9725 Simulation in Medical Education** 3 s.h.

Appropriate use of various types of simulation in medical education; how to design, deliver, and debrief a simulation activity; literature supporting use of simulation in medical education. Requirements: Master in Medical Education degree program enrollment.

**MED:9726 Curriculum Development in Medical Education** 3 s.h.

Curriculum development using knowledge and experience gained from MED:9701, MED:9702, and MED:9711; identification of an area/topic for creation of curriculum; conduction of a needs assessment to identify topics and/or components of curriculum; creation of plan with curriculum goals, learning objectives, methods for evaluation; development of preliminary planning and aspects of implementation and evaluation phases of the model.

**MED:9727 Teaching and Assessing Communication Skills in Medical Education** 3 s.h.

Explores broad issues related to both teaching and assessing clinician-patient communication skills in medical education; review literature on best practices in clinician-patient communication and on teaching and/or assessing skills among medical learners; explore observation and feedback as key technique in addressing communication skills through observation of peers and learners; video recording of interactions with patients.

## Hospital Certificate Programs of Study

The following courses are conducted by University of Iowa Hospitals & Clinics staff.

## EMT-Paramedic Program Courses

**EMTP:3101 Emergency Medical Technician - Paramedic I** 0 s.h.

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Requirements: certification as an emergency medical technician-basic.

**EMTP:3102 Emergency Medical Technician - Paramedic II** 0 s.h.

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Requirements: admission to emergency medical technician paramedic program.

**EMTP:3103 Emergency Medical Technician - Paramedic III** 0 s.h.

Preparation for role of entry-level paramedic: comprehension, application, and evaluation of the clinical role; demonstration of technical proficiency in all required skills; demonstration of personal behaviors consistent with professional and employer expectations. Requirements: admission to emergency medical technology paramedic program.

## Orthoptics Teaching Program Course

**OTP:4902 Orthoptics Program** 0 s.h.

Clinical science of binocular vision, ocular motility, and related eye disorders; practical, theoretical training in the Department of Ophthalmology and Visual Sciences two-year program; written, oral and practical national board examinations required at completion. Requirements: bachelor's degree with specific class recommendations.

# Anatomy and Cell Biology

## Chair

- John F. Engelhardt

**Professional degree:** M.C.A.

**Faculty:** <https://medicine.uiowa.edu/acb/profile>

**Website:** <https://medicine.uiowa.edu/acb/>

The Department of Anatomy and Cell Biology performs three major functions. It teaches human anatomy to students preparing for careers in the health care professions; provides advanced courses, teaching experience, and research training to graduate students preparing for careers in academic research and related scientific fields; and conducts original research on the biological basis of cellular functions and human disease processes.

## Preclinical Study

The department contributes to the preclinical education of health care professionals by providing major courses in gross anatomy, cell biology, histology, and neuroscience.

## Graduate Study

The department offers the cell and developmental biology [p. 1708] subprogram for a Ph.D. in biomedical science in the Biomedical Science Program [p. 1702]. It also participates in the Carver College of Medicine's Medical Scientist Training Program [p. 1888] and the Graduate College's Molecular Medicine [p. 1770], Immunology [p. 1739], Genetics [p. 1733], and Neuroscience [p. 1772] Programs. On occasion, students are directly admitted to a Department of Anatomy and Cell Biology laboratory by arrangement with the laboratory director.

## Professional Study

The Department of Anatomy and Cell Biology offers a professional degree, the Master of Clinical Anatomy [p. 1843] (M.C.A.).

## Programs

### Graduate Programs of Study

#### Majors

- Master of Science in Anatomy and Cell Biology
- Doctor of Philosophy in Anatomy and Cell Biology

Students interested in doctoral studies in cell and developmental biology should apply under the umbrella program in Biomedical Science [p. 1702] (select cell and developmental biology subprogram). Direct applications to the M.S. and Ph.D. in anatomy and cell biology are not currently being considered.

### Professional Program of Study

#### Major

- Master of Clinical Anatomy [p. 1843]

## Facilities

The department occupies more than 35,000 square feet in the Bowen Science Building on the University of Iowa health

sciences campus. The building houses modern teaching facilities and well-equipped research laboratories. The most modern instrumentation is available, including facilities and equipment for digital microscopic imaging, confocal microscopy, molecular biological techniques, tissue culture, and protein chemistry. Other specialized equipment (e.g., electron microscopes, mass spectrophotometers) is available in other facilities. Through collaborative programs with the Holden Comprehensive Cancer Center and the Abboud Cardiovascular Research Center, faculty and students also have access to outstanding research facilities throughout the University's health sciences campus.

## Courses

### Anatomy and Cell Biology Courses

- ACB:3110 Principles of Human Anatomy** **3 s.h.**  
Gross and microscopic human anatomy; systemic approach to regional anatomy with emphasis on clinical relevance; optional tutorial sessions. Offered fall semesters. Requirements: pharmacy, pre-nursing, or associated medical sciences major.
- ACB:3122 Independent Study in Anatomy and Cell Biology** **arr.**  
Projects arranged with department faculty members.
- ACB:4156 Scanning Electron Microscopy and X-Ray Microanalysis** **arr.**  
Microscopy methods for research; all aspects of research, from sample preparation to imaging to data analysis; when to use a particular microscopy procedure; theory, operation, and application of scanning electron microscopy, scanning probe microscopy, laser scanning microscopy, X-ray microanalysis. Requirements: a physical science course. Same as CBE:4156, EES:4156.
- ACB:5108 Human Anatomy** **5 s.h.**  
Regional dissection, lectures, demonstrations; areas important to physical therapists, particularly the upper and lower extremities. Offered fall semesters. Requirements: physical therapy and rehabilitation science enrollment.
- ACB:5203 Gross Human Anatomy for Graduate Students** **5-6 s.h.**  
Regional dissection, lectures, demonstrations, tutorials, discussions, seminars; clinically relevant areas of anatomical radiology, surface anatomy with clinical correlations. Requirements: enrollment in Master of Clinical Anatomy program.
- ACB:5206 Graduate Research in Cell and Developmental Biology** **arr.**  
Individual laboratory research training in anatomical sciences.
- ACB:5210 General Histology Online** **3 s.h.**  
Histology of all tissues of human body starting with basic tissues and working through systems of the body; linked in sequence to ACB:5203 so that students learn about related content at the same time in anatomy and histology; recorded lectures, online modules, and extensive use of Virtual Microscope. Requirements: enrollment in Master of Clinical Anatomy program.



- ACB:5218 Microscopy for Biomedical Research** arr. **1 s.h.**  
Basic microscopy methods for research including optics, preparation, and analysis of biomedical specimens; light, fluorescence, confocal, transmitting electron, scanning electron, atomic force microscopes, elemental analysis; immunochemistry and stereology techniques; individualized laboratory instruction. Prerequisites: BIOL:2723. Same as BIOL:5218, MICR:5218.
- ACB:5224 Graduate Seminar in Cell and Developmental Biology** **0-1 s.h.**  
Current research, literature. Requirements: cell and developmental biology graduate standing.
- ACB:6000 Human Anatomy for Advanced Practice** **4 s.h.**  
Integrated study of interrelationships between anatomic structure and physiological function in health and disease at various points in the lifespan; mechanisms governing and supporting cellular, organ, and system function; internal milieu; relationship of study to clinical assessment of functional integrity of individual organ systems utilizing pertinent objective and subjective data; implications of pathophysiology for anesthesia and implications of anesthesia for pathophysiology; foundation for clinical practicums and courses in nurse anesthesia. Requirements: completion of an undergraduate human anatomy and physiology course and admission to anesthesia nursing program. Same as NURS:6000.
- ACB:6200 Special Topics in Genetics** **1 s.h.**  
Current research in a selected field of genetics; different topic each year. Companion to a genetics seminar series. Same as GENE:6200.
- ACB:6220 Mechanisms of Cellular Organization** **3 s.h.**  
Current understanding of basic cell biological processes; key experiments that led to guiding insights; mechanisms that cells use for compartmentalization and how those mechanisms are regulated; biogenesis of major organelles (e.g., mitochondria, peroxisomes, nucleus, secretory/endocytic membrane system); functions of cytoskeleton in cell motility, organelle motility, and cell division. Prerequisites: BMB:3130. Same as MMED:6220, MPB:6220.
- ACB:6225 Growth Factor Receptor Signaling** **1 s.h.**  
Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Same as MMED:6225, MPB:6225, PCOL:6225.
- ACB:6226 Cell Cycle Control** **1 s.h.**  
Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Same as MMED:6226, MPB:6226.
- ACB:6227 Cell Fate Decisions** **1 s.h.**  
Cellular fate decisions including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Same as MMED:6227, MPB:6227.
- ACB:6237 Critical Thinking in Biochemistry and Molecular Biology** **1 s.h.**  
How nucleic acids, proteins, lipids, and carbohydrates interact to influence the function of cells and tissues; how molecules drive signaling pathways and cellular processes essential for biological functions; based on research publications.
- ACB:6238 Critical Thinking in Genetics** **1 s.h.**  
Current topics in molecular and classical genetics; emphasis on genetic underpinnings of disease; based on primary research publications.
- ACB:6239 Critical Thinking in Cell Biology** **1 s.h.**  
Understanding subcellular organization and intercellular communication; emphasis on critical thinking and primary research publications.
- ACB:6248 Critical Thinking in Development** **1 s.h.**  
Current topics in molecular basis of vertebrate development; based on primary research publications.
- ACB:6249 Critical Thinking in Cellular Physiology** **1 s.h.**  
Control of physiological systems at the cellular level; emphasis on regulation by molecular signaling pathways; literature based.
- ACB:6250 Critical Thinking in Scientific Writing and Presentations** **1 s.h.**  
Scientific grant writing, particularly specific aims development, and oral presentations. Requirements: second-year standing in cell and developmental biology graduate program.
- ACB:6252 Functional Neuroanatomy** arr. **1 s.h.**  
Basic principles of neuroanatomy and neurophysiology; emphasis on human central nervous system; laboratory emphasis on anatomical study of spinal cord and brain. Offered spring semesters. Requirements: physical therapy and rehabilitation science enrollment or graduate standing. Same as PTRS:6253.
- ACB:6265 Neuroscience Seminar** **0-1 s.h.**  
Research presentations. Same as BIOL:6265, MPB:6265, NSCI:6265, PSY:6265.
- ACB:7001 Teaching and Learning in the Anatomical Sciences** **2 s.h.**  
Strategies involved in anatomical sciences education including interactive lecturing, dissection, peer teaching/learning, plastination, virtual microscopy, simulation, case presentation, and assessment techniques; recorded lectures and online modules. Requirements: enrollment in Master of Clinical Anatomy program.
- ACB:7002 Seminar in Anatomical Sciences** **1 s.h.**  
Opportunity to discuss peer-reviewed anatomical, clinical, and education research articles as related to issues of teaching in anatomical sciences; student- and/or faculty-led presentations prompt further discussion of various in-depth studies that focus on bringing current information into the classroom. Requirements: enrollment in Master of Clinical Anatomy program.
- ACB:7010 Anatomy Through Imaging** **2 s.h.**  
Exploration of anatomy through basic imaging techniques; online modules and in-class activities; focus on identification of normal structures through application of anatomical concepts. Requirements: enrollment in Master of Clinical Anatomy program.
- ACB:7020 Human Embryology Online** **2 s.h.**  
Major events of embryologic development in humans; more of a morphologic focus than a molecular focus, including important molecular concepts of development; backstory of adult human anatomy and how various birth defects occur. Offered spring semesters. Prerequisites: ACB:5203 or ACB:8101 or ACB:5108. Requirements: enrollment in Master of Clinical Anatomy program.

**ACB:7227 Anatomic Study for Teaching 2-3 s.h.**

Experience completing a detailed dissection of a region of the human body; opportunity to create models depicting anatomical concepts. Requirements: enrollment in Master of Clinical Anatomy program.

**ACB:7400 Practicum in College Teaching for Master of Clinical Anatomy 1-4 s.h.**

Supervised college teaching experience; teaching in collaboration with faculty, observation and critiques of teaching, participation in course planning and evaluation procedures; ethical and multicultural considerations. Recommendations: enrollment in Master of Clinical Anatomy program.

**ACB:8101 Medical Gross Human Anatomy 5 s.h.**

Complete dissection of the body with regional emphasis stressing relationships to the living system; clinically relevant areas of radiologic imaging, surface anatomy, embryology, and clinical correlations; anatomical knowledge through lectures, small group work, independent activities. Offered fall semesters. Requirements: M.D. or M.P.A. enrollment.

**ACB:8120 Human Gross Anatomy for Dental Students 6 s.h.**

Exploration of gross anatomy of human body including thorax, abdomen, and upper limb; extensive focus on head, neck, and neuroanatomy; regional and systemic approaches; course sequence and assessment blended with general histology for dental students; cadaveric dissections closely follow lecture sequence; emphasis on correlations to dental practice. Offered spring semesters. Requirements: D.D.S. enrollment.

**ACB:8121 General Histology for Dental Students 4 s.h.**

Microscopic study of cells, fundamental tissues, and organ systems; emphasis on tooth-related structures. Offered spring semesters. Requirements: D.D.S. enrollment or anatomy and cell biology graduate standing.

**ACB:8401 Advanced Human Anatomy arr.**

Regional dissection of the body with emphasis on systems relevant to student's specialty interests; discussion, reading, clinically relevant imaging, embryology. Offered spring semesters. Requirements: fourth-year M.D. enrollment or graduate standing.

**ACB:8402 Teaching Elective in Regional Anatomy 2,4 s.h.**

Students expand knowledge and experience in medical education; investigation of educational pedagogy in a laboratory setting coupled with self-directed learning of anatomical content relevant to professional development; preparation, design, and implementation of four teaching interactions with year one medical, dental, and physician assistant (M1/D1/PA1) students; designing a classroom exercise (e.g., interactive lecture, learning activity, computer-based study module) that helps bridge the basic science content with clinical procedure. Requirements: M.D. standing and enrollment in teaching distinction track.

**ACB:8405 Advanced Clinical Neuroanatomy 2 s.h.**

Focused training in interpretation of cross-sectional neuroanatomy at a level far exceeding what is currently taught in preclinical curriculum; builds on prior training in diagnostic neuroimaging of the human brain during first and second phases of the medical curriculum, producing postgraduate year one (PGY-1) level of readiness interpreting structural brain images; core knowledge and skills of neurological examination applied within context of clinical problems. Requirements: M.D. enrollment.

**ACB:8498 Special Study On Campus**

Anatomy research on campus; individually arranged. Requirements: M.D. enrollment.

arr.

# Master of Clinical Anatomy, M.C.A.

The mission of the professional degree program, Master of Clinical Anatomy (M.C.A.), is to provide clinically relevant content knowledge coupled with experiential learning activities for developing skills in teaching, education research, and enhancing advancement to professional health care programs. Graduates will be able to:

- demonstrate knowledge of the anatomical sciences (neuroanatomy, gross anatomy, and histology) at a level necessary for instruction within a professional program;
- design and deliver effective instructional activities appropriate for a cadaveric dissection course;
- design and deliver effective instructional activities appropriate for individual, small group, large group, and laboratory settings;
- evaluate the effectiveness of educational instruction using both formative and summative methods; and
- practice effective methods of self-reflection on the nature, quality, and impact of instructional activities for learning.

## Requirements

The professional Master of Clinical Anatomy (M.C.A.) program requires a minimum of 32 s.h. of work that is distributed between required (25 s.h.) and elective (7 s.h.) coursework. Students must maintain a g.p.a. of at least 3.25. The program is designed so that students can complete the requirements in a year and a half, and provides clinically relevant content coupled with experiential learning activities to develop skills in teaching and educational research. A portion of the curriculum is offered online to complement classroom and laboratory learning.

Students with a degree in a specific biological science (e.g., genetics) for which no formal coursework in basic gross anatomy has been completed may be required to take a prerequisite undergraduate anatomy course.

The Master of Clinical Anatomy requires the following coursework.

## Required Courses

Code	Title	Hours
ACB:5203	Gross Human Anatomy for Graduate Students	5
ACB:5206	Graduate Research in Cell and Developmental Biology	2
ACB:5210	General Histology Online	3
ACB:6252	Functional Neuroanatomy	4
ACB:7001	Teaching and Learning in the Anatomical Sciences	2
ACB:7002	Seminar in Anatomical Sciences (taken twice for 1 s.h. each)	2
ACB:7020	Human Embryology Online	2
ACB:7227	Anatomic Study for Teaching	3
ACB:7400	Practicum in College Teaching for Master of Clinical Anatomy	2

## Electives

Students select at least 7 s.h. in elective coursework.

Code	Title	Hours
ACB:5206	Graduate Research in Cell and Developmental Biology (may earn 1-3 s.h. in addition to required course above)	1-3
ACB:7010	Anatomy Through Imaging	2
ACB:7020	Human Embryology Online	2
ACB:7400	Practicum in College Teaching for Master of Clinical Anatomy (may earn 1-2 s.h. in addition to required course above)	1-2
ACB:8401	Advanced Human Anatomy	4
ACB:8402	Teaching Elective in Regional Anatomy	2
GRAD:7385	Teaching and Learning in Higher Education	3
MED:8403	Teaching Skills for Medical Students	4
PSQF:6205	Design of Instruction	3
	Other coursework with M.C.A. program approval	1-3

## Research/Education Project

Students successfully present their research/education project in November of their second year.

## Capstone Project

The capstone project is the final formal piece of assessment that students are required to pass in order to graduate from the M.C.A. program. It represents the integration of the anatomical sciences in terms of both teaching and research as a culmination of studies in gross anatomy, neuroanatomy, histology, and embryology. The capstone project tells the story of each student's unique experience of learning and development in the anatomical sciences, providing evidence of a student's integrated understanding of the anatomical sciences. It allows students to demonstrate the skills that they have developed on their journey through the production and submission of an original body of work.

Once the capstone project proposal has been approved by the advisory committee in September of their second year, students must complete the project with the anticipation of providing a final oral presentation in December that addresses the following:

- question/problem identification,
- anatomical sciences integration,
- project development, and
- impact (goal) reflection.

## Admission

Applicants must:

- have a B.A. or B.S. degree with a strong science background;
- have a g.p.a. of at least 3.00;
- have an external performance exam from the last five years, such as MCAT (minimum score of 500 or pre-2015 exam scores greater than 27) or Graduate Record

Examination (GRE) General Test (score above the 50th percentile with verbal score of at least 150 and math score of at least 150);

- submit a Test of English as a Foreign Language (TOEFL) score (only the iBT—Internet-Based Test is accepted with a total score of 93 and a speaking score of 26) and the test must have been taken within the last two years, or submit a current acceptable score from the International English Language Testing System (IELTS) if an international applicant and if English is not student's first language;
- provide three letters of reference/support;
- submit a personal statement; and
- be available for an interview with the M.C.A. faculty.

Application deadline is May 31.

For detailed application instructions and forms, visit the Department of Anatomy and Cell Biology.

## Career Advancement

Graduates are prepared for a variety of anatomical sciences education settings that include advanced professional study, faculty/lectureship positions in medicine, and allied health care fields at community colleges. Some will want to continue their studies within a health care profession, others may want to prepare for college-level teaching, and others may want to pursue a career in anatomical sciences.

# Anesthesia

## Chair

- Cynthia Wong

**Faculty:** <https://medicine.uiowa.edu/anesthesia/profile>

**Website:** <https://medicine.uiowa.edu/anesthesia/>

Since its inception, the Department of Anesthesia at the University of Iowa has educated more than 400 anesthesiologists, and at least 18 former residents have served as heads of departments of anesthesiology at American medical colleges.

The department has been, and continues to be, well-represented on editorial boards of major anesthesia journals. It provides refresher course lectures for the annual meeting of the American Society of Anesthesiologists, has physician-researchers who are recognized by the National Institutes of Health as independently funded principal investigators, provides many board examiners for the oral exams of the American Board of Anesthesiology, and has earned high national ranking because of these and other objective accomplishments.

The department coordinates the Anesthesia Nursing Program, a collaboration between the Carver College of Medicine and the College of Nursing. The program, which is open to nurses who hold a bachelor's degree, prepares nurse anesthetists to serve rural hospitals in Iowa and nationwide. The curriculum provides intensive training in didactic and clinical anesthesia and includes diverse clinical experience as well as classroom instruction, seminars, and clinical case conferences. For more information, see the Doctor of Nursing Practice [p. 2008] (College of Nursing) section of the Catalog.

## M.D. Training

The Department of Anesthesia introduces second-year medical students to anesthesia as a specialty; helps third-year students develop concepts and technical skills related to resuscitation, airway management, and care of the unconscious patient; and offers fourth-year students intensive study in the specialty. It offers the following courses for medical students. For course descriptions and prerequisite information, see Courses [p. 1845] in this section of the Catalog.

Code	Title	Hours
ANES:8301	Clinical Anesthesia	2
ANES:8401	Clinical Anesthesia Senior	arr.
ANES:8402	Surgical and Neurosciences Intensive Care	arr.
ANES:8403	Chronic Pain Management	2
ANES:8495	Intensive Care Off Campus	arr.
ANES:8497	Research in Anesthesia	arr.
ANES:8498	Anesthesia On Campus	arr.
ANES:8499	Anesthesia Off Campus	arr.

## Residency

### Postgraduate and Residency Program

The department's postgraduate and residency program involves diverse clinical experiences, seminars and teaching

conferences, and ongoing research activities that help postgraduate students and residents develop the knowledge and skills required of an anesthesia specialist.

## Courses

### Anesthesia Courses

#### **ANES:6004 Scientific Principles for Anesthesia Practice**

**4 s.h.**

Applicable chemical and physical properties of molecules important in anesthesia; technological principles and equipment used to safely deliver those molecules to patients and monitor patients during anesthesia; topics include basic chemical and physical calculations, properties of substances in solution, measurement, behavior of gases and other fluids, effects of heat transfer, and the specific chemistry of inhaled and intravenous anesthetics and adjuvant drugs. Corequisites: NURS:6006. Same as NURS:6004.

#### **ANES:6006 Pharmacology of Anesthesia Practice**

**3 s.h.**

Builds on content from foundational graduate pharmacology course; focus on safe prescribing, administration, and management of medications used to provide general, regional, or local anesthesia and analgesia for all patient populations across lifespan undergoing varied surgical, obstetrical, or other procedures in any health care setting. Prerequisites: PCOL:6204 with a minimum grade of B-. Requirements: enrollment in anesthesia nursing program. Same as NURS:6006.

#### **ANES:6007 Basic Principles of Anesthesia Practice**

**5 s.h.**

Overview and integration of anesthetic agents and techniques; patient assessment, preoperative airway evaluation, anesthetic planning, principles of fluid management, and arterial blood gas interpretation; principles of general and regional anesthesia and techniques as they pertain to each surgical specialty; Occupational, Safety and Health Administration (OSHA), The Joint Commission (TJC), and institutional regulations and requirements pertinent to anesthesia practice. Prerequisites: NURS:6004 with a minimum grade of B- and NURS:6006 with a minimum grade of B-. Same as NURS:6007.

#### **ANES:6010 Advanced Principles of Anesthesia Practice I**

**4 s.h.**

Special needs and intraoperative anesthetic management of complex patient populations and those with advanced pathologic states; anesthetic techniques for specific surgical subspecialties including pediatrics, obstetrics, neurosurgery, cardiac, vascular, thoracic, transplant, trauma, EENT, dental, and aesthetic or reconstructive procedures; pertinent pathophysiology and anesthetic monitoring and management techniques; clinical case conferences provide opportunities to discuss perianesthetic complications and challenges. Prerequisites: NURS:6007 with a minimum grade of B- or ANES:6007 with a minimum grade of B-. Same as NURS:6010.

#### **ANES:6012 Advanced Principles of Anesthesia Practice II**

**1 s.h.**

Acute and chronic pain treatment modalities for all patients presenting for a variety of medical or surgical procedures across the lifespan. Prerequisites: NURS:6007 with a minimum grade of B- or ANES:6007 with a minimum grade of B-. Same as NURS:6012.

- ANES:6050 Introductory Clinical Anesthesia** 2 s.h.  
Initial mentorship in clinical anesthesia; development of basic clinical skills needed for a career as nurse anesthetist; application and integration of theoretical knowledge in clinical setting. Prerequisites: NURS:6004 and NURS:6006. Corequisites: NURS:6007. Same as NURS:6050.
- ANES:6051 Clinical Anesthesia I** 2 s.h.  
Mentored clinical anesthesia experience; advancement and enhancement of clinical skills in providing anesthesia for various surgical subspecialties including general, orthopedic, pediatric, geriatric, gynecologic, urologic, dental, EENT, ambulatory surgery, and invasive diagnostic procedures. Prerequisites: NURS:6050 or ANES:6050. Corequisites: NURS:6010. Same as NURS:6051.
- ANES:6052 Clinical Anesthesia II** 2 s.h.  
Additional mentored clinical anesthesia experience; advancement and enhancement of clinical skills in providing anesthesia for various surgical subspecialties including general, orthopedic, pediatric, geriatric, gynecologic, urologic, dental, EENT, ambulatory surgery, and invasive diagnostic procedures. Prerequisites: NURS:6051 or ANES:6051. Same as NURS:6052.
- ANES:6053 Advanced Clinical Anesthesia** 2 s.h.  
Mentored clinical anesthesia at selected sites; development of advanced clinical skills and critical thinking by providing anesthesia for all surgical specialties and invasive diagnostic procedures in all anesthetizing locations; providing anesthesia for all patients in all settings, including on call emergency surgeries. Prerequisites: NURS:6052. Same as NURS:6053.
- ANES:6054 Obstetrical Anesthesia** 2 s.h.  
Experience delivering analgesia and anesthesia for parturients during labor and delivery process. Prerequisites: NURS:6052. Same as NURS:6054.
- ANES:6055 Rural Anesthesia** 2 s.h.  
Opportunity to develop experience providing anesthesia and associated health care services at UI-affiliated clinical sites in rural settings. Prerequisites: NURS:6052. Same as NURS:6055.
- ANES:8007 Medical Student Fellowships in Anesthesia (Externships)** 0 s.h.  
Anesthesia call team clinical experience. Requirements: M.D. standing in anesthesia externship.
- ANES:8301 Clinical Anesthesia** 2 s.h.  
Clinical instruction in perioperative care of the surgical patient; preoperative evaluation, consideration of coexisting medical problems, intraoperative care, postoperative management; basic airway management; introduction to clinical management of acute and chronic pain; case conferences, simulator training.
- ANES:8401 Clinical Anesthesia Senior** arr.  
Advanced clinical experience in anesthesia management of surgical patients with coexisting medical problems; clinical experience in various forms of anesthesia; general, regional (spinal, epidural, peripheral nerve block) anesthesia; practical experience in airway management; mask ventilation, endotracheal intubation, LMA placement, other alternative airway techniques; medical management of surgical patient under anesthesia; pharmacology, cardiovascular and pulmonary physiology; case conferences.
- ANES:8402 Surgical and Neurosciences Intensive Care** arr.  
Evaluation and treatment of critically ill neurological and post-surgical patients; evaluation of pulmonary function, ventilator management, monitoring and management of hemodynamics, fluid balance, acid-based problems, acute kidney injury, acute neurological events, and advanced monitoring techniques.
- ANES:8403 Chronic Pain Management** 2 s.h.  
How to interview and assess patients with pain, work with a multidisciplinary team to determine the type of pain and/or diagnosis, and develop a multimodal treatment plan; readings, classroom discussions, and experiential activities.
- ANES:8495 Intensive Care Off Campus** arr.  
Evaluation and treatment of seriously ill patients in an intensive care unit (other than University of Iowa Hospitals and Clinics); artificial ventilation, evaluation of pulmonary function, monitoring of cardiovascular status, fluid balance and acid base problems, advance monitoring techniques. Prerequisites: ANES:8401. Requirements: 4 s.h. of ANES:8401.
- ANES:8497 Research in Anesthesia** arr.  
Medical research, clinical or laboratory projects; individual study.
- ANES:8498 Anesthesia On Campus** arr.  
Well defined research project relating to anesthesia; arranged by student with departmental approval.
- ANES:8499 Anesthesia Off Campus** arr.  
Knowledge development in anesthesia work and monitor use; ability to identify respiratory, cardiovascular, and neurologic effects of anesthetic agents; skill in airway management; basic skills in general, spinal, epidural, and peripheral nerve block anesthesia.

# Biochemistry and Molecular Biology

## Interim Chair

- Kris A. DeMali

**Undergraduate major:** biochemistry (B.A., B.S.)

**Graduate degrees:** M.S. in biochemistry; Ph.D. in biochemistry

**Website:** <https://medicine.uiowa.edu/biochemistry-molecular-biology/>

Biochemistry is the study of basic chemical processes that occur in and govern all living systems. Nearly all areas of the life sciences engage in biochemical research.

The Department of Biochemistry and Molecular Biology offers undergraduate and graduate degrees, and determines the curricula for those programs. Undergraduate students majoring in biochemistry receive their degrees (Bachelor of Arts or Bachelor of Science) from the College of Liberal Arts and Sciences, and their studies are governed by that college's undergraduate academic policies. The Master of Science and the Doctor of Philosophy degrees are awarded by the Graduate College.

## Faculty and Research

The department's faculty members supervise research in biochemistry; molecular, cellular, developmental, computational, and structural biology; and model system genetics. Their work is supported by grants from the National Institutes of Health (NIH), the National Science Foundation (NSF), the American Heart Association, the American Cancer Society, the Muscular Dystrophy Association (MDA), and other sources. To learn more about the department's faculty members and areas of research, visit the Department of Biochemistry and Molecular Biology website.

## Programs

### Undergraduate Programs of Study

#### Majors

- Major in Biochemistry (Bachelor of Arts) [p. 1851]
- Major in Biochemistry (Bachelor of Science) [p. 1854]

### Graduate Programs of Study

#### Majors

- Master of Science in Biochemistry [p. 1858]
- Doctor of Philosophy in Biochemistry [p. 1859]

## Facilities

The Department of Biochemistry and Molecular Biology occupies 36,700 square feet on the fourth floor of the Bowen Science Building, 3,500 square feet on the third floor of the Medical Education Research Facility, 2,000 square feet in the Eckstein Medical Research Building, and 1,450 square feet on the fourth floor of the Pappajohn Biomedical Discovery Building in the Fraternal Order of Eagles Diabetes Research Center on the University's health sciences campus. It has

a number of well-equipped research laboratories and other departmental facilities, including the Biochemistry Stores, the Mattill Biochemistry Reading Room, and the Heath Conference Room.

The department makes available a number of shared instruments, including an Applied PhotoPhysics stopped flow spectrometer SX20; a Jasco spectropolarimeter, model J815; a Horiba fluorlog-3 spectrofluorometer; and a Beckman Coulter ultra XLI analytical centrifuge.

Faculty, staff, and students in the department have access to a variety of shared Carver College of Medicine resources, including the Protein Crystallography Facility, the Iowa Institute of Human Genetics Genomics Division (DNA Facility), the Nuclear Magnetic Resonance Facility, the Proteomics Facility, the Flow Cytometry Facility, the Viral Vector Core Facility, the Small Animal Imaging Core Facility, and the Genome Editing Facility. The University also supports resources such as the Central Microscopy Research Facilities and the High Throughput Screening Facility.

## Courses

### Biochemistry and Molecular Biology Courses

#### **BMB:3110 Biochemistry** **3 s.h.**

One-semester survey of basic concepts in modern biochemistry and molecular biology; emphasis on application of biochemical concepts to human metabolism; appropriate for students who plan to pursue a career in health care or want an overview of biochemistry as a discipline. Requirements: one year each of college-level biology and chemistry. Recommendations: one semester of organic chemistry.

#### **BMB:3120 Biochemistry and Molecular Biology I** **3 s.h.**

Physical and chemical foundations of biochemistry, structure of biological molecules, catalysis, transport, and oxidative reactions in biology; first of two-semester sequence that concludes with BMB:3130. Requirements: two semesters of general chemistry and one of organic chemistry. Recommendations: BIOL:1411, BIOL:1412, and an additional organic chemistry course.

#### **BMB:3130 Biochemistry and Molecular Biology II** **3 s.h.**

Molecular principles of photosynthesis and biosignaling; metabolism of lipids, amino acids, and nucleic acids; DNA replication, transcription, and protein translation; team-taught, didactic lecture style; second of a two-semester comprehensive biochemistry sequence. Prerequisites: BMB:3120 with a minimum grade of C-.

#### **BMB:3140 Experimental Biochemistry** **2 s.h.**

Use of modern instruments and techniques to fractionate, identify, and characterize constituents of biochemical systems. Prerequisites: BMB:3120 with a minimum grade of C-. Requirements: two semesters of general chemistry and one semester of organic chemistry.

**BMB:3150 Development of Senior Research Project****2 s.h.**

Preparation for biochemistry majors pursuing a senior research project in BMB:4999; communicating technical information through writing and speaking; presenting scientific journal articles and writing experimental protocols; developing detailed proposal for one-year senior research project. Prerequisites: BMB:3120 or BMB:3140 or BMB:3130. Requirements: biochemistry major, and junior or senior standing.

**BMB:3310 Practical Data Science and Bioinformatics****3 s.h.**

Understanding how to access large biological data sets and use them to answer biological questions is an important skill for researchers; immersive introduction to computational handling of data; how to access and analyze publicly available data; critically evaluate data quality and analysis in context of measuring gene expression; basic coding in R/RStudio, plotting and data display, fitting and regression, statistical inference, statistical models, downloading and data wrangling; basic introduction to machine learning (clustering); for students with no computational background. Prerequisites: BIOL:1411 with a minimum grade of C- and BIOL:1412 with a minimum grade of C-. Requirements: college algebra. Recommendations: BMB:3110, or BMB:3120 and BMB:3130, or other upper-level life sciences courses. Same as CBIO:3310, MMED:3310.

**BMB:3800 Biochemistry Teaching Practicum****arr.**

Training for qualified junior or senior undergraduates majoring in biochemistry or a related field to contribute to undergraduate courses; interns may hold review sessions, offer regular office hours, draft questions for homework or exams, assist in proctoring exams, assist students in a laboratory setting, and help with course implementation; guidance from the faculty director and instructors in each course; interns are expected to work approximately three hours per week for each semester hour of credit earned. Requirements: completion of a course covering the same or equivalent material with a grade of B or higher, and must arrange for a short interview with the appropriate course director prior to registration.

**BMB:3993 Undergraduate Biochemistry Research****arr.**

Preparation for BMB:4999; directed research with a biochemistry faculty member; experience in an active biochemistry research lab, learning and performing experiments relevant to current projects in that lab, including exposure to scientific literature; arranged in advance by student and biochemistry faculty member.

**BMB:4240 Biophysics and Advanced Biochemistry****3 s.h.**

Principles and experimental approaches used to study macromolecular structure, stability, and function; ligand binding and macromolecular interactions; enzyme kinetics and mechanisms; X-ray crystallography and NMR spectroscopy; single molecule and other biophysical approaches. Prerequisites: BMB:3120 and BMB:3130 with a minimum grade of C-. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.

**BMB:4241 Biophysical Chemistry I****3 s.h.**

Principles and experimental approaches used to study structure and function of biological macromolecules; protein structure, stability, and dynamics; macromolecular interactions; common biophysical methods. Prerequisites: BMB:3120 with a minimum grade of C- and BMB:3130 with a minimum grade of C-. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.

**BMB:4242 Biophysical Chemistry II****3 s.h.**

Principles and experimental approaches used to study structure and function of biological macromolecules; ligand binding and enzyme catalysis; X-ray crystallography; NMR spectroscopy. Prerequisites: BMB:3120 with a minimum grade of C- and BMB:3130 with a minimum grade of C-. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.

**BMB:4310 Computational Biochemistry****3 s.h.**

Introduction to biomolecular modeling and computer simulation techniques; biomolecular structure and molecular driving forces; principles of structural optimization and conformational sampling; applications to biomolecular phenotypes; scripting and molecular visualization in PyMol, setting up and running molecular dynamics simulations using VMD and NAMD, performing refinement of X-ray diffraction data sets using Phenix, and executing Poisson-Boltzmann electrostatic calculations using APBS. Prerequisites: (MATH:1560 or MATH:1860) and CHEM:1120. Recommendations: BMB:3110 or BMB:3120. Same as BME:4310.

**BMB:4999 Advanced Undergraduate Biochemistry Research****arr.**

Advanced directed research with a biochemistry faculty member; work on an individualized research project relevant to research goals of that lab; learning related scientific literature and presentation of research results; arranged in advance by student and biochemistry faculty member and taken after completion of core biochemistry curriculum. Prerequisites: BMB:3120 with a minimum grade of B- and BMB:3130 with a minimum grade of B- and BMB:3140 with a minimum grade of B- and BMB:3150 with a minimum grade of B-. Requirements: BMB:3993 or URES:3994 or HONR:3994 or prior research experience or lab practicum.

**BMB:5215 Directed Readings for Graduate Students**

Directed readings with course content arranged with professor.

**BMB:5240 Biophysics and Advanced Biochemistry****3 s.h.**

Principles and experimental approaches used to study macromolecular structure, stability, and function; ligand binding and macromolecular interactions; enzyme kinetics and mechanisms; X-ray crystallography and NMR spectroscopy; single molecule and other biophysical approaches. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.

**BMB:5241 Biophysical Chemistry I****3 s.h.**

Principles and experimental approaches used to study structure and function of biological macromolecules; protein structure, stability, and dynamics; macromolecular interactions; common biophysical methods. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.



- BMB:5242 Biophysical Chemistry II** 3 s.h.  
Principles and experimental approaches used to study structure and function of biological macromolecules; ligand binding and enzyme catalysis; X-ray crystallography; NMR spectroscopy. Requirements: one year of biochemistry. Recommendations: physical chemistry course and one semester of calculus.
- BMB:5243 Biophysical Chemistry I, Module I** 1 s.h.  
Overview of principles of protein structure, stability, folding, and dynamics; brief treatment of structural biology approaches to help students become critical users of models derived from X-ray crystallography and NMR; taken alone or as part of BMB:5241. Requirements: introductory course in biochemistry.
- BMB:5244 Molecular Recognition** 1 s.h.  
Focus on determinants in protein small molecule binding, particularly involving pharmaceutically relevant enzymes and receptors; how modern structure-based drug discovery is greatly aided by ability to employ protein structures in discovery and design of certain classes of drugs; structural approaches for predicting and improving drug affinity and selectivity, which have made a lasting impact across a number of diseases; important contemporary topics include in-depth lectures on fragment based drug discovery (FBDD), use and pitfalls of in silico docking and other screening methods, and emergence of covalent drugs. Requirements: introductory course in biochemistry. Same as PHAR:5542.
- BMB:5245 Biophysical Chemistry I, Module II** 1 s.h.  
In-depth examination of statistical thermodynamics and molecular forces in biological systems as related to protein structure, stability, and folding; nucleic acid structure and stability; taken alone or as part of BMB:5241. Requirements: introductory course in biochemistry.
- BMB:5246 Biophysical Chemistry II, Module II** 1 s.h.  
Utilization of X-ray crystallography and NMR spectroscopy in determining atomic resolution biomolecular structures; crystal geometry, X-ray diffraction, the phase problem, data collection, structure solving and refinement; basic principles of NMR spectroscopy including magnetic properties of nuclei, chemical shift, resonance assignments, determination of NOEs, scalar couplings, RDCs, and simulated annealing approaches to structure determination; for students interested in structural biology; taken alone or as part of BMB:5242. Requirements: introductory course in biochemistry.
- BMB:5247 Biophysical Chemistry I, Module III** 1 s.h.  
In-depth examination of protein-protein interactions and protein-nucleic acid interactions; implications in biological motility, transcription, and replication; taken alone or as part of BMB:5241. Requirements: introductory course in biochemistry.
- BMB:5248 Biophysical Chemistry II, Module III** 1 s.h.  
Methods for studying biomolecular dynamics, structure of large biomolecules and biomolecular complexes; measurement and analysis of NMR parameters for characterization of dynamics including T1, T2, hetNOE, CPMG-RD, and RDCs; introduction to computational approaches (e.g., molecular dynamics); NMR methods for studying large biomolecular systems and survey of other approaches including cryoEM and SAX; for students interested in structural biology; taken alone or as part of BMB:5242. Requirements: one year of biochemistry. Recommendations: basic knowledge of spectroscopy and some previous exposure to NMR from basic chemistry courses.
- BMB:5261 Research Techniques** 1-6 s.h.  
Laboratory rotation for first-year graduate students in biochemistry.
- BMB:5282 Seminar** 0-2 s.h.  
How to evaluate reports of scientific investigations critically; techniques for presenting scientific information.
- BMB:5875 Perspectives in Biocatalysis** 1-3 s.h.  
Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as CBE:5875, CEE:5875, CHEM:5875, MICR:5875, PHAR:5875.
- BMB:7251 Introduction to Protein Structures** 1 s.h.  
Basics of protein structures and amino acids; module covers chapters 1-5 of Lehninger's *Principles of Biochemistry*. Recommendations: first-year graduate standing in biosciences or physical sciences.
- BMB:7252 Enzymes, Carbohydrates, Nucleic Acids, and Bioenergetics** 1 s.h.  
Basics of enzyme kinetics and enzyme mechanisms, carbohydrates, nucleic acids, and bioenergetics; module covers chapters 6, 7, 8, and 13 of Lehninger's *Principles of Biochemistry*. Recommendations: first-year graduate standing in biosciences or physical sciences.
- BMB:7253 Metabolism I** 1 s.h.  
Basics of carbohydrate metabolism (glycolysis, gluconeogenesis, the pentose phosphate pathway), hormonal regulation of carbohydrate metabolism, the citric acid cycle, amino acid catabolism, oxidative phosphorylation; assignment of an advanced topic related to material, typically a recent research paper, extending inquiry beyond that presented in class and presented orally at end of five-week module. Requirements: undergraduate biochemistry course or background in enzyme function.
- BMB:7254 Cellular Biochemistry** 1 s.h.  
Carbohydrate biosynthesis in plants and bacteria, lipid structure/function, biological membranes and transport, signaling, and protein turnover; can be taken alone or as part of BMB:3130; for graduate students who wish to refresh or advance their knowledge of cellular biochemistry. Recommendations: first-year graduate standing in biosciences or physical sciences.
- BMB:7255 Metabolism II** 1 s.h.  
Fatty acid metabolism, lipid biosynthesis, synthesis of nitrogen containing compounds (amino acids, nucleotides) and principles of hormonal regulation of metabolic pathways; can be taken alone or as part of BMB:3130; for graduate students who wish to refresh or advance their knowledge of metabolism. Recommendations: first-year graduate standing in biosciences or physical sciences.
- BMB:7256 Molecular Biology** 1 s.h.  
Chromosomal organization, DNA replication, gene expression, RNA processing, and translation; can be taken alone or as part of BMB:3130; for graduate students who wish to refresh or advance their knowledge of the central dogma of molecular biology. Recommendations: first-year graduate standing in biosciences or physical sciences.
- BMB:7292 Research Biochemistry** arr.  
Thesis research.

**BMB:8101 Biochemistry for Dental Students 3 s.h.**

Biochemical concepts and application to clinical problems.

Requirements: CHEM:2210 and D.D.S. enrollment.

Recommendations: CHEM:2220.

## Biochemistry, B.A.

To maximize student flexibility, the curriculum for the B.A. with a major in biochemistry is identical to the B.S. degree in the first two years of study.

### Requirements

The Bachelor of Arts with a major in biochemistry requires a minimum of 120 s.h., including 58 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

The biochemistry major for the Bachelor of Arts degree provides a rigorous education in biochemical concepts and practice in the laboratory while giving students flexibility to specialize in additional disciplines or to obtain clinical volunteer experience. The B.A. program is intended for most students majoring in biochemistry, including those with pre-medicine, pre-pharmacy, pre-dental, and other pre-health professions interests. It also is appropriate for students earning more than one major.

Qualified students may graduate with honors in the biochemistry major; see "Honors in the Major" under Honors [p. 1851] in this section of the Catalog.

The B.A. with a major in biochemistry requires the following coursework.

Code	Title	Hours
Common Requirements		49
Additional Requirements		9
<b>Total Hours</b>		<b>58</b>

### Common Requirements

Students complete the following during their first three years.

Code	Title	Hours
BMB:3120 & BMB:3130	Biochemistry and Molecular Biology I-II	6
BMB:3140	Experimental Biochemistry	2
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 or CHEM:2230	Organic Chemistry I Organic Chemistry I for Majors	3
CHEM:2220 or CHEM:2240	Organic Chemistry II Organic Chemistry II for Majors	3
CHEM:2410 or CHEM:2420	Organic Chemistry Laboratory Organic Chemistry Laboratory for Majors	3
MATH:1850 & MATH:1860	Calculus I-II	8
PHYS:1511 or PHYS:1611	College Physics I Introductory Physics I	4
PHYS:1512 or PHYS:1612	College Physics II Introductory Physics II	4

If students take PHYS:1612 Introductory Physics II, they must take the course with the lab component.

## Additional Requirements

In addition to the common requirements listed above, students must complete the following.

Code	Title	Hours
This course:		
BMB:4240	Biophysics and Advanced Biochemistry	3
And these:		
Advanced science electives, approved by biochemistry and molecular biology advisor		6

Students intending to earn advanced degrees in the biological or health sciences are advised to earn at least 4 s.h. in BMB:3993 Undergraduate Biochemistry Research or BMB:4999 Advanced Undergraduate Biochemistry Research. There are no prerequisites for BMB:3993. The course involves experience in an active biochemistry research lab, which must be arranged ahead of time with a supervising faculty member. Students may make arrangements directly with the faculty member, or they may request assistance from an undergraduate advisor. Credit earned in BMB:3993 does not count toward the major, but it does count toward the minimum of 120 s.h. required to graduate.

Before students register for BMB:4999 Advanced Undergraduate Biochemistry Research, they must have completed BMB:3120 Biochemistry and Molecular Biology I, BMB:3130 Biochemistry and Molecular Biology II, BMB:3140 Experimental Biochemistry, and BMB:3150 Development of Senior Research Project, with a grade of B-minus or higher in each course. Students also are required to have prior research experience, such as in BMB:3993 Undergraduate Biochemistry Research, URES:3994 Undergraduate Research and Creative Projects, or HONR:3994 Honors Research Practicum, and permission of the instructor.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. They must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in work for the major. They must earn 6 s.h. in BMB:4999 Advanced Undergraduate Biochemistry Research and present their research results in a honors thesis written in the form of a journal article and in an oral report given at a special open departmental seminar.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the

University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the biochemistry major.

## Career Advancement

Biochemistry graduates with bachelor's degrees often work as research assistants in industry, government, education, or health services; teach in secondary schools; or go on to advanced study in medicine, dentistry, or other areas. The program offers solid preparation for careers in medicine, biology, chemistry, dentistry, research, or related sciences. About one-third of biochemistry majors go on to study medicine; others enter graduate programs or professional degree programs.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, MATH:1850 Calculus I, and MATH:1860 Calculus II.

**Before the fifth semester begins:** BIOL:1411 Foundations of Biology, BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I or CHEM:2230 Organic Chemistry I for Majors, CHEM:2220 Organic Chemistry II or CHEM:2240 Organic Chemistry II for Majors, and CHEM:2410 Organic Chemistry Laboratory or CHEM:2420 Organic Chemistry Laboratory for Majors.

**Before the seventh semester begins:** PHYS:1611 Introductory Physics I or PHYS:1511 College Physics I, PHYS:1612 Introductory Physics II or PHYS:1512 College Physics II, BMB:3120 Biochemistry and Molecular Biology I, BMB:3130 Biochemistry and Molecular Biology II, BMB:3140 Experimental Biochemistry, a science elective, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** BMB:4240 Biophysics and Advanced Biochemistry and a science elective.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Biochemistry, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students in good academic standing can switch from the B.A. to the B.S. degree program after completing one semester of organic chemistry (CHEM:2210 Organic Chemistry I or CHEM:2230 Organic Chemistry I for Majors).		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
MATH:1850	Calculus I <sup>c, d</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
CSI:1600	Success at Iowa	2
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
CHEM:1120	Principles of Chemistry II <sup>c</sup>	4
RHET:1030	Rhetoric	3 - 4
or ENGL:1200	or The Interpretation of Literature	
MATH:1860	Calculus II	4
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
Elective course <sup>e</sup>		1
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:1411	Foundations of Biology <sup>c</sup>	4
CHEM:2230	Organic Chemistry I for Majors	3
or CHEM:2210	or Organic Chemistry I	
GE CLAS Core: Historical Perspectives <sup>f</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
BIOL:1412	Diversity of Form and Function <sup>c</sup>	4
CHEM:2220	Organic Chemistry II	3
or CHEM:2240	or Organic Chemistry II for Majors	
CHEM:2410	Organic Chemistry Laboratory	3
or CHEM:2420	or Organic Chemistry Laboratory for Majors	
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
BMB:3120	Biochemistry and Molecular Biology I	3
PHYS:1611	Introductory Physics I <sup>c</sup>	4
or PHYS:1511	or College Physics I	

Major: research or science elective (consult with advisor) <sup>h,i</sup>	3
GE CLAS Core: Values and Culture <sup>f</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>	4 - 5

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**Hours 17-18**

**Spring**

BMB:3130	Biochemistry and Molecular Biology II	3
BMB:3140	Experimental Biochemistry	2
PHYS:1512	College Physics II <sup>c</sup>	4
	or PHYS:1612 or Introductory Physics II	
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>		3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>g</sup>		4 - 5

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**Hours 16-17**

**Fourth Year****Fall**

BMB:4240	Biophysics and Advanced Biochemistry	3
Major: research, independent study, or elective (consult with advisor) <sup>h,i</sup>		3
Major: science elective (consult with advisor) <sup>h</sup>		3
GE CLAS Core: International and Global Issues <sup>f</sup>		3
Elective course <sup>e</sup>		3

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**Hours 15**

**Spring**

Major: research, independent study, or elective (consult with advisor) <sup>h,i</sup>	3
Major: science elective (consult with advisor) <sup>h</sup>	3
GE CLAS Core: Social Sciences <sup>f</sup>	3
Elective course <sup>e</sup>	3
Elective course <sup>e</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>	

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**Hours 15**

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**Total Hours 124-130**

- a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Enrollment in math courses requires completion of a placement exam.
- e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h Students are required to complete 6 s.h. in advanced science electives approved by biochemistry advisor.

i Students intending to earn advanced degrees in the biological or health sciences are advised to earn at least 4 s.h. in BMB:3993 or BMB:4999.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Biochemistry, B.S.

To maximize student flexibility, the curriculum for the B.S. with a major in biochemistry is identical to the B.A. degree in the first two years of study.

## Requirements

The Bachelor of Science with a major in biochemistry requires a minimum of 120 s.h., including 70 s.h. of work for the major. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. They also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

All students majoring in biochemistry are initially placed in the Bachelor of Arts degree program. Students in good academic standing can switch to the Bachelor of Science degree program after completing one semester of organic chemistry (CHEM:2230 Organic Chemistry I for Majors or CHEM:2210 Organic Chemistry I). Students who wish to change their degree program to the Bachelor of Science should do so by filling out a change of degree form at the College of Liberal Arts and Sciences Undergraduate Programs office.

The biochemistry major for the Bachelor of Science degree is intended primarily for students planning careers in research. The B.S. program prepares students to pursue graduate degrees, such as an M.S., Ph.D., or a combined M.D./Ph.D. program, or to work as research technicians. The B.S. program requires 12-14 s.h. more credit in science and laboratory electives than the B.A. program does.

Qualified students may graduate with honors in the biochemistry major; see "Honors in the Major" under Honors [p. 1855] in this section of the Catalog.

The B.S. with a major in biochemistry requires the following coursework.

Code	Title	Hours
	Common Requirements	49
	Additional Requirements	21
	<b>Total Hours</b>	<b>70</b>

## Common Requirements

Students complete the following during their first three years.

Code	Title	Hours
BMB:3120 & BMB:3130	Biochemistry and Molecular Biology I-II	6
BMB:3140	Experimental Biochemistry	2
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 or CHEM:2230	Organic Chemistry I Organic Chemistry I for Majors	3
CHEM:2220 or CHEM:2240	Organic Chemistry II Organic Chemistry II for Majors	3
CHEM:2410 or CHEM:2420	Organic Chemistry Laboratory Organic Chemistry Laboratory for Majors	3
MATH:1850 & MATH:1860	Calculus I-II	8

PHYS:1511 or PHYS:1611	College Physics I Introductory Physics I	4
PHYS:1512 or PHYS:1612	College Physics II Introductory Physics II	4

If students take PHYS:1612 Introductory Physics II, they must take the course with the lab component.

## Additional Requirements

In addition to the common requirements listed above, students must complete the following.

Code	Title	Hours
This course:		
BMB:4240	Biophysics and Advanced Biochemistry	3
And one of these:		
CHEM:4430	Principles of Physical Chemistry	3
CHEM:4431	Physical Chemistry I	3
CHEM:4432	Physical Chemistry II	3
One of these options:		
BMB:4999	Advanced Undergraduate Biochemistry Research	6
	Advanced laboratory courses	6
And:		
	Advanced science electives, approved by biochemistry and molecular biology advisor	9

Students are encouraged to begin research by taking BMB:3993 Undergraduate Biochemistry Research, which has no prerequisites. The course involves experience in an active biochemistry research lab, which must be arranged ahead of time with a supervising faculty member. Students may make arrangements directly with the faculty member, or they may request assistance from an undergraduate advisor. Credit earned in BMB:3993 does not count toward the major, but it does count toward the minimum of 120 s.h. required to graduate.

Before students register for BMB:4999 Advanced Undergraduate Biochemistry Research, they must have completed BMB:3120 Biochemistry and Molecular Biology I, BMB:3130 Biochemistry and Molecular Biology II, BMB:3140 Experimental Biochemistry, and BMB:3150 Development of Senior Research Project, with a grade of B-minus or higher in each course. Students also are required to have prior research experience, such as in BMB:3993 Undergraduate Biochemistry Research, URES:3994 Undergraduate Research and Creative Projects, or HONR:3994 Honors Research Practicum, and permission of the instructor. Students can only count 6 s.h. in BMB:4999 toward their requirements for the degree.

## Teacher Licensure

Students interested in teaching in elementary and/or secondary schools should seek admission to the Teacher Education Program (TEP) in the College of Education.

To qualify for licensure in secondary teaching, students in the TEP complete a degree in education as well as a related College of Liberal Arts and Sciences degree. See Apply on the College of Education website for details on requirements and deadlines for applying to the College of Education and about TEP choices of majors leading to licensure.

## Combined Programs

### B.S./Ph.D. in Biochemistry

The combined Bachelor of Science/Doctor of Philosophy in biochemistry program permits students to transition into the Ph.D. program during their senior year and to count 12 s.h. of credit toward both the B.S. and Ph.D. requirements. The combined program provides a research-intensive experience and shortens the training time for students interested in pursuing independent biochemistry research careers. Students in the program receive financial support during the second half of their senior year and throughout their Ph.D. study.

Students must be pursuing a Bachelor of Science with a major in biochemistry, and by the beginning of their senior year they must:

- have 108 s.h. of undergraduate credit;
- have a minimum g.p.a. of 3.50;
- have completed four semesters of research experience (summer research counts as one semester); and
- have completed BMB:3120 Biochemistry and Molecular Biology I, BMB:3130 Biochemistry and Molecular Biology II, and BMB:3140 Experimental Biochemistry.

Students interested in the combined program should speak with their academic advisor and the biochemistry and molecular biology honors advisor during their first year or at the beginning of their sophomore year. Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information, contact the Department of Biochemistry and Molecular Biology.

## Honors

### Honors in the Major

Students have the opportunity to graduate with honors in the major. They must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in work for the major. They must earn 6 s.h. in BMB:4999 Advanced Undergraduate Biochemistry Research and present their research results in a honors thesis written in the form of a journal article and in an oral report given at a special open departmental seminar.

### University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the biochemistry major.

## Career Advancement

Biochemistry graduates with bachelor's degrees often work as research assistants in industry, government, education, or health services; teach in secondary schools; or go on to advanced study in medicine, dentistry, or other areas. The program offers solid preparation for careers in medicine, biology, chemistry, dentistry, research, or related sciences.

About one-third of biochemistry majors go on to study medicine; others enter graduate programs or professional degree programs.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, MATH:1850 Calculus I, and MATH:1860 Calculus II.

**Before the fifth semester begins:** BIOL:1411 Foundations of Biology, BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I or CHEM:2230 Organic Chemistry I for Majors, CHEM:2220 Organic Chemistry II or CHEM:2240 Organic Chemistry II for Majors, and CHEM:2410 Organic Chemistry Laboratory or CHEM:2420 Organic Chemistry Laboratory for Majors.

**Before the seventh semester begins:** PHYS:1611 Introductory Physics I or PHYS:1511 College Physics I, PHYS:1612 Introductory Physics II or PHYS:1512 College Physics II, BMB:3150 Development of Senior Research Project, one semester of BMB:3993 Undergraduate Biochemistry Research for students planning to take BMB:4999 Advanced Undergraduate Biochemistry Research, BMB:3120 Biochemistry and Molecular Biology I, BMB:3130 Biochemistry and Molecular Biology II, BMB:3140 Experimental Biochemistry, two science electives, and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** BMB:4240 Biophysics and Advanced Biochemistry or CHEM:4430 Principles of Physical Chemistry or CHEM:4431 Physical Chemistry I or CHEM:4432 Physical Chemistry II, a science elective, and at least 3 s.h. of BMB:4999 Advanced Undergraduate Biochemistry Research.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Biochemistry, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Students in good academic standing can switch from the B.A. to the B.S. degree program after completing one semester of organic chemistry (CHEM:2210 Organic Chemistry I or CHEM:2230 Organic Chemistry I for Majors).

GE CLAS Core: Sustainability<sup>a</sup>

Hours

0

**First Year****Fall**

CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
MATH:1850	Calculus I <sup>c, d</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
Elective course <sup>e</sup>		1

**Hours** **14-15**

**Spring**

CHEM:1120	Principles of Chemistry II <sup>c</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
MATH:1860	Calculus II	4
GE CLAS Core: Diversity and Inclusion <sup>f</sup>		3
Elective course <sup>e</sup>		1

**Hours** **15-16**

**Second Year****Fall**

BIOL:1411	Foundations of Biology <sup>c</sup>	4
CHEM:2230 or CHEM:2210	Organic Chemistry I for Majors or Organic Chemistry I	3
GE CLAS Core: Historical Perspectives <sup>f</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>g</sup>		4 - 5
Elective course <sup>e</sup>		2

**Hours** **16-17**

**Spring**

BIOL:1412	Diversity of Form and Function <sup>c</sup>	4
CHEM:2240 or CHEM:2220	Organic Chemistry II for Majors or Organic Chemistry II	3
CHEM:2420 or CHEM:2410	Organic Chemistry Laboratory for Majors or Organic Chemistry Laboratory	3
Major: science elective (consult with advisor) <sup>h</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5

**Hours** **17-18**

**Third Year****Fall**

BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3993	Undergraduate Biochemistry Research	3
PHYS:1611 or PHYS:1511	Introductory Physics I <sup>c</sup> or College Physics I	4
GE CLAS Core: Values and Culture <sup>f</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>g</sup>		4 - 5

**Hours** **17-18**

**Spring**

BMB:3130	Biochemistry and Molecular Biology II	3
BMB:3140	Experimental Biochemistry	2
BMB:3150	Development of Senior Research Project	2
PHYS:1612 or PHYS:1512	Introductory Physics II <sup>c</sup> or College Physics II	4

GE CLAS Core: World Languages Fourth Level Proficiency or elective course<sup>g</sup> 4 - 5

Elective course<sup>e</sup> 1

**Hours** **16-17**

**Fourth Year****Fall**

BMB:4999	Advanced Undergraduate Biochemistry Research	3
CHEM:4431 or CHEM:4430 or BMB:4240	Physical Chemistry I <sup>i</sup> or Principles of Physical Chemistry or Biophysics and Advanced Biochemistry	3
Major: science elective (consult with advisor) <sup>h</sup>		3
GE CLAS Core: International and Global Issues <sup>f</sup>		3
GE CLAS Core: Literary, Visual, and Performing Arts <sup>f</sup>		3

**Hours** **15**

**Spring**

BMB:4999	Advanced Undergraduate Biochemistry Research	3
CHEM:4432 or BMB:4240 or CHEM:4431	Physical Chemistry II <sup>i</sup> or Biophysics and Advanced Biochemistry or Physical Chemistry I	3
Major: science elective (consult with advisor) <sup>h</sup>		3
Major: science elective (consult with advisor) <sup>h</sup>		3
GE CLAS Core: Social Sciences <sup>f</sup>		3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

**Hours** **15**

**Total Hours** **125-131**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in chemistry courses requires completion of a placement exam.

c Fulfills a major requirement and may fulfill a GE requirement.

d Enrollment in math courses requires completion of a placement exam.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

g Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

h Students are required to complete 9 s.h. in advanced science electives approved by biochemistry advisor.

i Students must complete BMB:4240 and one course from CHEM:4430, CHEM:4431, CHEM:4432.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate



timing, contact your academic advisor or Graduation Services.

# Biochemistry, M.S.

Students admitted to graduate study in biochemistry usually pursue the Doctor of Philosophy.

## Requirements

The Master of Science program in biochemistry requires a minimum of 30 s.h. of graduate credit, thesis research, and a thesis. See the Ph.D. in biochemistry [p. 1859] in this section of the Catalog for information about the graduate curriculum.

## Admission

Most graduate students in biochemistry work toward a Doctor of Philosophy. Applicants who wish to earn a master's degree must contact the Department of Biochemistry and Molecular Biology before they apply.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

# Biochemistry, Ph.D.

## Requirements

The Doctor of Philosophy in biochemistry requires a minimum of 72 s.h. of graduate credit (34 s.h. of coursework and 38 s.h. of research). Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. Qualified students interested in earning the Doctor of Medicine along with the Ph.D. may apply to the Medical Scientist Training Program [p. 1888], which offers a combined M.D./Ph.D. program.

Students have the opportunity to tailor their curriculum with courses that enhance their educational goals. They take a combination of graduate-level courses that include a first-year laboratory research rotation course, and seminar courses.

The Ph.D. with a major in biochemistry requires the following coursework.

## Core Curriculum

Code	Title	Hours
BMB:5261	Research Techniques (first-year laboratory rotation)	1-6
BMB:5282	Seminar	0-2
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
Biophysical chemistry coursework (typically students take 6 s.h.)		3-6
Four molecular medicine courses		6-8
Additional courses offered by the Department of Biochemistry and Molecular Biology and other departments, as appropriate for each student		

## Typical Curriculum

### First Year, Fall

Code	Title	Hours
BMB:5240	Biophysics and Advanced Biochemistry	3
BMB:5261	Research Techniques	4
BMB:5282	Seminar (discussion section 1)	2
BMED:5207	Principles of Molecular and Cellular Biology	3

### First Year, Spring

Code	Title	Hours
BMB:5261	Research Techniques	4
BMB:5282	Seminar (discussion section 1)	2
MMED:6226/ ACB:6226/ MPB:6226	Cell Cycle Control	1
MMED:6227/ ACB:6227/ MPB:6227	Cell Fate Decisions	1
Electives		

### Second Year, Fall

Code	Title	Hours
BMB:5282	Seminar (discussion section 2)	1
BMB:7292	Research Biochemistry	arr.
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0

Electives

### Second Year, Spring

Code	Title	Hours
BMB:7292	Research Biochemistry	arr.
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0

Electives

## Examples of Elective Coursework

Code	Title	Hours
BMB:3310/ CBIO:3310/ MMED:3310	Practical Data Science and Bioinformatics	3
BME:2210	Bioimaging and Bioinformatics	4
BME:4310/ BMB:4310	Computational Biochemistry	3
BMED:5207	Principles of Molecular and Cellular Biology	3
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3
MMED:6225/ ACB:6225/ MPB:6225/ PCOL:6225	Growth Factor Receptor Signaling	1
PCOL:5204	Basic Biostatistics and Experimental Design	1
PCOL:6210	Receptors and Cell Signaling	3

## Additional Requirements

### Laboratory Rotations

Students rotate through at least three different laboratories during their first academic year; they enroll in BMB:5261 Research Techniques. The laboratory rotations are approximately ten weeks each. At the conclusion of each rotation, a student meets with an advisory committee of three faculty members. A student is required to present the research and training completed during that rotation. The advisory committee writes a short evaluation of the student's performance and assigns a grade for the laboratory work. The evaluation and grade becomes part of the student's departmental record.

### Teaching

Students participate in the formal teaching programs of the department for at least one semester. First-year students as well as students who are within a year of receiving their Ph.D. degree are usually not asked to teach. Teaching may take a variety of forms, including tutoring, leading discussions

and laboratory groups, correcting examinations, preparing teaching materials, and lecturing.

## Thesis Research Proposal

During the fall semester of the second year, students in collaboration with their thesis advisor prepare a detailed thesis proposal that describes the proposed research to be conducted for the dissertation as part of BMB:5282 Seminar.

## Comprehensive Examination

The comprehensive examination has two parts: a written proposal and an oral defense of the proposal. The examination must be taken before June 30 of the second year.

## Written Report of Comprehensive Examination

Students receive their topic by March 1 and their written examination is submitted to their committee by April 22. The written proposal should have a cover page followed by no more than 20 pages. For more information, a detailed guide is located in the Department of Biochemistry and Molecular Biology Graduate Student Manual.

## Oral Presentation of Comprehensive Examination

Questions during the oral examination may come from the examination proposal, the Ph.D. thesis proposal, or other general areas of biochemistry and molecular biology. To pass the oral comprehensive examination, students must perform satisfactorily both in defense of the examination proposal and in answering general biochemistry and molecular biology questions that are germane to the proposal or that are important for a full understanding of the proposed experiments and their interpretation.

## The Fifth-Semester Seminar

After successful completion of the comprehensive examination, usually the fall semester of the third year (the fifth semester), students update and revise the written Ph.D. thesis proposal prepared during the fall semester of the second year (prior to the comprehensive examination), and present a seminar on the thesis research to the department at one of the weekly biochemistry workshops.

## The Fourth-Year Workshop

In the fourth year, during fall or spring, students are asked to present at one of the Department of Biochemistry and Molecular Biology's weekly workshops. The presentation is based on their research.

## The Fifth-Year Retreat

The Department of Biochemistry and Molecular Biology holds a yearly retreat where students and faculty present their current research. Students in their fifth year may be asked to give an oral presentation at the retreat.

## Final Examination

The five member Ph.D. thesis committee serves as an advisory body for preparation of the thesis. This committee meets with students to review the material that is expected to be incorporated in the thesis. Although meetings of the candidates with the committee should be yearly, the candidates, thesis advisor, or the committee can request a meeting at any time. A final draft of the thesis must be given to all members of the committee two weeks before the

final examination. The final examination takes the form of a seminar presented to the department. This presentation is announced according to Graduate College policy. Questions, comments, and discussion then follow. After the seminar, candidates meet with their committee for the final thesis defense. The Ph.D. degree is not awarded until the thesis is signed. In some cases, revisions may be required.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biochemistry in a combined degree program offered by the Department Biochemistry and Molecular Biology and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Applicants must have a baccalaureate degree from a regionally accredited U.S. college or university, or an equivalent degree from another country as determined by the Office of Admissions. Those who apply must have an undergraduate g.p.a. of at least 3.00. Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Appropriate preparation includes one-year, college-level courses in organic and physical chemistry, biology, physics, and mathematics through calculus. Students are expected to have had one or more introductory courses in biochemistry.

## Financial Support

Students admitted to the Ph.D. program in biochemistry routinely receive a stipend and tuition support.

## Career Advancement

Graduates have secured a variety of career positions, including in academic institutions and the government, and as scientists, physicians, lecturers, and science educators. Some go on to pursue postdoctoral or additional training, and others land jobs in business and industry.

# Cardiothoracic Surgery

## Interim Chair

- Kalpaj Parekh

## Interim Director, Perfusion Technology

- Shahna L. Helmick

**Undergraduate certificate:** perfusion technology

**Website:** <https://medicine.uiowa.edu/perfusion/>

The University of Iowa cardiothoracic surgery program is the third oldest program of its kind in the United States. Since its establishment in 1948 as a division within the Department of Surgery, it is now its own department providing operative interventions for patients with diseases of the chest to performing a broad range of the most current and innovative surgical procedures.

Cardiothoracic surgery's facilities are located at University of Iowa Hospitals & Clinics. Each year cardiothoracic surgeons at the hospitals perform more than 500 adult and pediatric heart surgeries, including coronary bypasses, transplants, and placement of mechanical cardiac assist devices; minimally invasive procedures such as mitral valve replacement and epicardial lead placement; and more than 600 general thoracic surgeries with emphasis on esophageal and lung diseases. Preparations are under way for providing coronary artery bypass grafting using robotics.

The Perfusion Technology Program is a 20-month program of study. For more information about the Perfusion Technology Program, visit the Perfusion Technology Program website.

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Perfusion Technology [p. 1863]

## Residency

Iowa's cardiothoracic surgery residency program was established in 1948 and is fully accredited by the Accreditation Council for Graduate Medical Education (ACGME). It is the only cardiothoracic surgery training program in Iowa. One resident is accepted into the two-year fellowship program each year. Cardiothoracic surgery was approved by the ACGME to start a six-year integrated thoracic residency. Medical students begin the program after they graduate from medical school. A new resident enters the program each year.

## Facilities

Cardiothoracic surgery has specialty laboratories in gastric motility, analytical chemistry, transplantation, tissue culture, surgical bacteriology, shock, and cardiac bypass. These facilities permit study of experimental procedures such as heart valve replacement in large animals and heterotopic heart transplantation in mice and rats.

## Courses

- Cardiothoracic Surgery Courses [p. 1861]
- Perfusion Technology Courses [p. 1861]

### Cardiothoracic Surgery Courses

#### **CTS:8401 Advanced Inpatient Subinternship in Cardiothoracic Surgery** **arr.**

Participation in diagnosis, preoperative, operative, and postoperative care of thoracic and cardiac patients; attendance at division conferences; students assume responsibility and act as an intern; may concentrate interest in cardiac surgery or thoracic surgery; diagnosis and management of patients on an inpatient service under close supervision by an upper-level resident/fellow and faculty member.

#### **CTS:8497 Research in Cardiothoracic Surgery** **arr.**

Work on a short- or long-term research project arranged with instructor; may involve clinical material or laboratory; students organize and complete a project, finishing with a publishable manuscript.

#### **CTS:8498 Cardiothoracic Surgery On Campus** **arr.**

Clinical clerkship individually arranged by student with department approval.

#### **CTS:8499 Cardiothoracic Surgery Off Campus** **4 s.h.**

Individually arranged by student with approval of department to rotate outside of University of Iowa Hospitals & Clinics. Requirements: M.D. enrollment.

### Perfusion Technology Courses

#### **PERF:4161 Instrumentation in Perfusion Technology** **3 s.h.**

Electrical circuitry, filters, pressure transducers, thermistors, cardiac output computers, fluid dynamics, intra-aortic balloon pumps, blood gas analyzers. Requirements: Perfusion Technology Program enrollment.

#### **PERF:4162 Pathophysiology of Perfusion Technology** **5 s.h.**

Hemostasis, acid base physiology, gas transfer, heart anatomy, heart embryology, congenital cardiac defects. Requirements: Perfusion Technology Program enrollment.

#### **PERF:4163 Clinical Experience I** **2 s.h.**

Perfusion in operating room: patient workup, observation, and reporting on extracorporeal setup, surgical procedure. Requirements: Perfusion Technology Program enrollment.

#### **PERF:4164 Clinical Experience II** **3 s.h.**

Continuation of PERF:4163; setup of extracorporeal circuit; ancillary duties of perfusionist. Requirements: Perfusion Technology Program enrollment.

#### **PERF:4165 Clinical Experience III** **12 s.h.**

Continuation of PERF:4164; management of cardiopulmonary bypass system. Requirements: Perfusion Technology Program enrollment.

#### **PERF:4166 Clinical Experience IV** **12 s.h.**

Continuation of PERF:4165; emphasis on supply maintenance, perfusion department management. Requirements: Perfusion Technology Program enrollment.

#### **PERF:4167 Perfusion Seminar** **1 s.h.**

Ethics in perfusion. Requirements: Perfusion Technology Program enrollment.

**PERF:4168 Research in Perfusion 1 s.h.**

From topic selection to manuscript. Requirements: Perfusion Technology Program enrollment.

**PERF:4169 Clinical Experience V 12 s.h.**

Continuation of PERF:4166. Requirements: Perfusion Technology Program enrollment.

**PERF:4170 Principle and Practice of Perfusion Technology 6 s.h.**

Hypothermia, hemodilution, left heart bypass, dialysis, ultrafiltration, membrane and bubbler oxygenation. Requirements: Perfusion Technology Program enrollment.

**PERF:4171 Devices in Perfusion Technology 3 s.h.**

Components of extracorporeal circuit; in vitro laboratory evaluation of components. Requirements: Perfusion Technology Program enrollment.

# Perfusion Technology, Certificate

## Requirements

The undergraduate Certificate in Perfusion Technology requires 73 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. The certificate is a 20-month program that spans over five semesters. The program is accredited by the Commission on Accreditation of Allied Health Education Programs upon the recommendation of the Accreditation Committee for Perfusion Education (AC-PE). Students are awarded the certificate upon successful completion of the program making them eligible to take the American Board of Cardiovascular Perfusion certification exam.

Three to five students are accepted annually and begin the program the fall semester. During the first two semesters of the program, students pursue a core curriculum that provides a solid scientific base while the second year (three semesters) is reserved for the completion of an independent research project, clinical training in the operation of the heart-lung machine, and learning ancillary procedures such as blood salvaging, circulatory support, and artificial hearts.

The Certificate in Perfusion Technology requires the following work.

Code	Title	Hours
PERF:4161	Instrumentation in Perfusion Technology	3
PERF:4162	Pathophysiology of Perfusion Technology	5
PERF:4163	Clinical Experience I	2
PERF:4164	Clinical Experience II	3
PERF:4165	Clinical Experience III	12
PERF:4166	Clinical Experience IV	12
PERF:4167	Perfusion Seminar (taken five times for 1 s.h. each)	5
PERF:4168	Research in Perfusion (taken four times for 1 s.h. each)	4
PERF:4169	Clinical Experience V	12
PERF:4170	Principle and Practice of Perfusion Technology	6
PERF:4171	Devices in Perfusion Technology	3
PATH:8133	Introduction to Human Pathology for Graduate Students	3
PCOL:4130	Drug Mechanisms and Actions	3
<b>Total Hours</b>		<b>73</b>

## Prerequisites

The following coursework is required before admission to the certificate program:

- baccalaureate degree;
- chemistry, including biochemistry or organic chemistry (9 s.h.);
- human anatomy and physiology (7 s.h.);
- physics (4 s.h.);

- precalculus (5 s.h.) or calculus; and
- statistics (3 s.h.).

## Admission

Admission to the program is based on the decision of the Admissions Committee. Decisions are based upon a combination of grade-point average, references, an essay, and interview scores.

For information about application materials, see Admissions on the Perfusion Technology Program website.

Applications must be submitted by November 1.

# Dermatology

## Chair

- Janet A. Fairley

**Faculty:** <https://medicine.uiowa.edu/dermatology/profile>

**Website:** <https://medicine.uiowa.edu/dermatology/>

The Department of Dermatology instructs M.D. students and trains dermatology residents in the care of patients with skin diseases. It also provides researchers with an opportunity to develop their skills in dermatology.

## M.D. Training

The Department of Dermatology rotation is one of seven selective courses offered to third- and fourth-year medical students. Students spend two weeks in the clinic and attend several one-hour lectures. They see a good cross-section of patients, including those receiving primary or tertiary care at University of Iowa Hospitals & Clinics, Iowa River Landing, and VA Iowa City Health Care.

Varied electives are open to fourth-year M.D. students, including further clinical experience, dermatologic research, and special studies.

## Courses

### Dermatology Courses

**DERM:8301 Clinical Dermatology** **2 s.h.**

Basic dermatology; lectures, independent study, clinical experience. Requirements: third-year M.D. enrollment.

**DERM:8401 Dermatology Elective** **arr.**

Advanced clinical experience, dermatologic surgery, special assignments. Requirements: fourth-year M.D. enrollment.

**DERM:8497 Research in Dermatology** **arr.**

General principles of medical research; clinical or laboratory projects; individual study.

**DERM:8498 Dermatology On Campus** **arr.**

Clinical clerkship; individually arranged by student with departmental approval.

**DERM:8499 Dermatology Off Campus** **arr.**

Arranged by student with departmental approval.



# Dietary

## Executive Associate Dean

- Patricia L. Winokur

**Graduate degree:** M.C.N.

**Website:** <https://uihealthcare.org/education/university-iowa-master-clinical-nutrition-program>

The dietary program is committed to patient care through dietitian service, research, and education.

Graduate-level courses for the Master of Clinical Nutrition degree are administered by the Carver College of Medicine and the College of Public Health.

## Programs

### Graduate Program of Study

#### Major

- Master of Clinical Nutrition [p. 1866]

## Courses

### Dietary Courses

#### **DIET:9101 Advanced Medical Nutrition Therapy I 3 s.h.**

Nutritional impact on health and disease as it relates to physiology and biochemistry with an emphasis on medical nutrition therapy and the relationship to various disease states. Requirements: enrollment in Master of Clinical Nutrition program.

#### **DIET:9102 Advanced Medical Nutrition Therapy II 3 s.h.**

Continuation of DIET:9101; review of the nutritional impact on health and disease as it relates to physiology and biochemistry with an emphasis on medical nutrition therapy and the relationship to various disease states. Requirements: enrollment in Master of Clinical Nutrition program.

#### **DIET:9200 Nutrition Assessment 3 s.h.**

Study of nutrition assessment methods including dietary intake, anthropometric and biochemical measures, as well as nutrition focused physical examination; utilization of nutrition care process including nutrition assessment, diagnosis, interventions, monitoring, and evaluation with individuals, groups, or populations. Requirements: enrollment in Master of Clinical Nutrition program.

#### **DIET:9300 Critical Care and Nutrition Support 3 s.h.**

Advanced enteral and parenteral nutrition in an acute care setting; indications, calculations, potential complications, and ethical consideration of nutrition support. Requirements: enrollment in Master of Clinical Nutrition program.

#### **DIET:9400 Pediatric Nutrition 3 s.h.**

Examination of physiological, biochemical, and nutritional aspects of disease processes relevant to infants and children up to 18 years of age; emphasis on evidence-based medical nutrition therapy for a variety of disease states. Requirements: enrollment in Master of Clinical Nutrition program.

#### **DIET:9501 Supervised Experiential Learning I 3 s.h.**

Supervised hands-on training at the bedside in inpatient units, and in outpatient clinics, communities, and food service management; completion of coursework specific to Registered Dietitian and Nutritionist (RDN) training while learning in field (e.g., ServSafe certification, diet meals, event planning, professional issues and trends). Requirements: enrollment in Master of Clinical Nutrition program.

#### **DIET:9502 Supervised Experiential Learning II 3 s.h.**

Supervised hands-on training at the bedside in inpatient units, and in outpatient clinics, communities, and food service management; completion of coursework specific to Registered Dietitian and Nutritionist (RDN) training while learning in field (e.g., legislative and regulatory issues, research seminar, clinical rounds, Commission on Dietetic Registration portfolio development, RDN licensure and credentialing). Requirements: enrollment in Master of Clinical Nutrition program.

#### **DIET:9600 Management in Foods and Nutrition 3 s.h.**

Application of the principles of health care management as it pertains to food and nutrition including budgeting, cost control, and financial analysis; clinical coding and billing; quality and performance improvement measures; human resource management; and operating plan development. Requirements: enrollment in Master of Clinical Nutrition program.

# Master of Clinical Nutrition, M.C.N.

The Master of Clinical Nutrition program inspires and educates students to be leaders in clinical nutrition through innovative and interprofessional graduate education as a Registered Dietitian Nutritionist (RDN).

The program is accredited by the Accreditation Council for Education in Nutrition and Dietetics (ACEND) of the Academy of Nutrition and Dietetics (AND).

## Requirements

The graduate Master of Clinical Nutrition (M.C.N.) requires 36 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in major coursework. The degree requires no thesis.

The M.C.N. is a 20-month program of study. After successful completion of the program, students earn the degree and receive a verification statement that provides eligibility to take the Commission on Dietetic Registration (CDR) entry-level registration examination for dietitians.

The Master of Clinical Nutrition requires the following work.

## First Year, Fall

Code	Title	Hours
DIET:9101	Advanced Medical Nutrition Therapy I	3
DIET:9200	Nutrition Assessment	3
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6370	Nutrition Intervention in Research Lab	3

## First Year, Spring

Code	Title	Hours
DIET:9102	Advanced Medical Nutrition Therapy II	3
EPID:6330	Global Nutrition Policy	2
EPID:6350	Nutritional Epidemiology	2
HHP:6310	Advanced Sport and Exercise Nutrition	3

## First Year, Summer

Code	Title	Hours
DIET:9300	Critical Care and Nutrition Support	3

## Second Year, Fall

Code	Title	Hours
DIET:9501	Supervised Experiential Learning I	3
DIET:9600	Management in Foods and Nutrition	3

## Second Year, Spring

Code	Title	Hours
DIET:9400	Pediatric Nutrition	3
DIET:9502	Supervised Experiential Learning II	3

## Supervised Experiential Learning

All supervised experiential learning occurs on campus at University of Iowa Hospitals & Clinics, with the exception of community nutrition which occurs in the greater Iowa City community. The rotation schedule is developed according to the following guidelines.

- Clinical dietetics (disordered eating, oncology, cardiology, critical care, pediatrics, and outpatient counseling): 21 weeks.
- Food service management (clinical management, food service, production, business and finance, patient services, and event planning): 8 weeks.
- Community nutrition: 5 weeks.

## Admission

Applicants to the M.C.N. program must either have completed a Didactic Program in Dietetics (DPD) or meet the course requirements listed below:

- have a baccalaureate degree from a regionally accredited institution in the United States;
- have a minimum cumulative g.p.a. of at least 3.00 on a 4.00 scale;
- have a cumulative science g.p.a. of at least 3.20 or a science g.p.a. of at least 3.20 on the most recently completed biological and chemical science coursework;
- submit Graduate Record Examination (GRE) General Test scores to the University of Iowa from Educational Testing Services (ETS) and have a minimum test score at the 25th percentile or higher on each section (verbal, quantitative, and analytical writing) taken within the last 10 years;
- have health care or food service work experience in the field;
- submit three recommendation letters (two from a collegiate academic reference and one from a health care or food service experience supervisor); and
- meet education requirements (see below).

Applicants whose first language is not English must submit official test scores to verify English proficiency. They can do this by submitting official test scores for the Test of English as a Foreign Language (TOEFL). In order to review an application, official TOEFL scores must be received from Educational Testing Service. Only the iBT (internet-based test) is accepted. A minimum total score of 93 and a speaking score of 26 is necessary for entry into the program.

## Education Requirements

### Biological Sciences Coursework

- At least one semester of biology (animal or human) or general zoology.
- An animal, exercise, or human physiology course.
- An animal or human anatomy course.
- At least two additional courses in natural sciences. Examples of courses include cell biology, genetics, immunology, microbiology, molecular biology,

pharmacology, embryology, endocrinology, histology, or neuroscience.

### **Chemical Sciences Coursework**

- At least one semester of inorganic chemistry.
- At least one semester of organic chemistry.
- An introductory or general biochemistry course.

### **Statistical Sciences Coursework**

- A general statistics or biostatistics course.

### **Professional Coursework**

- At least one nutrition course such as introductory nutrition, lifespan nutrition, advanced nutrition, or medical nutrition therapy.

## **Recency of Education Requirements**

Additional courses in dietetic or a related area are required to update a degree which was completed five or more years prior to the current application deadline. The number of required credits is outlined below:

- 5-10 years (3 s.h. of medical nutrition therapy or clinical nutrition).
- 10 or more years (3 s.h. of medical nutrition therapy, 3 s.h. of physiology, 3 s.h. of biochemistry).

## **Application Process**

Application should be made through the Master of Clinical Nutrition program. All materials for the application, including official Graduate Record Examination (GRE) scores, three recommendations, and college transcripts, must be received by June 1.

Official GRE scores, as well as Test of English as a Foreign Language (TOEFL) scores, should be sent to the University of Iowa using GRE Code 6681.

The University of Iowa online application for admission requires a nonrefundable application fee of \$60 for U.S. applicants and \$100 for international applicants.

### **Financial Support**

The estimated tuition and expenses for the program are listed on the University of Iowa Health Care website; visit the Master of Clinical Nutrition Program Tuition and Expenses web page.

Students should contact the Office of Student Financial Aid for information concerning monetary assistance.

### **Career Development**

The Master of Clinical Nutrition program prepares students to be competent as a registered dietitian nutritionist (RDN).

According to the Occupational Outlook Handbook released by the U.S. Department of Labor Statistics, the employment of registered dietitians and nutritionists is projected to grow 11 percent from 2020 to 2030, at a faster rate than the average for all occupations.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Doctor of Medicine

**Professional degree:** M.D.

**Website:** <https://medicine.uiowa.edu/md/>

The Doctor of Medicine is a professional degree awarded by the Carver College of Medicine. The college is accredited by the Liaison Committee on Medical Education of the American Medical Association and the Association of American Medical Colleges and meets the requirements of all state licensing boards. Its M.D. diploma admits the holder to all privileges granted to graduates of all medical colleges before such boards.

## Programs

### Professional Program of Study

#### Major

- Doctor of Medicine [p. 1869]

## Academics Rules and Procedures

### Student Promotion

The Carver College of Medicine has established promotion policies and procedures to ensure that each of its graduates has adequate skills, knowledge, judgment, ethical standards, and personal integrity to assume the responsibilities of a medical doctor. The student promotions committee, made up of seven faculty members and two students, performs these duties with the cooperation, advice, and judgment of course directors, faculty members, students, and administrators.

The committee recommends specific actions to be taken when a student's skills, knowledge, judgment, or ethical behavior is in any way considered consistently marginal or unsatisfactory. Possible recommendations include dismissal of the student from the college, suspension for a specified period of time, requiring the student to repeat all or any part of the curriculum on academic probation, and allowing the student to continue on academic probation with a full or partial course load. The committee's recommendations are forwarded for action to the executive dean of the Carver College of Medicine.

Specific information about student promotion policies and procedures is available from the Office of Student Affairs and Curriculum and is online in the Student Handbook.

### Leaves of Absence, Withdrawal, Reinstatement

The Carver College of Medicine has established policies regarding leaves of absence, dropping courses, withdrawal from the college, and reinstatement to the college. Information about each of these policies is available on the college's Office of Student Affairs and Curriculum website and is published annually in the Student Handbook.

### Disputes and Complaints

Student complaints concerning actions of faculty members or departments are pursued first through mechanisms established in the Carver College of Medicine. These procedures allow the greatest flexibility for all concerned in resolving a conflict. They are intended for situations such as grading disputes, alleged academic dishonesty, alleged

dishonesty during a clinical rotation, alleged unethical or unprofessional conduct, and perceived discrimination or harassment.

Complaints regarding sexual harassment are handled confidentially in accordance with University policy and procedures; see the University's Sexual Harassment Policies.

For information about the established informal mechanisms, contact the Office of Student Affairs and Curriculum or see the Student Handbook.

# Doctor of Medicine, M.D.

**Website:** <https://medicine.uiowa.edu/md>

## Requirements

The Doctor of Medicine is a full-time, four-year program that prepares students to practice primary care medicine and to pursue further education and training in specialized areas of medicine. The program admits 152 new students each year. The M.D. curriculum is built on a triple-helix model whose three strands extend through all four years of medical school: the clinical and professional skills strand, the mechanisms of health and disease strand, and the medicine and society strand.

Clinical experiences begin during the first few weeks of medical school, and clinical clerkships start after just three semesters of preclinical instruction. By the end of the fifth semester, students have completed all of their core requirements and have the remaining three semesters to tailor their educational experience in preparation for their selected specialty.

Students complete in-depth clinical coursework and serve clinical clerkships primarily at University of Iowa Hospitals & Clinics, the VA Iowa City Health Care, and the Des Moines Area Medical Education Consortium. Students also may have opportunities to gain experience in private medical offices and community hospitals.

Students are required to pay a minimum of eight semesters of full-time tuition. At the conclusion of medical school, students will match into a residency program and complete their training in a chosen specialty.

## Preclinical Curriculum (Phase I)

The first three semesters of the M.D. program present an integrated core of sciences basic to the study of medicine. They also introduce students to the foundations of clinical practice.

Coursework includes human anatomy, foundations of cellular life, clinical and professional skills (a three-course series), medicine and society (a three-course series), and mechanisms of health and disease (a five-course series). Each of these courses is described below.

Some elective courses are available to students during the first and second years, normally for 1 or 2 s.h. of credit. Topics include areas not specifically covered in the regular curriculum and areas related to medical practice and the role of the physician. Courses vary from year to year, but typical subject areas are global health issues, U.S. health care systems, and community health outreach.

The M.D. program's preclinical curriculum requires the following coursework.

### First Semester

ACB:8101 Medical Gross Human Anatomy: complete dissection of the body with regional emphasis stressing relationships to the living system; clinically relevant areas of radiologic imaging, surface anatomy, embryology, and clinical correlations; anatomical knowledge through lectures, small group work, and independent activities.

MED:8121 Clinical and Professional Skills I: introduction to concepts of clinical reasoning, communication, physical

examination, and evidence-based clinical practice; principles of biomedical ethics; early clinical interactions and placement of classroom experiences into the context of patient care through the Early Clinical Experiences (ECE) program; interactions with students from other health sciences colleges to explore the interprofessional approach to caring for patients.

MED:8122 Medicine and Society I: delivery of individual disease prevention/health promotion services; introduction to social determinants of health; influence and impact of culture and community on health care; community resources; students apply health and risk assessment to individual patients and to themselves.

MED:8123 Foundations of Cellular Life: genetics, embryology, molecular biology, biochemistry, cell biology and histology; molecular events required for cellular life; how cells grow and interact to form basic tissues of the human body; framework necessary for exploring the mechanisms of health and disease.

MED:8124 Mechanisms of Health and Disease I: normal and healthy processes within and among mechanisms of oxygenation, metabolism, and genetics/development.

## Second Semester

MED:8131 Clinical and Professional Skills II: reinforcement of clinical reasoning concepts introduced in MED:8121 and introduction of additional concepts; application of concepts through interactions with standardized patients and through clinical visits; varied experiences help students gain a deeper appreciation for issues in biomedical ethics; strengths and barriers involved in providing comprehensive interdisciplinary patient care.

MED:8132 Medicine and Society II: knowledge and skills related to health promotion and disease prevention from a medicine and society perspective, including impact of behavior, environment, culture, and socioeconomic; identification of major public health problems associated with mechanisms of health and disease; focus on public health and epidemiology, with attention to screening, global health, and environmental hazards.

MED:8133 Mechanisms of Health and Disease II : normal and healthy processes within and among mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry.

MED:8134 Mechanisms of Health and Disease III: abnormalities or disruptions leading to disease within and among mechanisms of oxygenation, metabolism, and genetics/development.

## Third Semester

MED:8221 Clinical and Professional Skills III: advanced clinical reasoning skills gained through focused patient encounters and interactions with special patient populations; emphasis on students' ability to integrate and use concepts from the M.D. curricular strands that are required for cost-conscious, patient-centered, interdisciplinary care.

MED:8222 Medicine and Society III: health services organization and delivery, with emphasis on community dimensions of medical practice and patient safety.

MED:8223 Mechanisms of Health and Disease IV: abnormalities or disruptions leading to disease within and among mechanisms of immunology/inflammation, locomotion/integument, and neuropsychiatry.

MED:8224 Mechanisms of Health and Disease Keystone: transition from classroom instruction in MED:8124, MED:8133, MED:8134, and MED:8223 to clinical practice; foundational information from those courses approached from the perspective of common clinic encounters; diagnostic and management decisions about common important clinical problems using the foundational knowledge gained from those courses.

## Clinical Curriculum (Phase II and III)

Students complete one week of skills training in MED:8320 Transition to Clerkships prior to the start of clinical clerkships. The two-and-one-half-year clinical component of the medical curriculum is comprised of supervised hands-on clinical training at the bedside of inpatient units, in outpatient clinics, and in communities throughout the state. In contrast to the preclinical semesters, the clinical years vary according to a student's individual needs. This period of training begins in January of the second year with 44 weeks of core clerkships (Phase II). Students then enter various pathways where they complete a minimum of 10 weeks of selectives, four weeks of critical medicine, one four-week subinternship, and 32 weeks of advanced electives (Phase III).

After completing the core clerkships, students must successfully complete Step 1 of the United States Medical Licensing Examination (USMLE) before they may be promoted to the pathways component of the curriculum. Students take Step 2 of the USMLE during Phase III of the M.D. program, and must pass Step 2 in order to graduate.

Primary venues for clinical training of medical students include University of Iowa Hospitals & Clinics, the VA Iowa City Health Care, and the Des Moines Area Medical Education Consortium. Students also participate in the family and community medicine clerkship, which is an off-campus rotation. Other courses may be assigned to off-campus sites.

The M.D. program's clinical curriculum requires the following clerkships and selectives.

### Generalist Core (Phase II)

M.D. students complete the generalist core during the fourth and fifth semesters. It consists of the following 44 weeks of clerkships.

Code	Title	Hours
<b>Internal Medicine Block</b>		
IM:8310	Internal Medicine (10 weeks)	10
<b>Family Medicine/Pediatrics Block</b>		
FAM:8302	Family and Community Medicine (6 weeks)	6
PEDS:8301	Clinical Pediatrics (6 weeks)	6
<b>Obstetrics and Gynecology/Surgery Block</b>		
OBG:8301	Clinical Obstetrics and Gynecology (6 weeks)	6
SURG:8301	Clinical Surgery (6 weeks)	6
<b>Neurology/Psychiatry/Emergency Medicine Block</b>		
EM:8301	Core Emergency Medicine (2 weeks)	2
NEUR:8301	Clinical Neurology (4 weeks)	4
PSYC:8301	Clinical Psychiatry (4 weeks)	4

## Selectives

M.D. students complete 10 weeks of selectives chosen from the following.

Code	Title	Hours
ANES:8301	Clinical Anesthesia (2 weeks)	2
DERM:8301	Clinical Dermatology (2 weeks)	2
OPHT:8301	Clinical Ophthalmology (2 weeks)	2
ORTH:8301	Clinical Orthopedics (2 weeks)	2
OTO:8301	Clinical Otolaryngology (2 weeks)	2
RAD:8301	Clinical Radiology (2 weeks)	2
URO:8301	Clinical Urology (2 weeks)	2

## Advanced Required Clerkships (Phase III)

M.D. students complete the following required clerkships and other work during the three advanced clinical-year semesters. In addition to the clerkships, students complete training modules in advanced clinical topics that include MED:8470 Self-Directed Learning in Advanced Clinical Topics.

Code	Title	Hours
	Critical care medicine (4 weeks)	
	Advanced inpatient subinternship (4 weeks)	
	Advanced electives (total of 32 weeks)	

## Combined Programs

Students must be admitted to both of the individual degree programs before they may be admitted to a combined degree program. Those interested in the combined programs must make arrangements with the appropriate departments and with the Carver College of Medicine associate dean for student affairs and curriculum.

### M.D./J.D.

The Carver College of Medicine and the College of Law offer the combined Doctor of Medicine/Juris Doctor program; see Juris Doctor, J.D. [p. 1821] in the Catalog.

### M.D./M.B.A. (Professional Program)

The College of Medicine collaborates with the Tippie College of Business to offer the combined Doctor of Medicine/Professional Master of Business Administration Program. For more information about the M.B.A., see the M.B.A. Professional Program in the Master of Business Administration, M.B.A. [p. 1315] section of the Catalog.

### M.D./M.P.H.

The College of Medicine collaborates with the College of Public Health to offer the combined Doctor of Medicine/Master of Public Health program; see the Master of Public Health, M.P.H. [p. 2078] in the Catalog.

## M.D./Ph.D. (Medical Scientist Training Program)

The Carver College of Medicine offers a combined M.D./Ph.D. program for students who are interested in a career that combines clinical and academic medicine with basic and clinical research; see the Medical Scientist Training Program [p. 1888] in the Catalog.

### Admission

The Carver College of Medicine participates in the American Medical College Application Service (AMCAS), a nonprofit centralized application processing service for applicants to U.S. medical schools. AMCAS applications are available for completion in May of the year preceding the beginning of the class for which application is being made. Prospective students are urged to apply as early as possible. The deadline for AMCAS submission is November 1.

Secondary applications are forwarded to applicants whose AMCAS applications pass a review conducted by the college.

Admitted applicants must have an official transcript from each college they have attended sent to the University of Iowa Office of Admissions.

### Technical Standards for Admission and Retention

The College of Medicine seeks candidates who will be able to best serve the needs of society and strives to graduate skilled and effective physicians. To achieve this goal, the following principles and technical standards will be applied to candidates for admission and continuing students. Review the current Technical Standards on the Carver College of Medicine Admissions website.

### Admission Requirements

Applicants for admission to the Carver College of Medicine must have a bachelor's degree, or they must be enrolled in a bachelor's degree program with the expectation of receiving their degree before enrolling in the Carver College of Medicine. Applicants should refer to the Carver College of Medicine Admissions website for current admission requirements.

All students who enter the Carver College of Medicine are required to comply with the pre-entrance and annual health screening program developed by the University of Iowa Student Health in cooperation with University of Iowa Hospitals & Clinics; see Student Requirements and Forms on the Student Health website.

All registered Carver College of Medicine students are required to maintain health insurance (or an equivalent care plan) that satisfies minimum standards of coverage. Insurance coverage must be maintained continuously throughout each year of attendance at the University of Iowa.

### Financial Support

The Carver College of Medicine's philosophy is that no student should be denied a medical education due to a lack of financial resources. The college's financial services staff actively seeks sources of aid so that every student interested in a medical education will be able to finance that education.

Financial assistance is provided by the Carver College of Medicine primarily on the basis of demonstrated financial need. Although a limited number of collegiate or institutional grants are available for the most economically disadvantaged students, most aid is in the form of loans. Examples of federal loan programs are the Federal Direct Unsubsidized Stafford/Ford Student Loan, the Federal Direct Grad PLUS loan, and the Primary Care Loan (PCL). Students also may qualify for collegiate loans or private loans to supplement their financial aid package.

In addition, the college supports scholarship and loan programs through permanent endowments and/or contributions from alumni and friends of the Carver College of Medicine. These funds are administered by the college's financial services staff and are awarded as a part of a student's total financial aid package. Funds to support short-term emergency loans are available for students with immediate financial need.

A small number of Dean's Scholarships are awarded by the college's admissions office to highly qualified candidates on the basis of their academic excellence, leadership abilities, and their potential to enrich the college. Dean's Scholarships are included in the recipient's overall financial aid package. About 15 percent of students enrolled in each class receive some level of Dean's Scholarship.

The Carver College of Medicine has a fully integrated Financial Literacy Program, CCOMmon Cents, which provides medical students the knowledge, tools, and resources to better understand the financial aid process, to manage their student loans more effectively, to make better informed decisions, and to encourage students to minimize their educational debt whenever possible. This program also strives to help students reach their personal financial goals while pursuing their medical education.

To learn more about financial aid, contact the Carver College of Medicine Financial Services office.

### Career Advancement

An interest in science, the healing arts, helping people, and medical research can lead to a great number of satisfying careers. For information about career options in health care, review the Road to Becoming a Physician on the College of Medicine website and the Occupational Outlook Handbook on the United States Department of Labor Bureau of Labor Statistics website.

# Emergency Medicine

## Chair

- Andrew Nugent

**Faculty:** <https://medicine.uiowa.edu/emergencymedicine/profile>

**Website:** <https://medicine.uiowa.edu/emergencymedicine/>

The Department of Emergency Medicine prepares new physicians to recognize and treat a variety of urgent and emergent conditions. The program fosters basic science and clinical research relevant to emergency medicine and is dedicated to the education and training of Emergency Medical Services (EMS) personnel through the Emergency Medical Services Learning Resources Center (EMSLRC).

## Research

Research in the department is built on four research pillars: clinical, injury prevention, medical education, and health systems. Faculty members, graduate students, emergency medicine residents, medical students, and undergraduates are involved in research in a variety of projects and programs. Specific research interests include:

- rural regionalization and telemedicine;
- quality of care, efficiency, and cost effectiveness of interhospital transport;
- prevention, diagnosis, and care of traumatic brain injury;
- off-road injury prevention;
- highway motor vehicle crash scene analysis;
- safe driving advocacy;
- simulation in medical education;
- improving access and quality of emergency care;
- decision-making processes for optimal drug selection in the emergency department;
- addiction medicine and harm reduction;
- toxicology;
- global health care access;
- interpersonal violence; and
- early risk stratification and prophylaxis in critical illness.

## Patient Care

The Department of Emergency Medicine at University of Iowa Hospitals & Clinics and University of Iowa Stead Family Children's Hospital provides care for the most critically ill adults and children in a patient- and family-centered atmosphere. The department handles emergency cases in Iowa and from surrounding states.

## Resources

The Emergency Department, located on the first floor of Roy J. Carver Pavilion, is a Level I Adult and Pediatric Trauma Center. It serves as a referral center for communities across Iowa.

### M.D. Training

The two-week core emergency medicine experience is completed either at University of Iowa Hospitals & Clinics (UIHC), Iowa City or UnityPoint Health, Des Moines. This provides an initial opportunity to experience and learn emergency medicine. The advanced emergency medicine four-week clerkship at UIHC takes place sometime after the

core year, and provides an opportunity for a more in-depth emergency medicine experience. In both clerkships, a student acts as an integral member of the care team and experiences a wide variety of patient scenarios and clinical pathology.

Elective rotations for Doctor of Medicine students are available at several other sites throughout Iowa, including St. Luke's Hospital, Cedar Rapids; Great River Health, Burlington; MercyOne Waterloo Medical Center, Waterloo; Broadlawns Medical Center, Des Moines; and Genesis Health Group, Davenport. Students also may arrange an off-service elective independently with established residency programs throughout the United States.

Additionally, the program offers an annual introductory month to emergency medicine; advanced life support; Wilderness Medicine, a rotation that includes scenario and didactic training in wilderness medicinal skills with travel to areas such as Colorado; and a two- or four-week toxicology elective.

## Residency

The emergency medicine faculty directs the Emergency Medicine Residency, Iowa's only emergency medicine residency. The residency is a three-year program that prepares residents for careers in diverse areas of emergency medicine, from rural practice to academics. The program emphasizes critical care training and rotations in a wide variety of specialties. Part of the clinical component is spent at St. Luke's Hospital, Cedar Rapids.

## Courses

### Emergency Medicine Courses

**EM:8301 Core Emergency Medicine** **2 s.h.**  
Participation in direct patient care as part of a care team during emergency medicine clinical shifts; opportunity to perform supervised bedside procedures and call consults. Requirements: M.D. enrollment.

**EM:8401 Advanced Life Support** **4 s.h.**  
Experience managing acute threats to life—including trauma, respiratory failure, poisoning, sepsis, stupor/coma, and acute myocardial infarction (MI)—using Advanced Cardiovascular Life Support (ACLS) and Pediatric Advanced Life Support (PALS) courses and clinical manikin work with EMS staff. Requirements: completion of M.D. core clerkship year.

**EM:8402 Emergency Medicine UIHC** **arr.**  
Preceptorship with residents and faculty; emphasis on principles of acute medicine; clinical shifts, case conferences, simulations, exams.

**EM:8403 Wilderness Medicine** **4 s.h.**  
Didactic and scenario training in physiology, diagnosis, and emergency treatment of heat- and cold-related illnesses, high altitude disorders, wilderness trauma, envenomations, and immersion injuries. Taught in wilderness areas. Requirements: completion of M.D. third year.

**EM:8404 Emergency Medicine: St. Luke's, Cedar Rapids** **4 s.h.**  
Preceptorship with full-time emergency department physicians; clinical shifts, case conferences, simulations, exams.



**EM:8405 Rural Emergency Medicine at Burlington, Iowa 4 s.h.**

In-depth clinical experience in a busy rural hospital emergency department under supervision of residency-trained emergency physicians; lectures, skill labs, projects.

**EM:8406 Emergency Medicine Des Moines 4 s.h.**

Participation in acute emergency care, management of acute illnesses, follow-up care when possible; Broadlawns Hospital, Des Moines.

**EM:8407 Emergency Medicine Waterloo 4 s.h.**

Participation in acute emergency care, management of acute illnesses, follow-up care when possible; Covenant Medical Center, Waterloo.

**EM:8409 Introduction to Advanced Life Support 2 s.h.**

Intensive program providing basic training in life support skills, experience in procedures common to inpatient hospital environment, and practice with simulated critical care scenarios; lectures, small group discussions, procedure labs, high-fidelity simulations, and self-directed online learning; students become certified in Advanced Cardiac Life Support (ACLS).

**EM:8410 Medical Toxicology Sioux City 2,4 s.h.**

Clerkship at the Iowa Poison Control Center; intense introduction to breadth and depth of medical toxicology; students work independently and concentrate on many different areas and interests; work with a multidisciplinary team of nurses, pharmacists, and physicians; activities may include reviewing and presenting active poisoned patient cases during daily rounds and opportunities to see toxicology patients at bedside; preparation and short presentation in any area of medical toxicology. Requirements: M.D. enrollment.

**EM:8411 Medical Toxicology UIHC 2,4 s.h.**

In-depth introduction to medical toxicology; how to recognize and treat various toxidromes and the most common toxicologic exposures; initial management steps for life-threatening toxicologic exposures; focus on basics of pathophysiology and pharmacology to understand how drugs affect patients, and critical assessment of laboratory and other data obtained on the poisoned patient.

**EM:8412 Emergency Medicine Unity Point Des Moines 4 s.h.**

Clinical shifts in emergency department and emergency medicine related didactics; advanced cardiovascular life support (ACLS), airway management, calling a consult/communication, chest pain, toxicology, trauma, sepsis, ultrasound, febrile infant, headache, and psychobehavioral disorders.

**EM:8413 Emergency Medicine Genesis Davenport 4 s.h.**

Clinical shifts in emergency department and emergency medicine related didactics; advanced cardiovascular life support (ACLS), airway management, calling a consult/communication, chest pain, toxicology, trauma, sepsis, ultrasound, febrile infant, headache, and psychobehavioral disorders.

**EM:8497 Research in Emergency Medicine arr.**

Medical research, clinical or laboratory projects; individual study.

**EM:8498 Emergency Medicine On Campus arr.**

Clinical research experience with a mentor in the Emergency Treatment Center and the Department of Emergency Medicine; principles of design, methodology, basic statistics.

**EM:8499 Emergency Medicine Off Campus arr.**

Preceptorship with residents and faculty; emphasis on principles of acute medicine; Liaison Committee on Medical Education (LCME) accredited off-campus site. Requirements: completion of M.D. third year and approval from UIHC Emergency Medicine clerkship director.

# Family Medicine

## Chair

- Jeffrey D. Quinlan

**Faculty:** <https://medicine.uiowa.edu/familymedicine/people/people>

**Website:** <https://medicine.uiowa.edu/familymedicine/>

The Department of Family Medicine is nationally recognized for excellence in patient care, teaching, and research. The department is dedicated to providing primary care for the citizens of Iowa, educating medical students, training resident physicians, providing continuing education, and creating new knowledge to improve primary care and health care delivery systems.

## M.D. Training

The Department of Family Medicine trains primary care physicians. The department offers coursework that is included throughout the four-year M.D. program. Advanced elective rotations give students opportunities for exposure to various Iowa communities through work in affiliated hospitals or connected facilities including clerkships with selected family physicians throughout the state and within the University of Iowa Hospital & Clinics family medicine department and clinics. Students also have the opportunity for independent study during their fourth year.

## Residency

### Family Medicine Residency

The Department of Family Medicine directs a three-year residency program whose graduates are eligible for certification by the American Board of Family Medicine. The residency program trains physicians to provide continuous and comprehensive medical care to patients and their families. Residents are educated in all areas of family medicine—adult medicine, maternal and child health, behavioral science, surgical specialties, and community medicine. Training emphasizes the value of wellness and preventive medicine as well as curative medicine.

The program is organized as a progressive educational experience. It consists of formal teaching and clinical experiences on assigned rotations, structured conferences, and patient care in the Family Medicine Clinic. As residents develop clinical skills, medical judgment, and competence, their patient responsibilities increase. Some patients at the Family Medicine Clinic are assigned to residents, who provide medical care under faculty supervision. Residents are responsible for their patients for the duration of the residency program.

Residents also learn the principles of practice management, including organizational and administrative decision making, patient record and bookkeeping procedures, and chart auditing methodologies.

Residents are expected to take responsibility for their learning environment, to avail themselves of the department's diverse resources, and to collaborate with the faculty in order to have the best possible learning experience.

## Family Medicine–Psychiatry Residency

The Department of Family Medicine and the Department of Psychiatry cosponsor the combined Family Medicine–Psychiatry Residency program. The program's residents acquire broad-based training in both disciplines, including focused training in geriatrics and geriatric psychiatry, substance and alcohol abuse, diagnosis and treatment of depression, delirium, eating disorders, panic disorders, and neurotic and somatizing behavior. Graduates are eligible for certification by the American Board of Family Medicine and the American Board of Psychiatry and Neurology.

## Facilities

The Department of Family Medicine is located on the University of Iowa health sciences campus. Faculty offices are close to the Family Medicine Clinic, where patients are seen by appointment. The department also has community-based clinics in southeast Iowa City, Coralville, Muscatine, North Liberty, and Riverside, Iowa.

## Courses

### Family Medicine Courses

**FAM:8005 Medical Education Community Orientation** **0 s.h.**

Experience in a local health care delivery system away from the University setting, between first and second year of M.D. program.

**FAM:8301 Preceptorship in Family Medicine** **arr.**

One-on-one experience with a practicing physician; exposure to illnesses, conditions often seen in primary care; realistic background for evaluation of family medicine as a career alternative.

**FAM:8302 Family and Community Medicine** **6 s.h.**

One-on-one experience with a practicing physician; exposure to illnesses and conditions often seen in primary care; realistic background for evaluation of family medicine as a career alternative; clinical activities, work with community agencies and resources; didactic and conferences.

**FAM:8401 Advanced Inpatient Subinternship in Family Medicine, University of Iowa** **4 s.h.**

Inpatient aspects of family medicine's key components; experience on the family medicine inpatient service.

**FAM:8402 University of Iowa Family Medicine Clerkship** **2,4 s.h.**

Work with family practice residents and staff in day-to-day delivery of primary medical care at Family Practice Center; experience in the Family Stress Clinic observing family-centered counseling; nursing home visits, work with departmental social worker and sports medicine specialist.

**FAM:8403 Advanced Preceptorship in Family Medicine** **2,4 s.h.**

Experience in community practice of family medicine.

**FAM:8405 Geriatrics Elective** **2,4 s.h.**

Experience in monitoring and evaluating health and functional status of patients age 65 and older in the UI Geriatric Assessment Clinic and community settings.

- FAM:8406 Advanced Inpatient Subinternship in Family Medicine, Cedar Rapids** 4 s.h.  
Experience as a junior resident in all areas of inpatient family medicine, including maternity care, child and adolescent health, adult medicine.
- FAM:8407 Clerkship in Family Medicine, Cedar Rapids** 4 s.h.  
Experience as a junior resident in all areas of family medicine, including maternity care, child and adolescent health, adult medicine.
- FAM:8408 Family Medicine Clerkship, Broadlawns Hospital, Des Moines Family Health Center** 4 s.h.  
Clinical experience in inpatient and outpatient care.
- FAM:8409 Advanced Inpatient Subinternship in Family Medicine, Iowa Lutheran** 4 s.h.  
Patient-oriented interactive experience in an inpatient family practice environment. Requirements: fourth-year M.D. enrollment.
- FAM:8410 Family Medicine, Iowa Lutheran** 4 s.h.  
Requirements: fourth-year M.D. enrollment.
- FAM:8411 Family Medicine Clerkship, Davenport** 4 s.h.  
Assignment to problems commonly seen in family practice office; supervision by residents and faculty for history and physical evaluation and diagnostic workups and treatment of each specific problem; exposure to acutely ill patients in services of medicine, surgery, obstetrics, pediatrics.
- FAM:8412 Advanced Inpatient Subinternship in Family Medicine, Davenport** 4 s.h.  
Experience in inpatient family medicine; assessing and managing hospitalized patients, evaluating and treating patients in the emergency room, participating in call coverage with family medicine residents.
- FAM:8413 Family Medicine Geriatrics, Davenport** 4 s.h.  
Geriatric, palliative, and end-of-life care issues; assessment of competency in evaluation and management of patients; interdisciplinary nature of geriatric and palliative care.
- FAM:8415 Advanced Inpatient Subinternship in Family Medicine, Sioux City** 4 s.h.  
Experience as a junior resident in all areas of family medicine. Requirements: fourth-year M.D. enrollment.
- FAM:8416 Family Medicine Clerkship, Sioux City** 2,4 s.h.  
Methods common in family practice medicine; participation in care of patients seen by family practice physicians and residents.
- FAM:8417 Advanced Inpatient Subinternship in Family Medicine, Waterloo** 4 s.h.  
Experience working as a member of family practice inpatient team at Allen Memorial Hospital and Covenant Medical Center, following patients from admission through discharge.
- FAM:8418 Family Medicine Clerkship, Waterloo** 4 s.h.  
Rotation at the Northeast Iowa Family Practice Center; work with patients from outpatient care through hospitalization; basic concepts of family practice, team concept in medical care.
- FAM:8419 River Crossing Family Medicine Clerkship** 2,4 s.h.  
Experience providing patient care in a rural setting; continuity of care for patients of all ages. Requirements: fourth-year M.D. enrollment.
- FAM:8420 Family Medicine, Mason City** 2,4 s.h.  
Work with family physicians on staff at Mercy or other affiliated community hospitals; management of all patients admitted by the family physicians, participation in care rendered by consultants; primary care experience in family practice office.
- FAM:8421 Primary Care Sports Medicine** 4 s.h.  
Comprehensive, diverse, and educational experience in the field of sports medicine; clinical competence to diagnose and manage medical illnesses and injuries related to sports and exercise in varied patients, recreational and organized athletes, and teams. Requirements: M.D. enrollment.
- FAM:8422 Family Medicine/Psychiatry Elective** 2,4 s.h.  
Integration of mental and physical health care across outpatient family medicine and outpatient psychiatry arenas. Requirements: M.D. enrollment.
- FAM:8423 Family Medicine, Ames Student Health** 4 s.h.  
Primary care of late adolescent and young adult patients in a student health center setting; students work with family medicine and mental health providers to address health care needs of this population.
- FAM:8424 Family Caregiving Transitions** arr.  
Students enhance clinical learning from caregiving experiences and increase empathy and patient communication skills; students also enhance personal understanding of, and growth through, caregiving responsibilities in periods of family health transitions.
- FAM:8425 Advanced Inpatient Subinternship in Rural Family Medicine, Algona** 4 s.h.  
Rural hospital-based subinternship; students provide family medicine service alongside board-certified family physician faculty, performing all admissions on weekdays, rounding on hospitalized patients each day, and call responsibilities including deliveries and ER coverage.
- FAM:8426 Disease Registry Management** 4 s.h.  
Use of electronic medical record-based disease registries to investigate care, identify areas for improvement, and optimize management of chronic disease at individual and/or population level.
- FAM:8427 Maternity Care** 4 s.h.  
Experience in triaging of pregnant patients; students provide usual intrapartum and postpartum care, manage common intrapartum and postpartum complications, and provide care to newborn infants, healthy and ill. Requirements: M.D. enrollment.
- FAM:8428 Caring for the Underserved** 2 s.h.  
Caring for a variety of medically underserved patient populations with cultural competency and compassion; participation in a variety of experiences with clinical and ancillary/allied services, and community agencies that specialize in providing services to these populations. Requirements: M.D. enrollment.
- FAM:8450 Continuity of Care - Family Medicine** 4 s.h.  
Longitudinal continuity of care experience for fourth-year M.D. students in an outpatient family medicine setting.
- FAM:8496 Independent Studies** arr.  
Work with departmental researcher on investigation in family medicine, community medicine, health care delivery, health maintenance, and other areas.
- FAM:8497 Research in Family Medicine** arr.  
Medical research, clinical or laboratory projects; individual study.

**FAM:8498 Family Medicine On Campus**

Clinical clerkship; individually arranged by student with departmental approval.

**arr.****FAM:8499 Family Medicine Off Campus**

Clerkships; may include community hospitals.

**arr.**

# Free Radical and Radiation Biology

## Director

- Douglas R. Spitz (Radiation Oncology/Pathology)

**Faculty:** <https://frrbp.medicine.uiowa.edu/faculty-and-staff>

**Website:** <https://frrbp.medicine.uiowa.edu/>

The Free Radical and Radiation Biology Program provides in-depth training and research experience in the physical, chemical, and biological effects of radiation. It also focuses on the metabolic production of free radicals and their role in biology and medicine.

Free radicals are of interest to researchers and clinicians due to their role in a variety of diseases and pathological states, including degenerative diseases of aging and cancer. Manipulation of free radical reactions and redox biology holds great promise for the future development of new therapies for a variety of human diseases. The Free Radical and Radiation Biology Program stresses the importance of these areas of research to basic science, translational research, and public health.

## Undergraduate Education

Three courses offered by the Free Radical and Radiation Biology Program are open to University of Iowa undergraduate students: FRRB:3130 Radiation Safety and Radiobiology; FRRB:4000 Special Topics: Advanced Undergraduates; and with instructor approval, FRRB:5000 Radiation Biology. Students looking for an overview of the biological effects of radiation, including the role of free radicals, will find FRRB:5000 especially appropriate.

## Graduate Education

See Carver College of Medicine [p. 1830] and Graduate [p. 1687] College in the Catalog for general information about study in medicine and graduate study at the University.

## Postgraduate Training

Postdoctoral training is available by arrangement with the program's director and individual faculty members. Contact the Free Radical and Radiation Biology Program.

## Programs

### Graduate Programs of Study

#### Majors

- Master of Science in Free Radical and Radiation Biology
- Doctor of Philosophy in Free Radical and Radiation Biology

Students interested in doctoral studies in free radical and radiation biology should apply under the umbrella program in Biomedical Science [p. 1702] (select free radical and radiation biology subprogram). Direct applications to the M.S. and Ph.D. in free radical and radiation biology are not currently being considered.

## Facilities

The Free Radical and Radiation Biology Program is the home of the Radiation and Free Radical Research Core Lab (RFRRRC).

The lab operates radiation sources including an Xstrahl Small Animal Radiation Research Platform (SARRP) and a 5,000-Curie Cs-137 irradiator (Ionizing Radiation Services). Students and staff have access to additional core lab support through RFRRRC, with services and expertise related to analytical chemistry (Electron Paramagnetic Resonance Services) and redox biology, biochemistry (Antioxidant Enzyme Services), and linear accelerators in the Department of Radiation Oncology.

The program has a number of radiation detectors and counters, including liquid scintillation counters. It also has ultraviolet/visible spectrophotometers; various types of equipment for densitometry, chromatography, and electrophoresis; modern tissue culture facilities; Seahorse metabolic profiling instruments; molecular biology equipment, including thermal cyclers; an automatic cell counter and particle sizer; tissue culture facilities; Typhoon phosphorimager; high performance liquid chromatography (HPLC); electron spin resonance spectrometers; and nitric oxide analyzers. Visit Research Core on the program's website to learn more.

## Courses

### Free Radical and Radiation Biology Courses

**FRRB:3110 Medical Physics I** **1-3 s.h.**

Introduction to radiation used in clinical setting; fundamental physical units, measurements, principles, atomic structure and types of radiation; X-ray generating equipment, X-ray production, and its interaction with matter. Requirements: admission to free radical and radiation biology program or acceptance to radiation sciences therapy program, and maxillofacial or radiation oncology resident. Same as RSTH:3110.

**FRRB:3130 Radiation Safety and Radiobiology** **2 s.h.**

Instruction on safe operation of radiation producing equipment and handling of radioactive materials; origin and/or derivation of certain formulae and techniques useful in radiation protection programs; regulatory agencies, regulations, and regulatory guides pertinent to student's field; emphasis on applied aspects of radiation protection; characteristics and biological effects of ionizing radiations, properties and uses of radioisotopes, medical applications, and biological basis for protection procedures. Requirements: enrollment in radiation sciences or nuclear medicine technology program. Same as RSP:3130.

**FRRB:3215 Medical Physics II** **0-3 s.h.**

Treatment units used in external radiation therapy; beam calculations, isodose distributions, brachytherapy, quality assurance and quality management, protection and safety. Prerequisites: RSTH:3110. Requirements: admission to free radical and radiation biology program or acceptance to radiation sciences therapy program. Same as RSTH:3215.

**FRRB:4000 Special Topics: Advanced Undergraduates** **arr.**

Readings and/or laboratory experience. Offered fall semesters.

**FRRB:5000 Radiation Biology 4 s.h.**

Comprehensive study of molecular and biological effects of ionizing radiations with emphasis on biomedical therapeutic applications; mammalian radiobiology, contribution of metabolism to radiation effects, and therapeutic applications of radiation in cancer therapy. Offered fall semesters.

Prerequisites: CHEM:2210 and BMB:3120. Requirements: college-level physics.

**FRRB:5001 Research: Special Topics arr.****FRRB:5005 Rigor and Reproducibility in Redox Biology 1 s.h.**

Experiments in redox biology are prone to artifact due to unwanted or unknown oxidations, misunderstanding of how laboratory tools work, assumptions by the investigator that do not hold, and more; faculty and students discuss common experimental approaches used in research in the field—their strengths, weakness, and current best approaches to avoid artifacts—and best approaches to present data to stand the test of time and are easily understood by readers.

**FRRB:6000 Seminar: Free Radical and Radiation Biology 1 s.h.**

Seminar presentations of cutting edge science in the field of free radical and radiation biology, given by experts in the field as well as trainees.

**FRRB:6004 Research: Free Radical and Radiation Biology arr.**

Representation of intensive laboratory-based studies in the field of free radical and radiation biology, determined by mutual agreement between faculty members sponsoring the research and consultation with graduate student.

**FRRB:6006 Topics in Free Radical Biology and Medicine 1 s.h.**

Discussion and presentation of new literature reports in the field of free radical biology and medicine in journal club format.

**FRRB:6008 Topics in Radiation and Cancer Biology 1 s.h.**

Emerging concepts in the biological effects of radiation and cancer biology; current topics in journal club format.

**FRRB:7000 Redox Biology and Medicine 4 s.h.**

Chemistry of free radicals, related oxidants, and antioxidants; antioxidant (redox) enzymes—their structure, biochemical function, regulation, and function in redox biology; targets of oxidants—lipids, proteins, DNA; redox biology of health (infants to healthy aging) and disease (cancer, cardiovascular disease, diabetes, neurodegenerative diseases). Offered spring semesters of even years. Prerequisites: BMB:3120 or CHEM:2210.

**FRRB:7001 Molecular and Cellular Biology of Cancer 3 s.h.**

Fundamental aspects of oncology at cellular and molecular levels; mechanisms of cancer initiation and progression, oncogene action, DNA damage and repair, carcinogenesis by radiation, chemicals, viruses; tumor immunology, anticancer therapies. Offered spring semesters. Requirements: strong basic science background. Same as PATH:7001.

# Internal Medicine

## Interim Chair

- Isabella Grumbach

**Faculty:** <https://medicine.uiowa.edu/internalmedicine/people>  
**Website:** <https://medicine.uiowa.edu/internalmedicine/>

Internal medicine is concerned with the diagnosis, prevention, and treatment of diseases of adults. The Department of Internal Medicine's educational, patient care, and research activities cover all facets of the discipline, including general internal medicine and primary care as well as the specialized areas of allergy and immunology, cardiology, clinical pharmacology, endocrinology and metabolism, gastroenterology and hepatology, hematology, oncology, blood and marrow transplant, infectious diseases, nephrology, pulmonary, critical care, occupational medicine, and rheumatology.

The department is committed to the complete spectrum of medical education, from didactic and clinical education of M.D. students to resident and fellowship training.

[View on YouTube](#)

## M.D. Training

Department of Internal Medicine faculty members bear a major share of teaching medical and physician assistant students in the preclinical curriculum. During the first year, faculty members participate in MED:8121 Clinical and Professional Skills I and MED:8131 Clinical and Professional Skills II, as well as MED:8122 Medicine and Society I and MED:8132 Medicine and Society II. They also participate in teaching MED:8124 Mechanisms of Health and Disease I, MED:8133 Mechanisms of Health and Disease II, and MED:8134 Mechanisms of Health and Disease III. Departmental faculty members are key contributors in the third semester, instructing MED:8221 Clinical and Professional Skills III, MED:8222 Medicine and Society III, MED:8223 Mechanisms of Health and Disease IV, and keystone courses.

During the core clinical clerkship year, the department's faculty members instruct students for ten weeks in IM:8310 Internal Medicine at University of Iowa Hospitals & Clinics, Iowa River Landing, and the VA Iowa City Health Care, or in hospitals of the Des Moines Area Medical Education Consortium. Students actively participate as members of an inpatient ward team and/or specialty consult services, and in the evaluation and management of patients at outpatient internal medicine clinics in IM:8310.

During their advanced clerkship students may select a clinical experience to fit their own career goals from courses offered in general medicine, subspecialties, intensive care, and a subinternship program IM:8401 Advanced Inpatient Subinternship in Internal Medicine.

## Residency

The department offers a three-year residency training program in internal medicine. In addition, most of the department's specialty divisions offer two- and three-year clinical and research fellowships, in which fellows develop special knowledge and skills relevant to their specialties. Fellows who hold doctoral degrees may be accepted to programs whose major focus is laboratory research.

## Facilities

Teaching in the Department of Internal Medicine takes place in the medical services and laboratories of University of Iowa Hospitals & Clinics, Iowa River Landing, and the VA Iowa City Health Care, and in Des Moines at the VA Central Iowa Health Care and Iowa Methodist Medical Center.

## Courses

### Internal Medicine Courses

**IM:8301 Inpatient Internal Medicine** **arr.**  
 Development of knowledge, diagnostic and management skills vital to care of hospitalized patients; clinical responsibilities, educational conferences, independent study.

**IM:8302 Outpatient Internal Medicine** **3-4 s.h.**  
 Development of knowledge, diagnostic and management skills in the outpatient clinical setting; clinical activities, discussion of problems, independent study.

**IM:8310 Internal Medicine** **10 s.h.**  
 Development of knowledge, diagnostic, and management skills of vital signs in outpatient and inpatient clinical settings; clinical responsibilities, discussion of problems, educational conferences, independent study. Requirements: M.D. enrollment.

**IM:8401 Advanced Inpatient Subinternship in Internal Medicine** **4 s.h.**  
 Student responsibility for evaluating, treating, and following patients admitted to inpatient general medicine services. Requirements: fourth-year M.D. enrollment.

**IM:8410 Clinical Allergy Immunology** **arr.**  
 Pathogenesis, diagnosis, and management of asthma and allergic and immunologic diseases; conducting and interpreting relevant specialized clinical and laboratory tests; emphasis on outpatients; formal and informal teaching sessions.

**IM:8412 Clinical Cardiology** **arr.**  
 Development of breadth and depth in diagnostic and therapeutic problems encountered in clinical cardiology; participation in evaluation and decisions regarding patients seen sometimes in the cardiovascular clinic, inpatient cardiology wards, and electrophysiology service.

**IM:8413 Noninvasive Cardiovascular Assessment: EKG Interpretation and Experiences in Ultrasound** **2 s.h.**  
 Develop and further the confidence to read basic EKG patterns and rhythms critical to the primary care physician; these are the same objectives and methods as are stressed within the EKG portion of the transitions to clinical clerkships course; students are expected to refamiliarize themselves with this ICD material before beginning the course; students will learn by reading actual EKG's on their own with facilitation of learning by direct instructor feedback of their interpretation. Requirements: M.D. enrollment.

**IM:8414 Clinical Endocrinology** **arr.**  
 New patient evaluation, inpatient referral; returning patients in diabetes, endocrine clinics; complete patient evaluations, charts; participation in clinical conferences.

- IM:8416 Clinical Gastroenterology** arr. Work in consultation service at University Hospitals & Clinics or VA Iowa City Health Care; assistance in diagnostic procedures for patients examined as part of consultation service; participation in patient follow-up through weekly return clinic.
- IM:8418 Hematology Oncology** arr. Diagnostic skills in hematology and oncology.
- IM:8422 Clinical Infectious Disease** arr. Diagnosis, treatment, follow-up, study of patients with infectious diseases, under staff guidance; techniques of diagnostic microbiology; participation in conferences, teaching activities.
- IM:8424 Medical Intensive Care Unit** arr.
- IM:8426 Pulmonary Disease** arr. Breadth, depth in diagnostic, therapeutic problems encountered in clinical pulmonary disease; evaluation of outpatients and inpatients under staff supervision; interpretation of special studies carried out in pulmonary function laboratory, fiberoptic bronchoscopy and brush biopsy of lung; exposure to diagnosis and management of acute respiratory failure in intensive care units at University of Iowa Hospitals & Clinics, and VA Iowa City Health Care.
- IM:8428 Nephrology** arr. Evaluation of patients from University of Iowa Hospitals & Clinics inpatient service, VA Iowa City Health Care and clinics; emphasis on early kidney disease and all varieties of hypertension.
- IM:8434 Clinical Rheumatology** arr. Clinical features of rheumatic diseases, their differential diagnosis, and principles of management; patients from arthritis clinic, inpatient consultation service of University of Iowa Hospitals & Clinics, and VA Iowa City Health Care.
- IM:8435 Palliative Care** 2,4 s.h. Requirements: M.D. enrollment.
- IM:8437 Multidisciplinary Cancer Care** 2 s.h. Basic concepts of cancer care; role of multidisciplinary team in care of cancer patients; development of attitudes, knowledge, and skills useful for entering a specialty that encounters patients with cancer. Requirements: M.D. enrollment.
- IM:8449 Editorial Writing for Medical Students** 4 s.h. Students understand and practice the skill of writing opinion editorials aimed at improving the public's understanding of health and health care; how to effectively engage a broad, non-medical audience through writing with the goal of producing an opinion editorial piece that could be submitted for publication to a local or national newspaper.
- IM:8450 Continuity of Care in Outpatient Internal Medicine** 4 s.h. Experience with longitudinal continuity of care for patients in the outpatient setting; clinical and didactic exposure to broad spectrum of general internal medicine problems. Requirements: fourth-year M.D. enrollment.
- IM:8451 Advanced Inpatient Subinternship in Internal Medicine, Des Moines** arr. Four-week rotation at Des Moines Medical Education Consortium; experience as a subintern in general internal medicine and the ICU. Requirements: fourth-year M.D. enrollment.
- IM:8452 Subinternship in Internal Medicine at VAMC, Des Moines** arr. Rotation at the Veterans Affairs Central Iowa Health Care System; subinternship on general internal medicine ward. Requirements: fourth-year M.D. enrollment.
- IM:8453 Critical Care Rotation, IMMC, ICU, DM** 4 s.h. Subinternship on medical critical care team, with daily rounds, teaching. Requirements: fourth-year M.D. enrollment.
- IM:8454 General Medicine Consult Service, IMMC** arr. Principles of consultative medicine provided by general internists to non-internal medicine patients; how to assess perioperative risk for patients evaluated before surgery.
- IM:8455 Public Health Medicine** arr. Participation in ongoing projects related to public health issues of acute disease; training and career opportunities in public health practice.
- IM:8456 Clinical Cardiology Coronary Care Experience, Iowa Methodist, Des Moines** arr.
- IM:8457 Clinical Nephrology, Iowa Methodist, Des Moines** 2,4 s.h. Exposure to common nephrology problems, including acute renal failure, chronic renal failure, acid-base disorders, common electrolyte disorders.
- IM:8495 Internal Medicine ICU Off Campus** arr. Experience as subintern in the ICU/MICU; daily rounds and teaching with medical critical care staff.
- IM:8497 Research in Internal Medicine** arr. Medical research, clinical or laboratory projects; individual study.
- IM:8498 Internal Medicine On Campus** arr.
- IM:8499 Internal Medicine Off Campus** arr.



# Medical Education Program

## Executive Associate Dean

- Patricia L. Winokur

**Graduate degree:** M.M.E.

**Graduate certificate:** medical education

**Faculty:** <https://medicine.uiowa.edu/ocrme/about/faculty-staff>

**Website:** <https://medicine.uiowa.edu/ocrme/program-goals>

The purpose of the Medical Education Program is to develop a community of academic medical faculty with formal training in education who will create and sustain a culture of educational excellence within the Carver College of Medicine, University of Iowa Hospitals & Clinics, the University of Iowa, and in the medical education community. The program consists of the Master in Medical Education (M.M.E.) degree and the Certificate in Medical Education.

The program is coordinated through the Office of Consultation and Research in Medical Education (OCRME). Courses are taught by OCRME faculty, who also advise students in the program.

## Programs

### Graduate Programs of Study

#### Major

- Master in Medical Education [p. 1882]

#### Certificate

- Certificate in Medical Education [p. 1884]

# Master in Medical Education, M.M.E.

## Learning Outcomes

The Master in Medical Education program gives health care education faculty members the opportunity to specialize in theory and practice of curriculum design, effective teaching, assessment, and other aspects of medical education. Graduates of the program will be able to:

- design evidence-based education programs and materials with appropriate scope, sequence, and focus for intended learners;
- deliver effective instruction to individuals and small or large groups in classroom, laboratory, or clinical settings;
- evaluate the effectiveness of educational instruction, using formative and summative methods;
- understand basic principles of educational measurement and be able to apply them to medical education;
- use assessments to promote learning and to assess learning progress and status;
- understand basic principles of, and be able to interpret and use, educational research;
- apply the fundamental theories, designs, and methods of program evaluation to the medical education environment;
- identify current issues in medical education and resources available for monitoring developments in the field;
- develop skills in reflection on past experience, including skills of self-awareness, self-analysis, and self-evaluation, that results in the ability to generate a new perspective or plan of action; and
- identify the evolving role of technology in medical education and research.

## Requirements

The Master in Medical Education (M.M.E.) requires a minimum of 30 s.h. of graduate credit. The program is designed to prepare medical faculty members to educate health care professionals. It is intended for Carver College of Medicine faculty members and professional staff as well as for University of Iowa resident physicians and fellows.

The M.M.E. may be completed in as few as two years or as many as five. Students may begin the program in fall semester, spring semester, or summer session. Some of the required courses are offered online, and required on-campus courses have evening meeting times.

The curriculum includes 24 s.h. of required courses and 6-9 s.h. of electives. Students must register for at least one course each academic year in order to maintain satisfactory progress toward the degree. The program's faculty provides substantial student advising and consultation.

During their first semester, students file a plan of study. Each student's plan must include a description of the student's goals, intended graduation date, and a list of courses the student plans to take each semester. The study plan must incorporate all of the courses required for the degree and must include any requests for transfer credit. The plan must be approved by the director of the M.M.E. program and by the student's advisor. Subsequent revisions of the plan must have the advisor's approval.

The Master in Medical Education requires the following coursework.

Code	Title	Hours
MED:9701	Instructional Design and Technology	3
MED:9702	Clinical Teaching in Medical Education	3
MED:9703	Educational Research and Evaluation	3
MED:9711	Teaching Methods in Medical Education	3
MED:9712	Introduction to Educational Measurement in Medical Education	3
MED:9713	Assessment in Medical Education	3
MED:9714	Current Issues in Medical Education	3
MED:9720	Portfolio Project	3
Electives		6-9
<b>Total Hours</b>		<b>30-33</b>

Students who are not involved with clinical teaching may substitute another course for MED:9702 Clinical Teaching in Medical Education.

Students must have completed at least 18 s.h. before enrolling in MED:9720 Portfolio Project. In the portfolio, students integrate the materials they have developed over the course of the program into a document. Three faculty members review the project and evaluate the student's participation in the program.

Electives require approval of the student's advisor. They may include courses in the M.M.E. program as well as those offered by relevant departments and programs (e.g., College of Education, Tippie College of Business). Students should check with their advisors to determine which courses are graduate level.

## Admission

Applicants should hold an M.D. degree and must have performed satisfactorily on the Medical College Admission Test (MCAT). Basic sciences applicants without an M.D. must hold an equivalent degree and must have performed satisfactorily on an admission test equivalent to the MCAT.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Application materials must include an official transcript showing medical coursework and medical degree, or equivalent for basic sciences applicants (current and former University of Iowa students do not need to request a UI transcript or transcripts previously submitted to the University); a letter of reference from the applicant's department chair and one additional letter of reference; and a 300-500 word essay describing the applicant's interest in medical education and in the Master in Medical Education program.

To apply to the M.M.E. program, see Applications and Admissions on the Office of Consultation and Research in

Medical Education (OCRME) website. Application materials should be submitted to the University of Iowa Office of Admissions.

Application deadlines are:

- July 15 for fall semester entry;
- November 15 for spring semester entry; and
- April 15 for summer session entry.

# Medical Education, Graduate Certificate

## Requirements

The graduate certificate program is designed to help health care education faculty members, professional staff, residents, and fellows in the Carver College of Medicine and University Hospitals & Clinics find new ways to enhance their scholarship and skills in teaching, curriculum design, and education assessment. The Certificate in Medical Education program involves the same courses as the Master in Medical Education (M.M.E.); however, it only requires a minimum of 12 s.h. of graduate credit. Individuals who complete the certificate and then decide to earn the master's degree may count their certificate coursework toward the M.M.E. degree.

The Certificate in Medical Education requires the following coursework.

## Methods

Code	Title	Hours
One of these:		
MED:9701	Instructional Design and Technology	3
MED:9702	Clinical Teaching in Medical Education	3
MED:9711	Teaching Methods in Medical Education	3

## Research and Measurement

Code	Title	Hours
One of these:		
MED:9703	Educational Research and Evaluation	3
MED:9712	Introduction to Educational Measurement in Medical Education	3

## Additional Courses

Code	Title	Hours
	Students choose courses from M.M.E. requirements	6

For additional courses that satisfy the certificate requirements, view Master in Medical Education (M.M.E.) [p. 1882] in this section of the Catalog.

## Admission

Applicants should hold an M.D. degree and must have performed satisfactorily on the Medical College Admission Test (MCAT). Basic sciences applicants without an M.D. must hold an equivalent degree and must have performed satisfactorily on an admission test equivalent to the MCAT.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Application materials must include an official transcript showing medical coursework and medical degree, or equivalent for basic sciences applicants (current and former University of Iowa students do not need to request a UI transcript or transcripts previously submitted to the University); a letter of reference from the applicant's department chair and one additional letter of reference; and a 300-500 word essay describing the applicant's interest in medical education and in the Certificate in Medical Education program.

To apply to the certificate program, see Nondegree Seeking Students on the University of Iowa Office of Admissions website. Application materials should be submitted to the Office of Admissions.

Application deadlines are:

- July 15 for fall semester entry;
- November 15 for spring semester entry; and
- April 15 for summer session entry.

# Medical Laboratory Science

## Coordinator

- Gabriella Young

**Undergraduate major:** medical laboratory science (B.S.)

**Website:** <https://medicine.uiowa.edu/pathology/education/medical-laboratory-science-program-mlsp>

Medical laboratory scientists and medical technologists perform the laboratory tests that provide health care practitioners with information vital for accurate diagnosis, proper treatment of disease, and assistance in monitoring the treatment of the disease. They are in demand in hospital, private, reference, and government laboratories; clinics; physicians' offices; and industrial, pharmaceutical, biological, veterinary, and environmental research laboratories. Medical laboratory scientists and medical technologists are highly skilled health team professionals who use complex procedures and instruments in their analysis. They possess a specialized set of knowledge and skills acquired through completion of a formal twelve-month program of academic and clinical study in laboratory medicine.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Medical Laboratory Science (Bachelor of Science) [p. 1886]

# Medical Laboratory Science, B.S.

The Carver College of Medicine partners with various programs to offer the major in medical laboratory science. The programs are fully accredited by the National Accrediting Agency for Clinical Laboratory Sciences. All graduates are eligible for national certification examinations in medical laboratory science.

Undergraduate study in medical laboratory science is guided by the academic rules and procedures [p. 1831] outlined in the Carver College of Medicine section of the Catalog. Because the Carver College of Medicine partners with affiliated programs for the medical laboratory science major, students are not held to the University of Iowa in-residence requirement.

## Affiliated Programs

- Allen College: partnership effective until June 2023 (Students are no longer being accepted into the Allen College MLS program as part of an active affiliation agreement with the University of Iowa.)
- Mercy College of Health Sciences

## Expenses

Students are responsible for all tuition, textbooks, and other associated expenses during their time in this program.

## Requirements

The Bachelor of Science with a major in medical laboratory science requires a minimum of 124 s.h., including 84 s.h. of preparatory study and 40 s.h. in the professional (clinical) program, which consists of 11 months of didactic and practical instruction, depending on which affiliated program a student attends. Acceptance into the affiliated programs is competitive; see specific program websites for admission requirements.

Students in the Mercy College of Health Sciences program in Des Moines must maintain a cumulative g.p.a. of at least 2.50 in all courses for the major and in all University of Iowa courses. They also must complete the College of Liberal Arts and Sciences GE CLAS Core.

Students in the Allen College program must maintain a cumulative g.p.a. of at least 2.70 in all courses for the major and in all University of Iowa courses. They also must complete the College of Liberal Arts and Sciences GE CLAS Core.

Bachelor of Science students who have completed all preparatory study (years one through three) begin the fourth-year professional program which consists of both didactic lectures and clinical rotations. Students who successfully complete the professional program graduate with a B.S. degree in medical laboratory science awarded from the University of Iowa.

To learn more about the professional program, visit the medical laboratory science pages on the Allen College or Mercy College of Health Sciences websites.

## Preparatory Study

### Allen College: Prerequisites for Admission to the Major

*Students are no longer being accepted into the Allen College medical laboratory science program as part of an active affiliation agreement with the University of Iowa.*

Students must complete the following coursework before they may be admitted to the major in medical laboratory science. They must earn a grade of C-minus or higher in all prerequisite courses.

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210	Organic Chemistry I	3
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
PSY:1001	Elementary Psychology	3
RHET:1030	Rhetoric	4-5
SOC:1010	Introduction to Sociology	3-4
One of these options:		
HHP:1100 & HHP:1110	Human Anatomy - Human Anatomy Laboratory (both courses)	4
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:1300 & HHP:1310	Fundamentals of Human Physiology - Human Physiology Laboratory (both courses)	4
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3115	Anatomy for Human Physiology with Lab	5
HHP:3550	Human Physiology with Laboratory	5
One of these:		
BMB:3110	Biochemistry	3
CHEM:2220	Organic Chemistry II	3
One of these:		
MATH:1005	College Algebra	4
MATH:1020	Elementary Functions	4
MATH:1440	Mathematics for the Biological Sciences	4
One of these:		
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
STAT:3510/ IGPI:3510	Biostatistics	3

### Mercy College of Health Sciences: Prerequisites for Admission to the Major

Students must:

- achieve a cumulative g.p.a. of at least 2.50 on a 4.00 scale in all college-level coursework;
- achieve a cumulative g.p.a. of at least 2.50 on a 4.00 scale in all college-level coursework in science, which includes biology, microbiology, zoology, chemistry, physics, mathematics, statistics, and related courses; and
- earn a grade of C (not C-minus) or higher in all required courses.

Students must complete the following coursework before they may be admitted to the major in medical laboratory science.

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
CHEM:2410	Organic Chemistry Laboratory	3
MATH:1005	College Algebra	4
MICR:2157- MICR:2158	General Microbiology - General Microbiology Laboratory	5
Select from these to reach a total of 16 s.h. in biology coursework:		
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:1300 & HHP:1310	Fundamentals of Human Physiology - Human Physiology Laboratory (both courses)	4
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3115	Anatomy for Human Physiology with Lab	5
HHP:3550	Human Physiology with Laboratory	5
MICR:3147	Immunology and Human Disease	3

Coursework taken to meet the biology and chemistry requirements completed seven or more years before application may require updating. This is determined by the program chair.

Questions about the requirements should be directed to the Mercy College of Health Sciences.

## Fourth Year: Professional Program

Students must successfully complete the professional program requirements through one of the medical laboratory science programs in order to graduate with the B.S. degree in medical laboratory science.

### Admission

Admission to the fourth-year medical laboratory science professional programs are competitive; enrollment may be limited. Students must apply to the medical laboratory science

program directly. Most students apply during fall of their third year and begin the professional program following that year.

Before beginning the professional program, students must complete all prerequisites, including the College of Liberal Arts and Sciences GE CLAS Core [p. 20] requirements, and must earn at least 84 s.h. of college credit. They satisfy the English and public speaking prerequisite requirements by fulfilling the GE CLAS Core Rhetoric requirement. Applicants must have a cumulative g.p.a. of at least 2.50 both overall and in science coursework for admission into the Mercy College of Health Sciences program in Des Moines or 2.70 for the Allen College program. They must satisfy any English as a Second Language (ESL) requirements specified by the University of Iowa before beginning the professional program.

Students should consult with a Medical Laboratory Science Program advisor as early as possible to plan preclinical studies that meet all requirements.

### Career Advancement

The demand for medical laboratory scientists is much greater than the number of people qualified to fill the positions, so graduates have numerous employment opportunities nationwide. They consistently find employment before or very soon after graduation.

Opportunities for advancement include positions such as lab manager, computer specialist, technical specialist, or sales/instrument representative. An advanced degree in basic sciences, medicine, hospital administration, or business can expand earning potential.

Graduates often enjoy diverse work environments, including labs in hospitals, research institutions, public health facilities, forensic units, pharmaceutical companies, or working in the armed forces. They have an impact in the field as integral members of health care teams, providing information essential for the treatment and prevention of disease.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

# Medical Scientist Training Program

## Director

- Steven Lentz (Internal Medicine)

## Administrative Director

- Linda M. Varvel

**Faculty:** <https://medicine.uiowa.edu/mstp/directories/current-mentors>

**Website:** <https://medicine.uiowa.edu/mstp/>

The Iowa Medical Scientist Training Program (MSTP) prepares trainees for careers in academic medicine, with emphasis on basic and clinical research.

## Combined Degree

### M.D./Ph.D.

The combined Doctor of Medicine/Doctor of Philosophy program normally requires seven to eight years of continuous study. It provides an effective and efficient means to integrate graduate and clinical training, combining the scientific approach with clinical medicine.

Students register for MSTP:8515 Medical Scientist Training Program Topics every semester. The course focuses on a variety of topics relevant to training as a physician-scientist.

During the first three semesters of the program, trainees take coursework in the basic sciences fundamental to the study of medicine and complete experiences that introduce mechanisms of health and disease, and principles of clinical practice; see Doctor of Medicine [p. 1868] in the Catalog. This early training provides broad exposure to the language and organizing concepts that form the foundation for a career as a physician scientist. Trainees also begin the research component of the graduate phase of the program during this time, through summer laboratory MSTP:8511 Medical Scientist Training Program Research rotations, enrollment in MSTP:8513 Analyzing and Presenting Medical Research, research presentations by MSTP faculty and students, and a student-sponsored seminar series. Trainees participate in Conversations in Research, in which MSTP faculty members discuss their research and career interests, and they attend MSTP Grand Rounds, a forum for patient-based discussions that emphasizes how science and medicine intersect.

During the fourth and fifth semesters, trainees enroll in core clinical clerkships, in which they gain broad exposure to the spectrum of human disease and experience direct patient care before they enter the graduate phase of training.

After completing core clerkships and United States Medical Licensing Examination Step 1 and 2 examinations, trainees select a Ph.D. thesis mentor and enroll in a graduate department or interdisciplinary graduate program to begin their scientific training.

The focus of the graduate years of study is engagement in academic and research experiences that promote the trainees' development into independent investigators. Clinical contact is maintained during this phase of training through participation in seminar programs, MSTP Grand Rounds, and MSTP:8512 Medical Scientist Training Program Clinical

Connections, a course that provides the opportunity for mentored clinical experiences.

Upon completing the Ph.D. dissertation, trainees return to the Carver College of Medicine's M.D. curriculum to complete the advanced clinical clerkship requirements for the M.D./Ph.D. combined program. During this phase, trainees bring a sophistication in the scientific approach to problem solving that they apply to human disease. They renew and develop clinical skills acquired in their early training and reinforce their understanding of the scientific basis of disease through continued participation in MSTP Grand Rounds. Upon completion of the clinical curriculum, trainees are awarded the M.D. and Ph.D. degrees.

Most graduates of the program elect to enter residency programs in clinical medicine and embark on careers as medical school faculty members in clinical disciplines with opportunities for basic and applied research. Other graduates accept academic appointments in basic science departments and spend a major part of their professional activity in biomedical research and teaching.

## Admission

Applicants must meet requirements for admission to the M.D. program in the Carver College of Medicine; see Admission [p. 1871] in the Doctor of Medicine section of the Catalog. They also must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants should have completed requirements for a bachelor's degree at an accredited academic institution. In addition to outstanding academic credentials, including strength in biological, physical, and mathematical sciences, they must demonstrate aptitude for and commitment to scientific research through productive research experience during their undergraduate years or after. Admission normally is made for entry to the first year of the program, but applicants already enrolled in the Carver College of Medicine may request admission with advanced standing.

## Application

The Carver College of Medicine participates in the American Medical College Application Service (AMCAS). Program applicants should select M.D./Ph.D. Program-Type on their AMCAS application and instruct AMCAS to forward their credentials to the Carver College of Medicine (IA131). Applications should be submitted as early as possible to allow careful review by the admissions committees of the Medical Scientist Training Program and the Carver College of Medicine.

All candidates must take the Medical College Admission Test (MCAT), according to Carver College of Medicine requirements. The Graduate Record Exam (GRE) General Test is not required for admission.

Application to the Graduate College is not required before acceptance to the MSTP. Trainees admitted to the program receive assistance with Graduate College enrollment.

## Financial Support

Trainees receive stipend and full tuition support from a National Institutes of Health MSTP training grant to the University of Iowa, supplemented by other institutional and individual awards. Students in the graduate phase of training receive support from their graduate departments or interdisciplinary programs and their research advisors. The program office also helps selected trainees apply for



competitive national awards for outstanding academic and research achievement.

## Courses

### Medical Scientist Training Program Courses

**MSTP:8511 Medical Scientist Training Program Research** arr.

Research experience. Requirements: Medical Scientist Training Program enrollment.

**MSTP:8512 Medical Scientist Training Program Clinical Connections** arr.

Experience with physician-scientist preceptor in medical interviewing, physical examination, patient presentation through direct patient interaction. Requirements: Medical Scientist Training Program graduate phase enrollment.

**MSTP:8513 Analyzing and Presenting Medical Research** 1 s.h.

How to read, interpret, and present medical and scientific literature; students read and present representative papers from scientific and medical literature.

**MSTP:8514 Grant Writing Basics: A Focus on Predoctoral Applications** 1 s.h.

Introduction to practical and conceptual aspects of grant-writing process, with the goal of completing an NIH F30-like grant; encourages critical thinking about significance, innovation, and experimental design; relate critical information and study design in concise and clear language; practical concepts of grant writing such as specific aims, experimental design, and the grant review process; trainees will present their research ideas, establishing opportunities to give and receive scientific criticism. Requirements: Medical Scientist Training Program enrollment.

**MSTP:8515 Medical Scientist Training Program Topics** 1 s.h.

Workshops and speakers; focus on a variety of topics including wellness, research presentations, professional development, and on-going faculty research partnerships. Requirements: Medical Scientist Training Program enrollment.

# Microbiology and Immunology

## Chair

- Li Wu

## Director, Undergraduate Studies

- Aloysius J. Klingelhutz

## Director, Graduate Studies

- Craig D. Ellermeier

**Undergraduate major:** microbiology (B.S.)

**Undergraduate minor:** microbiology

**Graduate degrees:** M.S. in microbiology; Ph.D. in microbiology

**Faculty:** <https://medicine.uiowa.edu/microbiology/people-0>

**Website:** <https://medicine.uiowa.edu/microbiology/>

Study in the Department of Microbiology and Immunology is dedicated to the branch of biological sciences that investigates the smallest living things: microbes that include bacteria, archaea, fungi, algae, protozoa, and viruses. It is coupled with immunology that includes the study of the protective responses of higher organisms to disease-causing microbes and cancers, and mistakes in immune function. Microbiology and immunology often interact in humans at the microbiome, those microbes that live with humans on their skin and mucosal surfaces, and yet must be restricted from causing diseases by the immune system.

Microbiology and immunology are at the forefront of the modern biological revolution. Microbes are experimental subjects of choice for examining genetic and biological phenomena because of their small size, rapid growth rate, relative simplicity, and variety of characteristics that allow them to cause many kinds of infections and alter normal body functions. Immunology often makes use of microbes and cancer cells to study the critical and complex human responses to eliminate microbes and cancers. A significant portion of contemporary biochemical research employs microbiological and immunological methods.

Current research is making theoretical and practical advances concerning microbes that infect animals, including humans, and the immune response to those microbes; the use of comparative genomics, gene expression profiling, and recombinant DNA methods to analyze biological processes and generate valuable products, such as antibiotics and antibodies; genetics and regulation of metabolic processes; and the genetics and regulation of the immune response, including characterization of mechanisms used by microbes to signal one another and characterization of interactions between different types of immune cells and their targets.

The Department of Microbiology and Immunology offers an undergraduate major and a minor, and graduate majors leading to an M.S. and a Ph.D., and determines the curricula for those programs. Undergraduates majoring in microbiology receive their degrees (Bachelor of Science) from the College of Liberal Arts and Sciences and are governed by that college's undergraduate academic policies. The graduate degrees are awarded by the Graduate College.

## Programs

### Undergraduate Programs of Study

#### Major

- Major in Microbiology (Bachelor of Science) [p. 1893]

#### Minor

- Minor in Microbiology [p. 1899]

### Graduate Programs of Study

#### Majors

- Master of Science in Microbiology [p. 1900]
- Doctor of Philosophy in Microbiology [p. 1901]

## Facilities

The Department of Microbiology and Immunology is situated on the University of Iowa health sciences campus, where it shares the Bowen Science Building with the Departments of Anatomy and Cell Biology, Biochemistry and Molecular Biology, Molecular Physiology and Biophysics, and Neuroscience and Pharmacology. Laboratory space and modern equipment are available for teaching and research.

## Courses

### Microbiology and Immunology Courses

#### **MICR:2157 General Microbiology** **3 s.h.**

Principles of bacterial and viral diversity, structure, genetics, physiology, and metabolism in contexts of molecular biology, immunology, infectious disease, and environmental microbiology. Prerequisites: BIOL:1411 and CHEM:1110.

#### **MICR:2158 General Microbiology Laboratory** **2 s.h.**

Practice of basic techniques commonly used today for study of easy-to-grow microorganisms; variety of individual and group lab activities that challenge students to apply observations about bacteria and viruses. Corequisites: MICR:2157, if not taken as a prerequisite.

#### **MICR:3145 Honors in Microbiology Thesis Preparation** **1 s.h.**

Guidance and constructive criticism on written and oral presentation of honors research project; submission of thesis introduction; multiple presentations and updates of research project in preparation for final oral presentation at departmental Undergraduate Research Symposium; for honors in the major students and taken final semester before graduation. Prerequisites: MICR:4171.

#### **MICR:3147 Immunology and Human Disease** **3 s.h.**

Important principles and key concepts in immunology with a focus on the involvement of the immune system in disease pathogenesis; overview of innate and adaptive immune systems and their functions at cellular and molecular levels. Prerequisites: BIOL:1411 with a minimum grade of C and BIOL:1412 with a minimum grade of C.

**MICR:3150 Eukaryotic Pathogens and Human Disease****2 s.h.**

Foundational understanding of the lifecycle, epidemiology, pathogenesis, diagnosis, and treatment of major eukaryotic pathogens/parasites that cause human disease. Prerequisites: MICR:2157 with a minimum grade of C. Recommendations: genetics, biochemistry, and immunology.

**MICR:3159 Bacteria and Human Disease****3 s.h.**

Infection and replication strategies of bacteria with an emphasis on human disease; for students interested in microbiology or other biological sciences, epidemiology, and/or health-related occupations. Prerequisites: MICR:2157 with a minimum grade of C.

**MICR:3160 Bacterial Physiology and Cell Biology****2 s.h.**

Bacterial physiology and cell biology with reference to model organisms and adaptations to extreme environments; topics include energy metabolism, growth, cell structure, macromolecular assembly, cell division, microbial development, and microbial interactions; lectures augmented with readings from primary literature to give students a strong foundation in prokaryotic biology and approaches used in modern microbiology research. Prerequisites: (BMB:3110 or BMB:3120) and MICR:2157 with a minimum grade of C.

**MICR:3164 Microbiology and Human Health****4 s.h.**

Microbiology for nursing, pharmacy, and pre-health professions. Prerequisites: BIOL:1411 or BIOL:1140 or BIOL:1141.

**MICR:3165 Bacteria and Human Disease Laboratory and Discussion****3 s.h.**

Use of bacterial genetics and molecular biology techniques and methodologies to study bacteria which cause human disease; development of skills in data analysis and presentation, reading scientific literature, and writing scientific abstracts; for students interested in microbiology or other biological sciences, epidemiology, and/or health-related occupations. Prerequisites: MICR:2157 with a minimum grade of C and MICR:2158 with a minimum grade of C. Corequisites: MICR:3159 or MICR:3170, if not taken as a prerequisite.

**MICR:3168 Viruses and Human Disease****3 s.h.**

Infection and replication strategies of viruses with an emphasis on human disease; for microbiology majors as well as students interested in pre-medicine, biological sciences, epidemiology, and/or other health-related occupations. Prerequisites: BIOL:1412 with a minimum grade of C or MICR:2157 with a minimum grade of C. Recommendations: basic understanding of molecular biology and immunology.

**MICR:3170 Microbial Genetics****2 s.h.**

Genetics of bacteria and bacteriophages including classical, molecular, and genome-wide approaches. Prerequisites: BIOL:2512 with a minimum grade of C or MICR:2157 with a minimum grade of C.

**MICR:3177 Virology Discussion****2 s.h.**

Students read, present, and discuss papers from virology literature that address classic and current issues in virology research. Students will learn how to critically evaluate and present methods and results from virology research papers. Prerequisites: MICR:3168 with a minimum grade of C.

**MICR:3178 Virology Laboratory****2 s.h.**

Practical approaches to studying viruses; basic techniques in virology including virus detection, virus growth measurement, and virus genetics; introduction to bioinformatic analysis of virus genomes and infections. Prerequisites: MICR:2157 with a minimum grade of C and MICR:2158 with a minimum grade of C. Corequisites: MICR:3168 (if not taken as a prerequisite).

**MICR:4161 Undergraduate Research in Microbiology**

Experimental research under faculty supervision. Prerequisites: BIOL:1411.

**MICR:4171 Honors Undergraduate Research in Microbiology****arr.**

Experimental research under faculty supervision. Prerequisites: BIOL:1411. Requirements: microbiology major, junior or senior standing, 3.33 overall g.p.a., and 3.33 g.p.a. in microbiology courses.

**MICR:4175 Topics in Parasitism****1 s.h.**

Molecular and immunologic mechanisms by which bacteria, viruses, and protozoa cause human diseases; based on manuscript readings and/or student presentations. Requirements: junior or higher standing in microbiology or related discipline, and current or prior research in a microbiology and immunology laboratory.

**MICR:5218 Microscopy for Biomedical Research****arr.**

Basic microscopy methods for research including optics, preparation, and analysis of biomedical specimens; light, fluorescence, confocal, transmitting electron, scanning electron, atomic force microscopes, elemental analysis; immunochemistry and stereology techniques; individualized laboratory instruction. Prerequisites: BIOL:2723. Same as ACB:5218, BIOL:5218.

**MICR:5264 Directed Study in Microbiology****arr.**

Advanced-level experimental research or teaching under faculty supervision.

**MICR:5875 Perspectives in Biocatalysis****1-3 s.h.**

Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BMB:5875, CBE:5875, CEE:5875, CHEM:5875, PHAR:5875.

**MICR:6201 Graduate Immunology****3 s.h.**

Ontogeny, activation, and function of T lymphocytes and B lymphocytes; innate immune effector mechanisms; major histocompatibility complex; antigen presentation; thymocyte positive and negative selection; signaling of T lymphocytes, B lymphocytes; emphasis on experimental methods for analysis of these processes. Prerequisites: MICR:3147. Requirements: for IMMU:6201—college biology, general chemistry, and introductory immunology courses; for MICR:6201—courses in college biology, genetics, general chemistry, and introductory immunology. Recommendations: for IMMU:6201—courses in biochemistry and genetics; for MICR:6201—biochemistry course. Same as IMMU:6201.

**MICR:6240 Graduate Eukaryotic Pathogens and Human Disease****2 s.h.**

Foundational understanding of the lifecycle, epidemiology, pathogenesis, diagnosis, and treatment of major eukaryotic pathogens/parasites that cause human disease. Recommendations: genetics, biochemistry, and immunology.

**MICR:6247 Graduate Immunology and Human Disease****4 s.h.**

Important principles and key concepts in immunology with a focus on the involvement of the immune system in disease pathogenesis; overview of innate and adaptive immune systems and their functions at cellular and molecular levels; learning enhanced by case-based, small-group discussion and writing exercises. Same as IMMU:6247.

**MICR:6250 Mechanisms of Parasitism Journal Club 1 s.h.**

Reviews of recent publications in molecular parasitology research and thesis research by training grant or journal club students; for students pursuing graduate thesis research in microbiology or a related discipline. Same as MMED:6250.

**MICR:6255 Graduate Experimental Approaches to Molecular Microbiology 2 s.h.**

Exposure to common experimental approaches through examination of primary literature and facilitated discussions on application of those approaches to advance scientific inquiry. Requirements: microbiology graduate standing.

**MICR:6259 Graduate Bacteria and Human Disease 3 s.h.**

Infection and replication strategies of bacteria with an emphasis on human disease; discussion focuses on experimental approaches used to study mechanisms of disease.

**MICR:6260 Graduate Bacterial Physiology and Cell Biology 2 s.h.**

Bacterial physiology and cell biology with reference to model organisms and adaptations to extreme environments; topics include energy metabolism, growth, cell structure, macromolecular assembly, cell division, microbial development, and microbial interactions; lectures augmented with readings from primary literature to give students a strong foundation in prokaryotic biology and approaches used in modern microbiology research.

**MICR:6265 Introduction to Grant Writing 2 s.h.**

How to think and write like scientists and become familiar with the elements of a research proposal; writing a grant proposal modeled on a National Institutes of Health Exploratory/Developmental Research Grant Award (NIH R21); students critique proposals written by other students; faculty read proposals and provide constructive criticism; lectures describe elements of a grant proposal and strategies for effective writing. Requirements: enrollment in microbiology graduate program, or enrollment in a graduate program training in a microbiology and immunology department laboratory, or enrollment in a biological science graduate program and not working in a microbiology and immunology department laboratory for thesis project.

**MICR:6267 Graduate Viruses and Human Disease 4 s.h.**

Infection and replication strategies of viruses with an emphasis on human disease; discussion focuses on topics and techniques used in primary literature and development of specific aims for a mini-proposal.

**MICR:6268 Biology and Pathogenesis of Viruses 2 s.h.**

Molecular biology of animal DNA and RNA viruses, viral immunology and pathogenesis, and interaction of these viruses with eucaryotic cells; mechanisms of viral latency, persistence, cellular transformation, oncogenesis; virology literature. Prerequisites: MICR:3168 or MICR:6267.

**MICR:6269 Graduate Virology Discussion 1 s.h.**

Discussion of primary virology literature from a range of topics, may include techniques used for studying viruses, viral entry and replication, evasion of immune responses by viruses, vaccines, and viral pathogenesis; short presentations; development of specific aims for a mock grant proposal on a virology-related topic. Recommendations: completion of a virology course.

**MICR:6270 Graduate Microbial Genetics 2 s.h.**

Genetics of bacteria and bacteriophages including classical, molecular, and genome-wide approaches.

**MICR:7207 Advanced Topics in Immunology 3 s.h.**

In-depth analysis of selected areas. Prerequisites: IMMU:6201 or MICR:6201. Same as IMMU:7221.

**MICR:7261 Graduate Research in Microbiology arr.**

Requirements: microbiology graduate standing.

**MICR:7263 Graduate Student Research Seminar 1 s.h.**

Presentation of thesis work in progress. Requirements: microbiology graduate standing.

**MICR:7265 Topics in Virology Literature 1 s.h.**

Papers of current interest in primary virology literature.

**MICR:8230 Dental Microbiology 3 s.h.**

Medical microbiology: bacteriology, immunology, pathogenic bacteriology, virology, mycology, parasitology. Requirements: D.D.S. enrollment.

# Microbiology, B.S.

Microbiology is an excellent major for undergraduate students who want a good general education with emphasis on an important and interesting branch of biological sciences.

## Requirements

The Bachelor of Science with a major in microbiology requires a minimum of 120 s.h., including 60-64 s.h. of work for the major, depending on the track. Students must maintain a g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major. Courses for the major may not be taken pass/nonpass. Students also must complete the College of Liberal Arts and Sciences GE CLAS Core [p. 20].

Students must complete at least 12 s.h. of the required 18-19 s.h. in Department of Microbiology and Immunology courses at the University of Iowa.

The major in microbiology can be pursued on either a pre-medicine or a scholar track.

Students in the pre-medicine track complete admission requirements for the Carver College of Medicine and for most colleges of medicine as an integral part of the completion of their major requirements. This track is recommended for pre-medical, pre-dental, and pre-pharmacy students.

Students in the scholar track pursue a curriculum with streamlined organic chemistry and physics requirements and expanded microbiology and immunology courses, including advanced laboratory and global health studies coursework. The scholar track is recommended for students interested in pursuing graduate training or in developing a career as a microbiologist.

Students may shift from one track to the other during their program of study.

The B.S. with a major in microbiology in the pre-medicine or the scholar track requires the following coursework.

## Pre-Medicine Track

Students in the pre-medicine track complete the following coursework.

Code	Title	Hours
	Supporting Coursework	42-43
	Microbiology and Immunology Courses	18
	Advanced Elective Coursework	3
<b>Total Hours</b>		<b>63-64</b>

## Supporting Coursework

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
BMB:3120 & BMB:3130	Biochemistry and Molecular Biology I-II	6
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210 & CHEM:2220	Organic Chemistry I-II	6
CHEM:2410	Organic Chemistry Laboratory	3

One of these:		
BIOS:4120	Introduction to Biostatistics	3
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
STAT:3510/ IGPI:3510	Biostatistics	3
One of these sequences:		
PHYS:1511- PHYS:1512	College Physics I-II	8
PHYS:1611- PHYS:1612	Introductory Physics I-II	8

## Microbiology and Immunology Courses

Students earn 18 s.h. in Department of Microbiology and Immunology courses from the following.

Code	Title	Hours
MICR:2157	General Microbiology (required with a grade of C or higher)	3
MICR:2158	General Microbiology Laboratory (required with a grade of C or higher)	2
MICR:3145	Honors in Microbiology Thesis Preparation (required for honors in microbiology)	1

Additional microbiology and immunology courses (prefix MICR) numbered MICR:3147 or above, excluding MICR:3164; students select from the following:

MICR:3147	Immunology and Human Disease	3
MICR:3150	Eukaryotic Pathogens and Human Disease	2
MICR:3159	Bacteria and Human Disease	3
MICR:3160	Bacterial Physiology and Cell Biology	2
MICR:3165	Bacteria and Human Disease Laboratory and Discussion	3
MICR:3168	Viruses and Human Disease	3
MICR:3170	Microbial Genetics	2
MICR:3177	Virology Discussion	2
MICR:3178	Virology Laboratory	2
MICR:4161	Undergraduate Research in Microbiology	arr.
MICR:4171	Honors Undergraduate Research in Microbiology	arr.
MICR:5218	Microscopy for Biomedical Research	arr.
MICR:5264	Directed Study in Microbiology	arr.

A maximum of 4 s.h. earned in either MICR:4161 Undergraduate Research in Microbiology or MICR:4171 Honors Undergraduate Research in Microbiology may be counted toward the major. However, students earning honors in the major must complete 6 s.h. in MICR:4171 Honors Undergraduate Research in Microbiology; see Honors [p. 1895] in this section of the Catalog.

## Advanced Elective Coursework

Code	Title	Hours
3 s.h. from these:		
BIOL:2723	Cell Biology	3
BIOL:3314/ IGPI:3314	Genomics	3
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	2,4
BMB:3310/ CBIO:3310/ MMED:3310	Practical Data Science and Bioinformatics	3
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
GHS:2320/ ANTH:2320	Origins of Human Infectious Disease	3
Additional microbiology and immunology course (prefix MICR) numbered MICR:3147 or above, excluding MICR:3164		3

## Scholar Track

Students in the scholar track complete the following coursework.

Code	Title	Hours
Supporting Coursework		35-36
Microbiology and Immunology Courses		19
Advanced Elective Coursework		6
<b>Total Hours</b>		<b>60-61</b>

## Supporting Coursework

Code	Title	Hours
All of these:		
BIOL:1411- BIOL:1412	Foundations of Biology - Diversity of Form and Function	8
BMB:3120 & BMB:3130	Biochemistry and Molecular Biology I-II	6
CHEM:1110 & CHEM:1120	Principles of Chemistry I-II	8
CHEM:2210	Organic Chemistry I	3
PHYS:1400	Basic Physics	4
One of these:		
BIOS:4120	Introduction to Biostatistics	3
MATH:1460	Calculus for the Biological Sciences	4
MATH:1550	Engineering Mathematics I: Single Variable Calculus	4
MATH:1850	Calculus I	4
STAT:3510/ IGPI:3510	Biostatistics	3
One of these:		
GHS:2000/ ANTH:2103	Introduction to Global Health Studies	3
GHS:2320/ ANTH:2320	Origins of Human Infectious Disease	3

In addition, this course may be recommended for some students:

CNW:2680	The Art and Craft of Creative Nonfiction	3
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## Microbiology and Immunology Courses

Students earn 19 s.h. in Department of Microbiology and Immunology courses from the following.

Code	Title	Hours
MICR:2157	General Microbiology (required with a grade of C or higher)	3
MICR:2158	General Microbiology Laboratory (required with a grade of C or higher)	2
MICR:3145	Honors in Microbiology Thesis Preparation (required for honors in microbiology)	1
One of these:		
MICR:3165	Bacteria and Human Disease Laboratory and Discussion	3
MICR:3178	Virology Laboratory	2
MICR:4161	Undergraduate Research in Microbiology (must be taken for at least 2 s.h.)	arr.
MICR:4171	Honors Undergraduate Research in Microbiology (must be taken for at least 2 s.h.)	arr.

Additional microbiology and immunology courses  
(prefix MICR) numbered MICR:3147 or above,  
excluding MICR:3164; students select from the  
following:

MICR:3147	Immunology and Human Disease	3
MICR:3150	Eukaryotic Pathogens and Human Disease	2
MICR:3159	Bacteria and Human Disease	3
MICR:3160	Bacterial Physiology and Cell Biology	2
MICR:3165	Bacteria and Human Disease Laboratory and Discussion	3
MICR:3168	Viruses and Human Disease	3
MICR:3170	Microbial Genetics	2
MICR:3177	Virology Discussion	2
MICR:3178	Virology Laboratory	2
MICR:4161	Undergraduate Research in Microbiology	arr.
MICR:4171	Honors Undergraduate Research in Microbiology	arr.
MICR:5218	Microscopy for Biomedical Research	arr.
MICR:5264	Directed Study in Microbiology	arr.

A maximum of 4 s.h. earned in either MICR:4161 Undergraduate Research in Microbiology or MICR:4171 Honors Undergraduate Research in Microbiology may be counted toward the major. However, students earning honors in the major must complete 6 s.h. in MICR:4171 Honors Undergraduate Research in Microbiology; see Honors [p. 1895] in this section of the Catalog.

## Advanced Elective Coursework

Code	Title	Hours
6 s.h. from these:		
BIOL:3314/ IGPI:3314	Genomics	3
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	2,4
BMB:3310/ CBIO:3310/ MMED:3310	Practical Data Science and Bioinformatics	3
Additional microbiology and immunology course (prefix MICR) numbered MICR:3147 or above, excluding MICR:3164		3
May include one of these:		
BIOL:2723	Cell Biology	3
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
GHS:2000/ ANTH:2103	Introduction to Global Health Studies (if not taken as Supporting Coursework option)	3
GHS:2320/ ANTH:2320	Origins of Human Infectious Disease (if not taken as Supporting Coursework option)	3

## Combined Programs

### B.S./Ph.D. in Microbiology

Students majoring in microbiology who are interested in earning a doctoral degree may apply to the combined Bachelor of Science/Doctor of Philosophy in microbiology program. The combined program permits students to count 12 s.h. of credit toward both the B.S. and Ph.D. degree requirements before they have been granted the B.S. degree.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. For more information, contact the Department of Microbiology and Immunology.

## Honors

### Honors in the Major

Students majoring in microbiology (either track) have the opportunity to graduate with honors in the major. They must maintain a cumulative University of Iowa g.p.a. of at least 3.33 and a g.p.a. of at least 3.33 in work for the major. To graduate with honors in the microbiology major, students must complete an additional 3 s.h. of coursework in microbiology and immunology beyond that required for the major. This must include 6 s.h. in MICR:4171 Honors Undergraduate Research in Microbiology that introduces them to experimental research. The final semester before graduation, students must complete MICR:3145 Honors in Microbiology Thesis Preparation, and must successfully present written and oral presentations of their research projects.

## University of Iowa Honors Program

In addition to honors in the major, students have opportunities for honors study and activities through membership in the University of Iowa Honors Program. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not required to earn honors in the microbiology major.

## Career Advancement

Graduates find employment opportunities in government, hospitals, public health laboratories, research laboratories, and industrial laboratories (food, dairy, chemical, pharmaceutical, and biotechnology companies). Those who pursue advanced degrees have more advanced career opportunities in these same areas, with greater responsibilities and higher salaries, as well as in college and university teaching.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

**Before the third semester begins:** BIOL:1411 Foundations of Biology, CHEM:1110 Principles of Chemistry I, CHEM:1120 Principles of Chemistry II, and an approved calculus or biostatistics course.

**Before the fifth semester begins:** BIOL:1412 Diversity of Form and Function, CHEM:2210 Organic Chemistry I, MICR:2157 General Microbiology, and MICR:2158 General Microbiology Laboratory.

**Before the seventh semester begins:** seven more courses in the major and at least 90 s.h. earned toward the degree.

**Before the eighth semester begins:** another 10-12 s.h. of coursework.

**During the eighth semester:** enrollment in all remaining coursework in the major, all remaining required GE CLAS Core courses, and a sufficient number of semester hours to graduate.

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Microbiology, B.S.

- Pre-Medicine Track [p. 1896]
- Scholar Track [p. 1897]

**Pre-Medicine Track**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
MATH:1460	Calculus for the Biological Sciences <sup>b, d, e</sup>	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology <sup>b, g</sup>	4
CHEM:1120	Principles of Chemistry II	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>h</sup>		3
<b>Hours</b>		<b>14-15</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
GE CLAS Core: Historical Perspectives <sup>h</sup>		3
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>f, i</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
MICR:2157	General Microbiology <sup>g</sup>	3
MICR:2158	General Microbiology Laboratory <sup>g</sup>	2
CHEM:2220	Organic Chemistry II	3
GE CLAS Core: International and Global Issues <sup>h</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f, i</sup>		4 - 5
<b>Hours</b>		<b>15-16</b>
<b>Third Year</b>		
<b>Fall</b>		
BMB:3120	Biochemistry and Molecular Biology I	3
CHEM:2410	Organic Chemistry Laboratory	3
PHYS:1511 or PHYS:1611	College Physics I or Introductory Physics I	4
GE CLAS Core: Values and Culture <sup>h</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>f, i</sup>		4 - 5
<b>Hours</b>		<b>17-18</b>
<b>Spring</b>		
BMB:3130	Biochemistry and Molecular Biology II	3
PHYS:1612 or PHYS:1512	Introductory Physics II or College Physics II	4
Major: advanced elective course <sup>j</sup>		3

GE CLAS Core: Literary, Visual, and Performing Arts <sup>h</sup>	3
GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>f, i</sup>	4 - 5

<b>Hours</b>	<b>17-18</b>
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**Fourth Year****Fall**

Major: advanced microbiology course <sup>k</sup>	3
Major: advanced microbiology course <sup>k</sup>	3
Major: optional research	1 - 3
GE CLAS Core: Social Sciences <sup>h</sup>	3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	1

<b>Hours</b>	<b>14-16</b>
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**Spring**

Major: advanced microbiology course <sup>k</sup>	3
Major: advanced microbiology course <sup>k</sup>	4
Major: optional research	1 - 3
Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>l</sup>	

<b>Hours</b>	<b>14-16</b>
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<b>Total Hours</b>	<b>121-131</b>
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a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Fulfills a major requirement and may fulfill a GE requirement.

c Enrollment in chemistry courses requires completion of a placement exam.

d Other course options include BIOS:4120, MATH:1550, MATH:1850, STAT:3510; selecting a course that satisfies the Quantitative or Formal Reasoning GE requirement is recommended.

e Enrollment in math courses requires completion of a placement exam.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Students must earn a grade of C or higher in BIOL:1411, or in MICR:2157 and MICR:2158, in order to take more advanced Department of Microbiology and Immunology courses.

h GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

i Students who have completed four years of a single language in high school have satisfied the GE CLAS Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

j See the General Catalog for list of approved courses.

k Complete at least 13 s.h. of advanced microbiology and immunology courses (prefix MICR) numbered MICR:3147 or above, excluding MICR:3164; see the General Catalog for list of approved courses.



l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Scholar Track

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
GE CLAS Core: Sustainability <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>b, c</sup>	4
MATH:1460	Calculus for the Biological Sciences <sup>c, d, e</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4
Elective course <sup>f</sup>		1
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology <sup>c, g</sup>	4
CHEM:1120	Principles of Chemistry II	4
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
GE CLAS Core: Diversity and Inclusion <sup>h</sup>		3
Elective course <sup>f</sup>		1
<b>Hours</b>		<b>15-16</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:1412	Diversity of Form and Function	4
CHEM:2210	Organic Chemistry I	3
MICR:2157	General Microbiology <sup>g</sup>	3
MICR:2158	General Microbiology Laboratory <sup>g</sup>	2
GE CLAS Core: World Languages First Level Proficiency or elective course <sup>i</sup>		4 - 5
<b>Hours</b>		<b>16-17</b>
<b>Spring</b>		
PHYS:1400	Basic Physics	4
GE CLAS Core: Values and Culture <sup>h</sup>		3
GE CLAS Core: International and Global Issues <sup>h</sup>		3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>		4 - 5
Elective course <sup>f</sup>		2
<b>Hours</b>		<b>16-17</b>
<b>Third Year</b>		
<b>Fall</b>		
GHS:2320 or GHS:2000	Origins of Human Infectious Disease or Introduction to Global Health Studies	3
BMB:3120	Biochemistry and Molecular Biology I	3
Major: advanced microbiology course <sup>j</sup>		3

Major: advanced microbiology course <sup>j</sup>	3
GE CLAS Core: World Languages Second Level Proficiency or elective course <sup>i</sup>	4 - 5

**Hours 16-17**

### Spring

BMB:3130	Biochemistry and Molecular Biology II	3
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Major: advanced elective course <sup>k</sup>	3
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GE CLAS Core: Literary, Visual, and Performing Arts <sup>h</sup>	3
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GE CLAS Core: World Languages Fourth Level Proficiency or elective course <sup>i</sup>	4 - 5
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Elective course <sup>f</sup>	3
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**Hours 16-17**

### Fourth Year

#### Fall

Major: advanced elective course <sup>k</sup>	3
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Major: advanced microbiology course <sup>j</sup>	4
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Major: optional research	1 - 3
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GE CLAS Core: Historical Perspectives <sup>h</sup>	3
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Elective course <sup>f</sup>	2
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**Hours 13-15**

#### Spring

Major: advanced microbiology course <sup>j</sup>	4
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Major: optional research	1 - 3
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GE CLAS Core: Social Sciences <sup>h</sup>	3
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Elective course <sup>f</sup>	3
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Elective course <sup>f</sup>	3
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Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>l</sup>

**Hours 14-16**

**Total Hours 120-130**

a Sustainability must be completed by choosing a course that has been approved for Sustainability AND for one of these General Education areas: Natural Sciences; Quantitative and Formal Reasoning; Social Sciences; Historical Perspectives; International and Global Issues; Literary, Visual, and Performing Arts; or Values and Culture.

b Enrollment in chemistry courses requires completion of a placement exam.

c Fulfills a major requirement and may fulfill a GE requirement.

d Other course options include BIOS:4120, MATH:1550, MATH:1850, STAT:3510; selecting a course that satisfies the Quantitative or Formal Reasoning GE requirement is recommended.

e Enrollment in math courses requires completion of a placement exam.

f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

g Students must earn a grade of C or higher in BIOL:1411, or in MICR:2157 and MICR:2158, in order to take more advanced Department of Microbiology and Immunology courses.

h GE CLAS Core courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

i Students who have completed four years of a single language in high school have satisfied the GE CLAS

Core World Languages requirement. Enrollment in world languages courses requires a placement exam, unless enrolling in a first-semester-level course.

j Complete at least 14 s.h. of advanced microbiology and immunology courses (prefix MICR) numbered MICR:3147 or above, excluding MICR:3164; see the General Catalog for list of approved courses.

k See the General Catalog for list of approved courses.

l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Microbiology, Minor

## Requirements

The undergraduate minor in microbiology requires a minimum of 15 s.h. in Department of Microbiology and Immunology courses (prefix MICR), including 12 s.h. in courses considered advanced for the minor taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass.

Courses numbered MICR:3147 Immunology and Human Disease and above are considered advanced for the minor, excluding MICR:3164 Microbiology and Human Health.

Students may count a maximum of 2 s.h. earned in MICR:4161 Undergraduate Research in Microbiology or MICR:4171 Honors Undergraduate Research in Microbiology toward the minor. They also may count MICR:5218 Microscopy for Biomedical Research toward the minor.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Microbiology, Minor

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students must maintain a GPA of at least 2.00 in all courses for the microbiology minor and in all UI courses for the minor.		
Coursework in the microbiology minor may not be taken pass/nonpass.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CHEM:1110	Principles of Chemistry I <sup>a, b</sup>	4
<b>Hours</b>		<b>4</b>
<b>Spring</b>		
BIOL:1411	Foundations of Biology <sup>c</sup>	4
<b>Hours</b>		<b>4</b>
<b>Second Year</b>		
<b>Fall</b>		
MICR:2157	General Microbiology <sup>d</sup>	3
MICR:2158	General Microbiology Laboratory <sup>e</sup>	2
<b>Hours</b>		<b>5</b>
<b>Spring</b>		
Minor: advanced microbiology course (prefix MICR) <sup>f</sup>		3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
Minor: advanced microbiology course (prefix MICR) <sup>f</sup>		3
<b>Hours</b>		<b>3</b>

### Spring

Minor: advanced microbiology course (prefix MICR) <sup>f</sup>	3
<b>Hours</b>	<b>3</b>

### Fourth Year

#### Fall

Minor: advanced microbiology course (prefix MICR) <sup>f</sup>	3
<b>Hours</b>	<b>3</b>

**Total Hours** **25**

- a Prerequisite for BIOL:1411, which is a prerequisite for all advanced microbiology courses.
- b Enrollment in chemistry courses requires completion of a placement exam.
- c Prerequisite for all advanced microbiology courses.
- d Prerequisite with a grade of C or higher for most advanced microbiology courses.
- e Prerequisite with a grade of C or higher for advanced microbiology laboratory courses.
- f Courses numbered MICR:3147 and above are considered advanced for the minor, excluding MICR:3164.

# Microbiology, M.S.

## Learning Outcomes

Graduates will be able to:

- demonstrate detailed knowledge in their area of specialization;
- master the analytical/methodological and critical thinking skills needed to evaluate and conduct research in their areas of specialization;
- demonstrate their ability to design and conduct original research in their chosen fields of specialization;
- teach college-level courses in their areas of specialization; and
- communicate in both the written and oral form in a clear and effective manner.

## Requirements

The Master of Science program in microbiology requires a minimum of 30 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 2.80 to earn the degree. They are required to earn a minimum of 12 s.h. in microbiology courses chosen from three of the department's four subdisciplines: bacteriology, eukaryotic pathogens, immunology, and virology. They may substitute a course they have already taken (at the University of Iowa or elsewhere) for a course requirement, with the M.S. advisory committee's approval.

Additional course requirements depend on students' interests and the advice of the thesis committee. Students must write a thesis based on their own research and defend it satisfactorily in an oral examination. No more than 9 s.h. of credit for thesis research may be counted toward the 30 s.h. required for the degree.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. They should have a cumulative g.p.a. of at least 3.00 and must have completed courses in biology, chemistry (inorganic and organic), mathematics including calculus, and physics. Those admitted with deficiencies must complete the relevant course work during their first year of graduate study. Admission is determined through a review and formal vote by the faculty.

Preference is given to students applying to the Ph.D. program.

## Microbiology, Ph.D.

Graduate study in microbiology is designed to help students become highly qualified in microbiology research and teaching. Ph.D. students develop expertise in research in a specific area of microbiology and/or immunology.

Faculty members have strengths in bacteriology, eukaryotic pathogens, immunology, and virology. Areas of research include bioinformatics, cellular microbiology, molecular virology and immunology, bacterial biochemistry and physiology, bacterial and viral pathogenesis, and molecular parasitology. Working in the laboratory of their Ph.D. advisor, students learn to define and experimentally investigate scientific questions and to conduct original research in preparation for positions in academia, government, and industry.

### Learning Outcomes

Graduates will be able to:

- demonstrate detailed knowledge in their area of specialization;
- master the analytical/methodological and critical thinking skills needed to evaluate and conduct research in their areas of specialization;
- demonstrate their ability to design and conduct original research in their chosen fields of specialization;
- teach college-level courses in their areas of specialization; and
- communicate in both the written and oral form in a clear and effective manner.

### Requirements

The Doctor of Philosophy in microbiology requires a minimum of 72 s.h. of graduate credit, including at least 12 s.h. of graded coursework. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree. Qualified students interested in earning the Doctor of Medicine along with the Ph.D. may apply to the Medical Scientist Training Program [p. 1888], which offers a combined M.D./Ph.D. program.

Students have the opportunity to tailor their curriculum with courses that enhance their educational goals. They take a combination of graduate-level courses that include seminar courses.

The Ph.D. with a major in microbiology requires the following coursework.

### Core Curriculum

Code	Title	Hours
MICR:6255	Graduate Experimental Approaches to Molecular Microbiology	2
MICR:6265	Introduction to Grant Writing	2
MICR:7263	Graduate Student Research Seminar	1
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0

Additional courses offered by the Department of Microbiology and Immunology and other departments, as appropriate for each student

### Typical Two-Year Curriculum

#### First Three Semesters

Students enroll for 12 s.h. in the first three semesters and select courses from the following.

#### First Year, Fall

Code	Title	Hours
MICR:6247/ IMMU:6247	Graduate Immunology and Human Disease	4
MICR:6267	Graduate Viruses and Human Disease	4
MICR:6270	Graduate Microbial Genetics	2

#### First Year, Spring

Code	Title	Hours
MICR:6201/ IMMU:6201	Graduate Immunology	3
MICR:6240	Graduate Eukaryotic Pathogens and Human Disease	2
MICR:6259	Graduate Bacteria and Human Disease	3
MICR:6260	Graduate Bacterial Physiology and Cell Biology	2
MICR:6268	Biology and Pathogenesis of Viruses	2
MICR:7265	Topics in Virology Literature	1

### Examples of Elective Coursework

Code	Title	Hours
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	2,4
BMED:5207	Principles of Molecular and Cellular Biology	3
MMED:6220/ ACB:6220/ MPB:6220	Mechanisms of Cellular Organization	3

### Additional Requirements

#### Laboratory Rotations

Graduate students rotate through two to three different laboratories during their first academic year. The laboratory rotations are approximately ten weeks each. At the conclusion of each rotation, a student meets with the rotation mentor for an exit interview and an evaluation of the student's performance. This evaluation becomes part of the student's departmental record. The student also is required to present the research completed during the rotation in the graduate seminar course.

#### Teaching

Graduate students participate in the formal teaching activities of the department for at least two semesters. First-year students as well as students who are within a year of receiving the Ph.D. degree typically are not asked to teach. Teaching may take a variety of forms, including

tutoring, leading discussions and laboratory groups, correcting examinations, preparing teaching materials, and lecturing.

## Comprehensive Examination

The comprehensive examination is designed to measure a student's ability to write and defend a research proposal. The format of this proposal follows guidelines for research proposals outlined by major external funding agencies including the National Institutes of Health (NIH), the National Science Foundation (NSF), and the U.S. Department of Agriculture (USDA). Guidance, in the design of these proposals, is provided by the director of graduate studies and the student's comprehensive examination committee.

## Written Examination

During the spring semester of the second year, a student prepares a detailed research proposal. The topic of the research proposal is determined in collaboration with the comprehensive examination committee. A detailed guide can be found in the Graduate Program in Microbiology Graduate Student Handbook on the Department of Microbiology and Immunology website.

## Oral Examination

Questions during the oral examination may come from the examination proposal, coursework, or other general areas of microbiology. In order to pass the comprehensive examination, a student must satisfactorily defend the written research proposal and answer questions of general microbiology that are germane to the proposal or that are important for a full understanding of the proposed experiments and their interpretation.

## Final Examination

The Ph.D. thesis committee serves as an advisory body for preparation of the thesis. This committee meets with the student to review the material that is expected to be incorporated in the thesis. Although meetings of the candidate with the committee should be yearly, the candidate, thesis advisor, or the committee can request a meeting at any time. A final draft of the thesis must be given to all members of the committee two weeks before the final examination. The final examination takes the form of a seminar presented to the department. This presentation is announced according to the Graduate College policy. Questions, comments, and discussion will follow. After the seminar, the candidate meets with the committee for the final thesis defense. The Ph.D. degree is not awarded until the thesis is signed by the committee members and the department chair. In some cases, revisions may be required.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in microbiology in a combined degree program offered by the Department of Microbiology and Immunology and the Carver College of Medicine. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on

the Graduate College website. They should have a cumulative g.p.a. of at least 3.00 and have completed courses in biology, chemistry (inorganic and organic), mathematics including calculus, and physics. Those admitted with deficiencies in certain areas may be required to complete the relevant course work during their first year of graduate study.

Admission is determined through a review and formal vote by the faculty.

## Financial Support

Graduate student tuition, benefits, and a stipend are fully supported during Ph.D. training, which typically spans five years.

## Career Advancement

Graduates typically pursue research or teaching positions.

# Molecular Physiology and Biophysics

## Chair

- Kevin P. Campbell

## Executive Associate Chair

- W. Scott Moye-Rowley

**Faculty:** <https://medicine.uiowa.edu/physiology/profile>  
**Website:** <https://medicine.uiowa.edu/physiology/>

The Department of Molecular Physiology and Biophysics participates in interdisciplinary graduate programs, including the Medical Scientist Training Program [p. 1888], a combined M.D./Ph.D. program offered by the Graduate College and the Carver College of Medicine, and it provides instruction in molecular physiology and biophysics for M.D., D.D.S., and other health professions students. The department also conducts a co-op exchange, a vigorous training program that gives undergraduate students the opportunity to develop as independent researchers in preparation for graduate studies.

The department's principal research areas include cell biology, genetics, endocrinology, neuroscience, and membrane physiology and biophysics. The unifying theme is the understanding of signal transduction mechanisms involved in regulating function at the cellular and molecular levels.

## Research

Faculty research interests in the Department of Molecular Physiology and Biophysics encompass molecular and cellular endocrinology, cellular and developmental neurophysiology, and membrane structure and function. Within these, there are multiple areas of interest, including hormone receptors, reproductive endocrinology, signal transduction, regulation of gene expression, synaptic transmission, neuronal differentiation, membrane ion channels, regulation of excitability, and cardiovascular electrophysiology and regulation. Experimental models currently being investigated include rodents, yeast, *Drosophila*, and cultured cell lines from a variety of species.

## Programs

## Graduate Programs of Study

### Majors

- Master of Science in Molecular Physiology and Biophysics
- Doctor of Philosophy in Molecular Physiology and Biophysics

Students interested in doctoral studies in molecular physiology and biophysics should apply under the umbrella program in Biomedical Science [p. 1702] (select molecular physiology and biophysics subprogram). Direct applications to the M.S. and Ph.D. in molecular physiology and biophysics are not currently being considered.

## Facilities

Two floors of the Bowen Science Building are devoted to research and teaching in the Department of Molecular Physiology and Biophysics. Department faculty members also occupy laboratory facilities in the Medical Education

Research Facility, Pappajohn Biomedical Discovery Building, and the Carver Biomedical Research Building. In addition to specialized equipment in faculty research laboratories, the department provides equipment for fluorescence microscopy, isotope analysis, cell culture, and molecular biology. It also has access to the University network and the multimedia education facilities. Additional resources are available at the Hardin Library for the Health Sciences.

## Courses

## Molecular Physiology and Biophysics Courses

### MPB:4199 Research, Independent Study arr.

Recommendations: closed to molecular physiology and biophysics graduate students.

### MPB:5153 Graduate Physiology 4 s.h.

Principles of human physiology, organ systems, cell function. Offered fall semesters. Requirements: grades of C- or higher in BIOL:1411 and CHEM:2210 and CHEM:2220, and graduate standing.

### MPB:5200 Medical Physiology Online 5 s.h.

Fundamental principles of cellular membranes, muscle, sensory organs, motor neurological systems, autonomic nervous systems, cardiovascular, pulmonary, renal, gastrointestinal, endocrine, and reproductive systems; interdependence of organ systems to maintain a normal physiological state using clinical correlates as applied to humans; basic physiological principles that establish a solid foundation for future pathophysiological and pharmacological concepts. Recommendations: medical, dental, physician assistant, nurse anesthesia, physical therapy, or graduate standing.

### MPB:5201 Advanced Physiology Online 3 s.h.

Examination of cellular and organ systems of medical physiology; fundamental principles of cellular membranes including muscle, sensory organs, motor neurological systems, autonomic nervous system, cardiovascular, pulmonary, renal, gastrointestinal, endocrine, and reproductive physiology; emphasis on interdependence of organ systems to maintain a normal physiological state (homeostasis) using clinical correlates as applied to humans; basic physiological principles that establish a solid foundation for future pathophysiological and pharmacological concepts.

### MPB:5241 Neuromuscular Diseases: Case-Based Seminar 1 s.h.

### MPB:6209 Steroid Receptor Signaling 1 s.h.

Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters of even years. Same as NSCI:6209, PCOL:6209.

### MPB:6220 Mechanisms of Cellular Organization 3 s.h.

Current understanding of basic cell biological processes; key experiments that led to guiding insights; mechanisms that cells use for compartmentalization and how those mechanisms are regulated; biogenesis of major organelles (e.g., mitochondria, peroxisomes, nucleus, secretory/endocytic membrane system); functions of cytoskeleton in cell motility, organelle motility, and cell division. Prerequisites: BMB:3130. Same as ACB:6220, MMED:6220.

**MPB:6225 Growth Factor Receptor Signaling 1 s.h.**

Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Same as ACB:6225, MMED:6225, PCOL:6225.

**MPB:6226 Cell Cycle Control 1 s.h.**

Cell cycle regulation, DNA damage-dependent cell cycle regulation, redox-dependent cell cycle regulation, cellular senescence. Same as ACB:6226, MMED:6226.

**MPB:6227 Cell Fate Decisions 1 s.h.**

Cellular fate decisions including signal integration, terminal differentiation in development, mechanisms of embryonic stem cell gene regulation/cellular reprogramming, cell death paradigms, and cell death in development and cancer. Same as ACB:6227, MMED:6227.

**MPB:6265 Neuroscience Seminar 0-1 s.h.**

Research presentations. Same as ACB:6265, BIOL:6265, NSCI:6265, PSY:6265.

**MPB:6302 Research Physiology and Biophysics arr.**

Requirements: molecular physiology and biophysics graduate standing.

**MPB:7402 Thesis arr.**

Requirements: molecular physiology and biophysics Ph.D. candidacy.

**MPB:8115 Human Physiology for Dental Students 4 s.h.**

Principles of human physiology, organ systems, cell function. Offered fall semesters. Requirements: grades of C- or higher in BIOL:1411, CHEM:2210, and CHEM:2220; and D.D.S. enrollment.



# Neurology

## Chair

- George B. Richerson

**Faculty:** <https://medicine.uiowa.edu/neurology/profile>

**Website:** <https://medicine.uiowa.edu/neurology/>

Neurology is the branch of medical science concerned with diagnosis and management of disorders of the brain, spinal cord, peripheral nervous system, and muscle.

The Department of Neurology's hallmark is its history of carefully integrating patient care, scientific investigation, and the education of medical, postdoctoral, and graduate students. The department also offers research opportunities in various fields of neuroscience including neuropsychology, neuroimaging, and neuroanatomy to Ph.D. students in neuroscience and psychology.

## Research

The faculty's investigative interests center on cognitive neuroscience, degenerative diseases, cerebrovascular disease, neurogenetics, neuromuscular diseases, electrophysiological correlates of central and peripheral nervous system disease, growth factors in the nervous system, control and regulation of autonomic functions, neuro-ophthalmology, movement disorders, epilepsy, and pain management. For more information see the Department of Neurology website.

The new Iowa Center for Neurodegeneration, housed in the Department of Neurology and affiliated with the Iowa Neuroscience Institute, will concentrate on combating neurodegenerative diseases such as Alzheimer's disease, Parkinson's disease, dementia, and amyotrophic lateral sclerosis (ALS).

## M.D. Training

The department provides clinical and clinical research training to second-, third-, and fourth-year M.D. students.

## Residency

The Department of Neurology offers an active, four-year approved residency program that qualifies physician trainees for board certification in neurology. Experience in clinical electrophysiology, pediatric neurology, psychiatry, and neuropathology is part of this training.

## Courses

### Neurology Courses

**NEUR:5365 Seminar: Neuropsychology and Neuroscience** **arr.**

Clinical neuropsychology and cognitive neuroscience: cutting-edge research from scientific journals, case presentations in clinical neuropsychology, and current research. Same as NSCI:5365, PSY:5365.

**NEUR:7235 Neurobiology of Disease** **3 s.h.**

Broad, thematic understanding of disease mechanisms in neurobiological disorders. Prerequisites: ACB:6252. Same as NSCI:7235.

**NEUR:7239 Advanced Neuropsychological Assessment** **arr.**

Preparation of integrated reports on collected data; case presentations.

**NEUR:8301 Clinical Neurology** **2,4 s.h.**

Experience in clinical neurology through ward work and case-based conferences linked to required reading; focus on neurologic examination, diagnosis of neurologic problems.

**NEUR:8401 Advanced Inpatient Neurology** **2,4 s.h.**

Experience and management of patients with seizure disorders, headache, cerebrovascular diseases; conferences, clinical rounds; two weeks on each inpatient service for a total of four weeks. Prerequisites: NEUR:8301.

**NEUR:8402 Advanced Outpatient Neurology** **2,4 s.h.**

Experience in evaluation, management of patients with various neurologic diseases; four weeks in clinic patient care. Prerequisites: NEUR:8301.

**NEUR:8404 Advanced Inpatient Subinternship in Neurology** **4 s.h.**

Care of patients with acute and serious neurological diseases, management of patients with varied cerebrovascular diseases; treatment of acute brain disease, comorbid medical diseases, medical and neurological complications that occur among patients with stroke; clinical assessments of patients, writing orders and clinical notes, contribution to rounds; close communication with patients, families, and colleagues; assignment to evening calls for emergency visits and consultations.

**NEUR:8497 Research in Neurology** **arr.**

Medical research, clinical or laboratory projects; individual study.

**NEUR:8498 Neurology On Campus** **arr.**

**NEUR:8499 Neurology Off Campus** **arr.**

# Neuroscience and Pharmacology

## Chair

- Edwin "Ted" G. Abel

**Faculty:** <https://medicine.uiowa.edu/neuroscience-and-pharmacology/people>

**Website:** <https://medicine.uiowa.edu/neuroscience-and-pharmacology/>

The Department of Neuroscience and Pharmacology provides professional training for health science students and participates with other departments in educational and research activities such as the Medical Scientist Training Program [p. 1888], the Physician Scientist Training Pathway, the Molecular Medicine Program [p. 1770], the Neuroscience Program [p. 1772], the Holden Comprehensive Cancer Center, the Abboud Cardiovascular Research Center, the UI Fraternal Order of Eagles Diabetes Research Center, and the Iowa Neuroscience Institute.

The department was a pioneer in offering pharmacology to undergraduate students with little or no science background. Currently, undergraduates can enroll in PCOL:2220 Drug Use and Abuse. This course emphasizes the mechanisms of drug action and give students a background for rational decisions concerning use of drugs.

Department of Neuroscience and Pharmacology graduate study includes both didactic and research experience. Students interested in doctoral studies should apply under the umbrella program in Biomedical Science [p. 1702] (pharmacology subprogram). Qualified students may pursue the combined M.D./Ph.D. in the University's Medical Scientist Training Program.

Pre- and postdoctoral students pursue research training in all areas of neuroscience and pharmacology in the department in preparation for career opportunities in academia, government, and industry.

## Programs

### Graduate Programs of Study

#### Majors

- Master of Science in Pharmacology
- Doctor of Philosophy in Pharmacology

Students interested in doctoral studies in pharmacology should apply under the umbrella program in Biomedical Science [p. 1702] (select pharmacology subprogram). Direct applications to the M.S. and Ph.D. in pharmacology are not currently being considered.

## Courses

### Neuroscience and Pharmacology Courses

#### PCOL:2220 Drug Use and Abuse 3 s.h.

Effects of common drugs on the body and how they occur; consumer education in easy-to-understand language; basic principles of pharmacology and toxicology; drugs that work on specific systems including antibiotics, oral contraceptives, sedatives, stimulants, hallucinogens, narcotics, steroids, diabetes drugs, and cancer drugs; for students with little to no science background. Offered spring semesters. Requirements: closed to students enrolled in the Pharm.D. program. GE: Natural Sciences without Lab.

#### PCOL:3101 Pharmacology I: A Drug's Fantastic Journey 3 s.h.

Introduction to basic pharmacological principles by following a drug's journey from its site of administration to its site of elimination; common mechanisms by which drugs affect the body and mechanisms underlying drug actions on two primary body systems—nervous and cardiovascular; structured learning environment bolstered by highly interactive application sessions where students apply course material via collaborative work on problem sets/activities; for students interested in medicine, pharmacy, research, and industry. Prerequisites: (CBE:3205 or BIOL:1411) and CHEM:1110. Recommendations: additional higher-level biology and chemistry courses helpful.

#### PCOL:3102 Pharmacology II: Mechanisms of Drug Action 3 s.h.

Expansion of basic pharmacological concepts and further exploration of how they are applied to define a drug's actions on the body; students continue their exploration of the body by discussing various disorders including neuropsychiatric and immune disorders, cancer, diabetes, and microbial infections in conjunction with current treatments; structured learning environment bolstered by highly interactive discussion sessions where students learn to apply course material via collaborative work on problem sets/activities; for students interested in medicine, pharmacy, research, and industry. Prerequisites: PCOL:3101. Recommendations: additional higher-level courses in biology and chemistry helpful.

#### PCOL:4130 Drug Mechanisms and Actions 3 s.h.

Pharmacology of major drugs in use today; basic principles underlying drug action and disposition; physiology, biochemistry, and pathophysiology of specific organ systems; how various drugs impact these systems and how they treat disorders of each system; major adverse effects of drugs and how those occur; differences among drugs within each drug group. Offered spring semesters. Requirements: undergraduate biochemistry and physiology courses.

#### PCOL:4199 Undergraduate Research in Neuroscience and Pharmacology arr.

Experimental research under faculty supervision in department laboratories.

- PCOL:5130 Fundamentals of Pharmacology 3 s.h.**  
Basic pharmacological principles underlying drug absorption, distribution, and metabolism; how these processes determine drug dosing; drug receptor interactions and their quantitation; impact of genetic variation on the actions and metabolism of drugs; mechanisms of neurotransmission focusing on synthesis, release, actions, and degradation; central nervous system (CNS) pathways for major neurotransmitters; disease states involving various abnormal neurotransmitter function. Offered spring semesters.
- PCOL:5135 Principles of Pharmacology 1 s.h.**  
Basic pharmacological principles underlying drug absorption, drug distribution throughout the body, drug metabolism, and drug elimination; how these processes determine drug dosing and the means by which dosing parameters are characterized; drug receptor interactions and their quantitation. Offered spring semesters.
- PCOL:5136 Pharmacogenetics and Pharmacogenomics 1 s.h.**  
Impact of genetic variation on the actions and metabolism of drugs; database search techniques to identify variants. Offered spring semesters. Prerequisites: PCOL:5135. Recommendations: undergraduate or graduate biochemistry and/or genetics.
- PCOL:5137 Neurotransmitters 1 s.h.**  
Mechanisms of neurotransmission focusing on mechanisms of synthesis, regulation of release, mechanisms of action, means of degradation, and CNS pathways for major neurotransmitters; disease states involving various neurotransmitter systems. Offered spring semesters.
- PCOL:5204 Basic Biostatistics and Experimental Design 1 s.h.**  
Overview of theory of experimental design and data analysis in biological sciences; types of analyses available for common types of data generated in biomedical sciences; review of statistical methods used in published studies; cursory coverage of mathematical computations involved in various analytical tests. Offered fall semesters.
- PCOL:6015 Topics in Pharmacology and Neuroscience 1 s.h.**  
Recent advances in pharmacology, neuropharmacology, developmental neurobiology, neuroendocrinology, and related neurosciences.
- PCOL:6025 Topics in Cell Signaling and Cancer 1 s.h.**  
Recent advances in cell signaling mechanisms, mechanisms of cancer, cancer biology, and related sciences. Offered spring semesters.
- PCOL:6030 Topics in Cardiovascular Pharmacology 1 s.h.**  
Recent advances in cardiovascular pharmacology, metabolic pharmacology, and related sciences. Offered spring semesters.
- PCOL:6080 Pharmacology Seminar 1 s.h.**
- PCOL:6090 Graduate Research in Pharmacology arr.**
- PCOL:6099 Special Topics in Pharmacology arr.**
- PCOL:6203 Pharmacology for Graduate Students 6 s.h.**  
Pharmacology of all major drugs in use today; discussion of basic principles underlying drug actions and disposition; physiology, biochemistry, and pathophysiology of specific organ systems; how various drugs impact these systems; how drugs are used to treat disorders of each system; major adverse effects of drugs and how those occur; differences among drugs within each drug group. Offered fall semesters. Prerequisites: BMB:5243 and MPB:5153.
- PCOL:6204 Pharmacology for Health Sciences: Nurse Anesthetist 5 s.h.**  
Pharmacology of all major drugs in use today; discussion of basic principles underlying drug actions and disposition; physiology, biochemistry, and pathophysiology of specific organ systems; how various drugs impact these systems; how drugs are used to treat disorders of each system; major adverse effects of drugs and how those occur; differences among drugs within each drug group. Offered fall semesters. Prerequisites: ACB:6000 or NURS:6000. Requirements: enrollment in Anesthesia Nursing Program.
- PCOL:6207 Ion Channel Pharmacology 1 s.h.**  
Heuristic, semiquantitative approach to concepts in ion channel physiology and pharmacology; up-to-date physical principles, classification, and structure/function relationships for major voltage-gated ion channels that facilitate application of abstract concepts to physiological, pharmacological, and general biological problems. Offered spring semesters.
- PCOL:6208 G Proteins and G Protein-Coupled Receptors 1 s.h.**  
Structure and function of small molecular weight and G proteins; heteromeric G proteins and G protein-coupled receptors. Offered spring semesters of even years. Prerequisites: BMB:5243. Recommendations: MMED:6225.
- PCOL:6209 Steroid Receptor Signaling 1 s.h.**  
Structure-function relationship and genomic and nongenomic actions of the steroid hormone receptor family; basis for actions of novel new ligands on these receptors. Offered spring semesters of even years. Same as MPB:6209, NSCI:6209.
- PCOL:6210 Receptors and Cell Signaling 3 s.h.**  
Mechanisms of signaling by growth factors, cytokines and related molecules; principles of ion channel physiology and pharmacology; structure-function relationships of small molecular weight and heteromeric G proteins; G protein-coupled receptors; genomic and nongenomic actions of intracellular receptors; basis for actions of novel new ligands on intracellular receptors. Offered spring semesters.
- PCOL:6225 Growth Factor Receptor Signaling 1 s.h.**  
Mechanisms of signaling by growth factors; cytokines and related molecules that regulate cell proliferation, development, differentiation, and survival; emphasis on molecular mechanisms of signaling, relevance of these signaling processes to various human diseases. Same as ACB:6225, MMED:6225, MPB:6225.
- PCOL:6250 Advanced Problem Solving in Pharmacological Sciences 1 s.h.**  
Discussion of methodologies, strategies, and approaches commonly used to solve pharmacological sciences problems; use of interpersonal problem-solving skills to develop experimental study plans for solving contemporary scientific problems in pharmacology. Offered fall and spring semesters.

# Neurosurgery

## Chair

- Matthew A. Howard

**Faculty:** <https://medicine.uiowa.edu/neurosurgery/profile/>

**Website:** <https://medicine.uiowa.edu/neurosurgery/>

The Department of Neurosurgery provides an experience oriented toward patient care and basic research concerning diseases and physiology of the nervous system. Students develop awareness of neurosurgery's role in treating head and spine trauma, vascular disorders, brain and spinal cord tumors, pain and peripheral nerve abnormalities, degenerative spine pathology, and surgical treatment of epilepsy and movement disorders.

Clinical courses are designed around patient-centered discussions interwoven with operating room experiences. Lectures and conferences are scheduled on specific topics.

## Faculty

Neurosurgery faculty strengths are centered in physiology of spinal cord trauma, epilepsy, auditory brain function and pain, primary brain tumor genetics, central nervous system tissue culture, spinal column biomechanics, and movement disorders. The department has expertise in clinical management across the spectrum of central nervous system diseases.

## M.D. Training

The department provides third- and fourth-year M.D. students with access to special expertise in selected topics of investigation regarding the central nervous system and to a clinical course through special arrangements with the faculty.

## Facilities

Multiple, fully equipped laboratory space is available to support scientific research of the central nervous system. Faculty and technical assistance is available in all laboratories.

## Courses

Neurosurgery courses are open only to M.D. and qualified associated health sciences students.

## Neurosurgery Courses

**NSG:8401 Advanced Inpatient Subinternship in Neurosurgery** **4 s.h.**

Advanced clinical clerkship in neurological surgery; emphasis on diagnosis and operative management of surgical neurological disease.

**NSG:8497 Research in Neurological Surgery** **arr.**

Laboratory investigation of spinal cord injury, spinal column biomechanics and instrumentation, electrophysiology of pain, epilepsy and hearing, molecular genetics and physiology of brain tumors.

**NSG:8498 Neurosurgery On Campus** **arr.**

Clinical clerkship; individually arranged by student with departmental approval.

**NSG:8499 Neurosurgery Off Campus** **arr.**

Arranged by student with department approval.

# Nuclear Medicine Technology

## Director

- Anthony W. Knight

## Director, Medical

- Yusuf Menda

## Director, Technical

- Daniel Petersen

**Undergraduate major:** nuclear medicine technology (B.S.)

**Website:** <https://medicine.uiowa.edu/radsci/programs/nuclear-medicine-technology>

Nuclear medicine technologists are professionals in a medical specialty that uses radioactive tracers for diagnostic, therapeutic, and research purposes. Technologists generally are employed in hospitals and clinics. They work hand-in-hand with nuclear medicine physicians, health physicists, radiopharmacists, and radiochemists as an integral part of a highly trained specialty team.

In addition to using sophisticated detectors and computers to trace the movement and localization of radioactive tracers in the human body, nuclear medicine technologists have responsibilities that include radiation safety, quality control testing, radiopharmaceutical preparation and administration, and general patient care.

The Nuclear Medicine Technology Program is fully accredited by the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT). Nuclear medicine technology is one of two undergraduate majors in the field of medical imaging offered by the Carver College of Medicine. Students interested in radiologic technology, computed tomography, magnetic resonance imaging, cardiovascular interventional radiology, diagnostic medical sonography, or radiation therapy may complete the major in radiation sciences; see Radiation Sciences [p. 1949] in the Catalog.

The Carver College of Medicine is located on the University of Iowa health sciences campus, which includes University of Iowa Hospitals & Clinics, one of the nation's largest university-owned teaching hospitals. For information about the college's academic programs and resources, see Carver College of Medicine [p. 1830] in the Catalog.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Nuclear Medicine Technology (Bachelor of Science) [p. 1911]

## Courses

### Nuclear Medicine Technology Courses

#### **RSNM:3120 Fundamentals of Nuclear Medicine and PET** 3 s.h.

Introduction to medical specialty of nuclear medicine and molecular imaging; basic theories of radiation protection, radiation physics and nuclear medicine instrumentation, radiopharmacy, nuclear medicine and positron emission tomography (PET) clinical procedures, professional standards of nuclear medicine technologist. Requirements: Nuclear Medicine Technology Program enrollment.

#### **RSNM:3121 Nuclear Medicine Technology Clinical Internship I** 3 s.h.

Hands-on clinical experience working with patients and performing routine nuclear medicine diagnostic imaging procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

#### **RSNM:3131 Radiopharmaceuticals** 3 s.h.

Introduction to radiopharmaceuticals; emphasis on physical, chemical, and biologic properties and their clinical use; fundamental aspects of radiopharmaceuticals including characteristics, preparation, quality control, and clinical use. Requirements: Nuclear Medicine Technology Program enrollment.

#### **RSNM:3220 Nuclear Medicine and PET Clinical Procedures** 3 s.h.

Proper execution of nuclear medicine and PET procedures from a technical point of view; published protocols and procedures specific to the University of Iowa Hospitals & Clinics; routine set up, common errors, artifact identification, computer processing protocols, and patient care concerns identified for each procedure; review of human anatomy, physiology, and pathology germane to understanding and proper execution of nuclear medicine procedures. Requirements: Nuclear Medicine Technology Program enrollment.

#### **RSNM:3221 Nuclear Medicine Technology Clinical Internship II** 3 s.h.

Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

#### **RSNM:3231 Nuclear Medicine Instrumentation** 3 s.h.

Instruments used in medical imaging to generate and detect ionizing radiation (i.e., SPECT/CT and PET/CT scanners, dose calibrators, well counters, survey meters); focus on instrument quality control testing. Requirements: Nuclear Medicine Technology Program enrollment.

#### **RSNM:3321 Nuclear Medicine Technology Clinical Internship III** 6 s.h.

Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

**RSNM:4121 Nuclear Medicine Technology Clinical Internship IV** **4 s.h.**

Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

**RSNM:4221 Nuclear Medicine Technology Clinical Internship V** **4 s.h.**

Progressive responsibility working with patients and performing nuclear medicine and PET clinical procedures under direct supervision of qualified clinical instructors. Requirements: Nuclear Medicine Technology Program enrollment.

**RSNM:4222 Nuclear Medicine Technology Capstone and Certification Exam Preparation** **6 s.h.**

Students in final semester of program work together to organize and deliver capstone and certification exam preparation course; review of specific topics and oral presentations by each student; preparation and distribution of detailed written outlines of exam content; series of content-specific quizzes, midterm, and final "Mock Board" exam to evaluate student learning and preparedness for taking the NMTCB and ARRT national certification exams; preparation and submission of capstone portfolios that provide evidence of scholarly and professional progress. Requirements: Nuclear Medicine Technology Program enrollment.

# Nuclear Medicine Technology, B.S.

Undergraduate study in nuclear medicine technology is guided by the academic rules and procedures outlined under Undergraduate Rules and Procedures [p. 1831] in the Carver College of Medicine section of the Catalog.

## Requirements

The Bachelor of Science with a major in nuclear medicine technology requires a minimum of 120 s.h. of credit. Work for the degree includes a set of courses that are prerequisite to entering the major, 61 s.h. of coursework in the major, and elective coursework sufficient to complete the minimum of 120 s.h. required for graduation. Students must maintain a cumulative g.p.a. of at least 2.00 and a grade of C or higher in each course required for the major (61 s.h.).

Students who plan to complete all requirements for the degree at the University of Iowa enter the University as students in the College of Liberal Arts and Sciences (CLAS) with a nuclear medicine technology interest. As CLAS students, they complete the coursework that is prerequisite to entering the major.

Admission to the major is competitive; the program accepts a maximum of eight students per year. Students must apply to the major by January 15 of the year in which they wish to enter the program. Personal interviews with qualified applicants are scheduled in February, and the class is selected by March 15. The program begins the following fall semester and lasts two years.

Applicants for admission to the University of Iowa whose first language is not English are strongly encouraged to complete the University of Iowa English Proficiency Evaluation and satisfy the University's English Proficiency Requirements before they apply to a professional program. Students must have permission to register for a full academic load before they may be admitted to the Nuclear Medicine Technology Program.

The nuclear medicine technology major requires students to complete a minimum of two years of a high school world language, or college-level coursework deemed by the University as equivalent, prior to admission.

Students who are admitted to the major become Carver College of Medicine students. Upon completing the program successfully, they are granted a Bachelor of Science degree. Graduates are eligible to apply for the nuclear medicine technology national certification examinations.

The program strongly advises students entering the University to pursue a course of study that is applicable to another major, most commonly biochemistry, biology, chemistry, or microbiology, so that if they are not admitted to the Nuclear Medicine Technology Program, they still may complete a major and receive a bachelor's degree.

The Bachelor of Science with a major in nuclear medicine technology requires the following work.

## Prerequisites to the Nuclear Medicine Technology Major

Students must complete the following prerequisite courses and must have earned 60 s.h. of college credit with a

cumulative g.p.a. of at least 2.50 before they may enter the nuclear medicine technology major. In addition to providing a foundation for the major, the prerequisite courses are good preparation for other majors.

## Rhetoric

Code	Title	Hours
RHET:1030	Rhetoric	4-5

## Culture, Society, and the Arts

See GE CLAS Core [p. 20] (College of Liberal Arts and Sciences) in the Catalog for approved courses in the culture, society, and the arts areas.

Students complete two courses for 3 s.h. each in two of these areas (total of 6 s.h.).

- Diversity and Inclusion approved coursework.
- Historical Perspectives approved coursework.
- International and Global Issues approved coursework.
- Literary, Visual, and Performing Arts approved coursework.
- Values and Culture approved coursework.

## Mathematics

Code	Title	Hours
One of these:		
MATH:1020	Elementary Functions	4
MATH:1440	Mathematics for the Biological Sciences	4

A more advanced mathematics course

## Introductory Chemistry with Laboratory

Code	Title	Hours
This course:		
CHEM:1110	Principles of Chemistry I	4

## Introductory Physics

Code	Title	Hours
One of these:		
PHYS:1400	Basic Physics	3-4
PHYS:1511	College Physics I	4

## Psychology

Code	Title	Hours
This course:		
PSY:1001	Elementary Psychology	3

## Medical Terminology

Code	Title	Hours
This course:		
CLSA:3750	Medical and Technical Terminology	2

## Anatomy with Laboratory

Code	Title	Hours
One of these options:		
ACB:3110 & HHP:1110	Principles of Human Anatomy - Human Anatomy Laboratory	4

HHP:1100 & HHP:1110	Human Anatomy - Human Anatomy Laboratory	4
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:3115	Anatomy for Human Physiology with Lab	5

## Physiology with Laboratory

Code	Title	Hours
One of these options:		
HHP:1300 & HHP:1310	Fundamentals of Human Physiology - Human Physiology Laboratory	4
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3500 & HHP:1310	Human Physiology - Human Physiology Laboratory	4
HHP:3550	Human Physiology with Laboratory	5

## Recommended Pre-Major Courses

The Nuclear Medicine Technology Program strongly recommends that students who intend to apply to the major take the following coursework in addition to the required prerequisite courses listed above.

Code	Title	Hours
Both of these:		
CHEM:1120	Principles of Chemistry II	4
RSP:1100	Introduction to the Radiation Sciences	1
One of these:		
BIOL:1140	Human Biology: Nonmajors	4
BIOL:1411	Foundations of Biology	4
HHP:1400	Human Anatomy and Physiology	3
One of these:		
STAT:1020	Elementary Statistics and Inference	3
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3
One of these:		
BAIS:1500	Business Computing Essentials	2
CS:1020	Principles of Computing	3

Prospective students are encouraged to consult the Nuclear Medicine Technology Program office to plan an appropriate pre-major program of study.

## Coursework in the Major

Students admitted to the nuclear medicine technology major spend two years in a clinical curriculum that is organized in accordance with the Joint Review Committee on Educational Programs in Nuclear Medicine Technology (JRCNMT) Accreditation Standards for Nuclear Medicine Technologist Education. They complete coursework in the following areas: radiopharmacy, radiation safety and radiobiology, patient care, nuclear medicine and positron emission tomography (PET) procedures, radiation physics and instrumentation, administration and management, medical and professional ethics, research methodology, and computed tomography

(CT). Practical clinical rotations focus on nuclear medicine, PET and CT imaging, nuclear medicine therapy, clinical radiopharmacy, nuclear medicine computer applications, and quantification of radioactivity in vivo and in vitro.

Students must earn a grade of C or higher in each course required for the major.

The following coursework is required.

Code	Title	Hours
RSNM:3120	Fundamentals of Nuclear Medicine and PET	3
RSNM:3121	Nuclear Medicine Technology Clinical Internship I	3
RSNM:3131	Radiopharmaceuticals	3
RSNM:3220	Nuclear Medicine and PET Clinical Procedures	3
RSNM:3221	Nuclear Medicine Technology Clinical Internship II	3
RSNM:3231	Nuclear Medicine Instrumentation	3
RSNM:3321	Nuclear Medicine Technology Clinical Internship III	6
RSNM:4121	Nuclear Medicine Technology Clinical Internship IV	4
RSNM:4221	Nuclear Medicine Technology Clinical Internship V	4
RSNM:4222	Nuclear Medicine Technology Capstone and Certification Exam Preparation	6
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSCT:4120	Computed Tomography Procedures I	4
RSCT:4130	Computed Tomography Physical Principles and QC	4
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3

<b>Total Hours</b>	<b>61</b>
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## Career Advancement

The Nuclear Medicine Technology Program has a stellar record of job placement. Graduates typically work as nuclear medicine technologists, beginning as entry-level staff at hospitals or clinics. With experience, many earn advanced degrees in areas such as radiation biology, health physics, or medicine. Some work in the private sector as sales or marketing specialists in nuclear medicine.



Graduates also find career opportunities in education as instructors, coordinators, or program directors; and in administration, industry, or research and development. Those pursuing government-related jobs might find positions as regulatory agency inspectors or radiation safety officers. See the Occupational Outlook Handbook for nuclear medicine technologists on the United States Department of Labor Bureau of Labor Statistics website for career information and outlook.

The Pomerantz Career Center offers multiple resources to help students find internships and jobs.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Nuclear Medicine Technology, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Nuclear Medicine Technology B.S. program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
Students must earn a grade of C or higher in all RS** courses.		
The Nuclear Medicine Technology professional program is two years in duration.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Recommended: health care experience (e.g. CNA), job shadowing in nuclear medicine and PET		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RHET:1030	Rhetoric	4
BIOL:1140 or HHP:1400	Human Biology: Nonmajors <sup>b</sup> or Human Anatomy and Physiology	3 - 4
PSY:1001	Elementary Psychology	3
RSP:1100	Introduction to the Radiation Sciences <sup>c</sup>	1
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
Admission Application: students may be eligible to apply for early acceptance (due January 15) <sup>e</sup>		
<b>Hours</b>		<b>14-15</b>
<b>Spring</b>		
Human Anatomy and Lab <sup>f</sup>		
CLSA:3750	Medical and Technical Terminology	2
MATH:1440 or MATH:1020	Mathematics for the Biological Sciences <sup>g</sup> or Elementary Functions	4
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
Elective course		2
<b>Hours</b>		<b>15-16</b>

### Second Year

#### Fall

CHEM:1110	Principles of Chemistry I <sup>h</sup>	4
PHYS:1400 or PHYS:1511	Basic Physics or College Physics I	3 - 4
BAIS:1500 or CS:1020	Business Computing Essentials <sup>c</sup> or Principles of Computing	2 - 3
Elective course		3
Elective course		2
Admission Application: begin preparing materials for NMT program application (due January 15) <sup>e</sup>		
<b>Hours</b>		<b>14-16</b>

#### Spring

CHEM:1120	Principles of Chemistry II <sup>c</sup>	4
STAT:3510 or STAT:4143 or STAT:1020	Biostatistics <sup>c</sup> or Introduction to Statistical Methods or Elementary Statistics and Inference	3
Human Physiology and Lab <sup>i</sup>		4 - 5
Elective course		3
Elective course		2
<b>Hours</b>		<b>16-17</b>

### Third Year

#### Any Semester

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Nuclear Medicine Technology Professional Program.

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RSNM:3120	Fundamentals of Nuclear Medicine and PET	3
RSNM:3121	Nuclear Medicine Technology Clinical Internship I	3
RSNM:3131	Radiopharmaceuticals	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:2120	Patient Care for the Radiation Sciences	3
<b>Hours</b>		<b>14</b>
<b>Spring</b>		
RSNM:3220	Nuclear Medicine and PET Clinical Procedures	3
RSNM:3221	Nuclear Medicine Technology Clinical Internship II	3
RSNM:3231	Nuclear Medicine Instrumentation	3
RSP:3210	Medical Ethics and Law	2
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
<b>Hours</b>		<b>14</b>
<b>Summer</b>		
RSNM:3321	Nuclear Medicine Technology Clinical Internship III	6
<b>Hours</b>		<b>6</b>
<b>Fourth Year</b>		
<b>Fall</b>		
RSNM:4121	Nuclear Medicine Technology Clinical Internship IV	4

RSP:4110	Research Methodology for Radiation Sciences	3
RSCT:4130	Computed Tomography Physical Principles and QC	4
RSCT:4120	Computed Tomography Procedures I	4
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
RSNM:4221	Nuclear Medicine Technology Clinical Internship V	4
RSNM:4222	Nuclear Medicine Technology Capstone and Certification Exam Preparation	6
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
Exam: Upon completion of the program students are eligible to apply to take certification exams.		
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		
<b>Hours</b>		<b>12</b>
<b>Total Hours</b>		<b>120-125</b>

- a The Academic Advising Center advises Nuclear Medicine Technology Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than two years to complete.
- b One of these courses is strongly recommended to prepare for the anatomy and physiology courses.
- c This course is recommended not required.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- f Choose from: HHP:1150, HHP:3115, HHP:1100 and HHP:1110, ACB:3110 and HHP:1110.
- g Enrollment in math courses requires completion of a placement exam.
- h Enrollment in chemistry courses requires completion of a placement exam.
- i Choose from: HHP:1350, HHP:3550, HHP:1300 and HHP:1310, HHP:3500 and HHP:1310.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Obstetrics and Gynecology

## Interim Chair

- Brad VanVoorhis

**Professional degree:** M.M.

**Faculty:** <https://medicine.uiowa.edu/obgyn/profile?appointment=PRIMARY&category=&query=&page=1&size=10>

**Website:** <https://medicine.uiowa.edu/obgyn/>

Faculty in the Department of Obstetrics and Gynecology contribute to a wide spectrum of educational programs. A six-week core clerkship is taken by all Carver College of Medicine medical students. Subinternships are offered in high risk obstetrics (maternal fetal medicine) and gynecologic oncology. Advanced electives are offered in reproductive endocrinology and infertility, family planning, night float, and urogynecology. Approximately 12 physician assistant (PA) students also complete a one month rotation within the department as part of their training.

The Accreditation Council for Graduate Medical Education (ACGME) accredited fellowship programs are urogyn (urogynecology), gynecologic oncology, maternal fetal medicine (high risk obstetrics), and reproductive endocrinology and infertility.

## M.D. Training

Courses supported by the Department of Obstetrics and Gynecology are designed to give medical students a comprehensive survey of female reproductive medicine. This is accomplished through a variety of didactic lectures, outpatient clinical assignments, inpatient experiences, and surgery.

The clerkship OBG:8301 Clinical Obstetrics and Gynecology supports students in developing the core knowledge, skills, and attitudes needed to provide basic obstetric, gynecology, and/or primary health care to female patients.

The department offers medical students a variety of advanced electives that provide training in specialty areas of obstetrics and gynecology.

## Residency

The department also offers a four-year obstetrics and gynecology residency. Upon completion, graduates are eligible to register and take the written and oral examinations leading to certification by the American Board of Obstetrics and Gynecology.

Residents are assigned to the various subspecialty divisions and clinical services of the department. They care for hospital inpatients and outpatients with training in normal and abnormal obstetrics, gynecologic surgery, office gynecology, ultrasound, reproductive endocrinology, gynecologic oncology, urogynecology, and family planning, as well as a variety of minimally invasive and endoscopic procedures.

## Courses

### Obstetrics and Gynecology Courses

#### **OBG:8301 Clinical Obstetrics and Gynecology arr.**

Proficiency in evaluation and management of core women's health care relating to reproductive tract; history taking, physical examination, laboratory and imaging assessment of obstetric and/or gynecological patients; application of current concepts to well women's health care and to management of diseases and pathologies; outpatient and inpatient obstetrics and gynecology; family planning, screening, and early detection of cancer and other diseases.

#### **OBG:8401 Advanced Inpatient Subinternship in High Risk Antepartum Obstetrics arr.**

Experience in evaluating new patients in a high-risk obstetric clinic; continuing antepartum care; ordering diagnostic studies and following the course of complicated patients admitted to obstetric ward; assisting in diagnostic and therapeutic procedures (e.g., fetal heart rate testing, amniocentesis, ultrasonography, intrauterine fetal transfusion).

#### **OBG:8402 Advanced Inpatient Subinternship in Gynecologic Oncology arr.**

Experience on a gynecologic oncology service, including operating room, inpatient and outpatient care; team management approach to gynecologic cancer patients, treatment and follow-up of invasive gynecologic malignancies, etiology and risk factors for gynecologic neoplasias, pre- and postoperative evaluation and treatment of surgical management of gynecologic neoplasia.

#### **OBG:8403 Reproductive Endocrinology arr.**

Experience evaluating new and returning patients in the Reproductive Endocrinology and Infertility Clinic; participation in preoperative, operative, and inpatient postoperative care; advanced gynecologic ultrasonography and in vitro fertilization services.

#### **OBG:8405 Urogynecology Advanced Elective 4 s.h.**

Experience as active member of urogynecology clinical team, participating in clinical care activities including outpatient clinic, outpatient procedures, inpatient surgery, hospital care; presentation to team on topic chosen by student.

#### **OBG:8407 Family Planning 4 s.h.**

Experience with family planning clinical activities at several different local sites, including outpatient procedures. Requirements: M.D. enrollment.

#### **OBG:8409 Obstetrics and Gynecology Night Float 4 s.h.**

Four week rotation; students are paired with a night resident with primary responsibility for inpatients on gynecology services; when not actively engaged, students participate in resident team work on labor/delivery/recovery (LDR), gaining obstetrics (OB) procedural competency as well as assisting with management of inpatients and consultations as delegated by night chief and/or staff call physician; students and night resident generally perform initial assessment of emergency department or inpatient consults/admissions under immediate supervision of the fellow and/or faculty; students carry out plans discussed at evening sign-out for inpatient gynecology services. Requirements: M.D. enrollment.

**OBG:8450 Continuity of Care in Outpatient Obstetrics and Gynecology 4 s.h.**

Experience with gynecologist in longitudinal clinical experience for the academic year; students paired with faculty member to see patients in weekly clinic and provide clinical care to defined patient population.

**OBG:8497 Research in Obstetrics and Gynecology arr.**

Medical research, clinical or laboratory projects; individual study.

**OBG:8498 Obstetrics and Gynecology On Campus arr.**

**OBG:8499 Obstetrics and Gynecology Off Campus arr.**

# Master of Midwifery, M.M.

## Requirements

*More information related to the new professional Master of Midwifery (M.M.) program of study will be forthcoming. Students can contact the director with inquiries.*

# Ophthalmology and Visual Sciences

## Chair

- Keith D. Carter

**Professional certificate:** orthoptics

**Faculty:** <https://medicine.uiowa.edu/eye/people/>

**Website:** <https://medicine.uiowa.edu/eye/>

Ophthalmology is a medical and surgical specialty concerned with the diagnosis and treatment of diseases of the eye and its surrounding structures. The Department of Ophthalmology and Visual Sciences combines postgraduate training with research and patient care in all aspects of the visual sciences. Subspecialties represented in the department include cataract surgery, comprehensive ophthalmology, cornea and external diseases, contact lens and refraction services, genetics and molecular biology, glaucoma, laser refractive surgery, neuro-ophthalmology, oculoplastic surgery, ocular echography, ocular pathology, ocular vascular diseases, optometric services, pediatric ophthalmology and adult strabismus, vitreoretinal disorders, and vision rehabilitation.

## Continuing Education

The department sponsors clinical conferences open to community ophthalmologists in Iowa and surrounding states where physicians can earn continuing medical education credits. The department also sponsors an annual alumni meeting with participation by nationally and internationally recognized ophthalmologists and vision scientists.

## Programs

### Professional Program of Study

#### Certificate

- Certificate in Orthoptics [p. 1919]

## M.D. Training

### M.D. Student Training, Graduate Education

The department offers clinical and research training to M.D. students. A three-year residency program with clinical experience in the ophthalmic subspecialties is offered to physician trainees. Graduates qualify for the written and oral examinations leading to certification by the American Board of Ophthalmology. Postgraduate fellowships of one to two years are available for qualified ophthalmologists in most subspecialty areas.

## Facilities

The department maintains research laboratories for cell biology, biochemistry, morphology, tumor diagnosis, pathology, electrophysiology, pupillography, molecular biology, and vascular disease. Clinical facilities in ophthalmology are available at University of Iowa Hospitals & Clinics in the Pomerantz Family Pavilion, the University of Iowa Stead Family Children's Hospital in the Pediatric Specialty Clinic, the Iowa River Landing, the VA Iowa City Health

Care, and the VA Central Iowa Health Care in Des Moines. The department also manages outreach programs in other communities. The John and Marcia Carver Nonprofit Genetic Testing Laboratory, dedicated to providing affordable testing for rare eye diseases, is associated with the department.

## Courses

### Ophthalmology and Visual Sciences Courses

<b>OPHT:8301 Clinical Ophthalmology</b>	<b>2 s.h.</b>
All aspects of clinical ophthalmology; clinical experience, lectures, case presentations; clinical duties with staff, residents, and faculty in University of Iowa Hospitals & Clinics and VA Iowa City Health Care ophthalmology clinics. Requirements: M.D. enrollment.	
<b>OPHT:8401 Cornea and Anterior Segment of the Eye</b>	<b>4 s.h.</b>
Common diseases of eyelid, conjunctiva, and cornea.	
<b>OPHT:8402 Elective in Neuro-Ophthalmology</b>	<b>4 s.h.</b>
Visual, ocular motor dysfunction due to neurologic disease; patient work-up, readings, neuro-ophthalmology rounds.	
<b>OPHT:8403 Molecular Ophthalmology</b>	<b>4 s.h.</b>
Use of recombinant DNA, tissue culture, protein electrophoresis in study of inherited eye diseases.	
<b>OPHT:8404 Elective in Ocular Pathology</b>	<b>4 s.h.</b>
Pathophysiology of eye disease.	
<b>OPHT:8405 Advanced Ophthalmology - Veterans Affairs</b>	<b>4 s.h.</b>
Opportunity for in-depth clinical experience in assessment and management of ophthalmology patients; students serve on the VA Iowa City Health Care ophthalmology team and see outpatients and emergency room visits alongside residents and faculty.	
<b>OPHT:8406 Plastic and Reconstructive Surgery</b>	<b>4 s.h.</b>
Topics in ophthalmic plastic and reconstructive surgery.	
<b>OPHT:8497 Research in Ophthalmology</b>	<b>arr.</b>
Medical research, clinical or laboratory projects; individual study.	
<b>OPHT:8498 Ophthalmology On Campus</b>	<b>arr.</b>
<b>OPHT:8499 Ophthalmology Off Campus</b>	<b>arr.</b>

# Orthoptics, Professional Certificate

## Requirements

The professional Certificate in Orthoptics is a postgraduate certificate program. The orthoptic fellowship is offered by the Department of Ophthalmology and Visual Sciences. A prerequisite baccalaureate degree is required for application.

Orthoptics is an allied health profession and clinical science pertaining to the study of eye movements, visual function, and binocular cooperation. An orthoptist is an eye muscle specialist who works under the supervision of an ophthalmologist.

The majority of the 24-month training period is spent in a clinical setting. At the completion of the training period, candidates take written and practical board examinations administered by the American Orthoptic Council.

The first four to six weeks are spent reviewing general anatomy and physiology, and learning the basic anatomy, physiology, and terminology of the eye. Students are introduced to patient examination initially by observation of physicians and orthoptists, and gradually build up their exam skills as each new technique is learned. Over the first six months, optics and principles of strabismus (eye misalignment) and amblyopia (lazy eye) are taught in depth.

In the second six months of training, students expand their knowledge of basic orthoptic and ophthalmologic principles and apply them to a more complete patient examination and diagnostic skills.

The remaining months are spent examining patients in clinic, mastering examination techniques, and differential diagnosis as well as becoming proficient in the interpretation of diagnostic tests. At this stage, orthoptic students participate in the prescription of specific types of nonsurgical therapy. Each week, time is reserved for ophthalmic and orthoptic lectures, personal study time, or testing.

Contact the Department of Ophthalmology and Visual Sciences for information about the Certificate in Orthoptics.

# Orthopedics and Rehabilitation

## Chair

- J. Lawrence Marsh

**Graduate degree:** M.S. in athletic training

**Faculty:** <https://medicine.uiowa.edu/orthopedics/leadership>

**Website:** <https://medicine.uiowa.edu/orthopedics/>

The Department of Orthopedics and Rehabilitation offers a Master of Science degree in athletic training as well as a training program for residents. The department offers multiple education programs that include medical student education, orthopedic resident education, postgraduate education, and graduate athletic trainer education.

## Programs

### Graduate Program of Study

#### Major

- Master of Science in Athletic Training [p. 1924]

## Residency

The department offers a five-year integrated clinical program for postgraduate trainees, in which interns and residents participate simultaneously in inpatient and outpatient care, surgery, and sciences related to the neuromusculoskeletal system.

Trainees enter this program directly from medical school through the National Residency Matching Program.

During the first year, trainees gain experience not only in clinical orthopedics but also in surgical specialties, intensive care, radiology, and surgical skills.

During years two through five, residents gain experience in the diagnosis and management of adult and pediatric orthopedic disorders, including joint reconstruction; trauma, including multisystem trauma; surgery of the spine, including disk surgery, spinal trauma and deformities; hand and foot surgeries; athletic injuries and orthopedic rehabilitation; orthopedic oncology, including metastatic disease; and amputations as well as post-amputation care and nonoperative outpatient diagnosis and care, including all orthopedic anatomic areas.

## Facilities

The Department of Orthopedics and Rehabilitation is housed in the John Pappajohn Pavilion of University of Iowa Hospitals & Clinics and has an active service in the VA Iowa City Health Care. The department's facilities include 48 orthopedic beds, ten outpatient clinics, inpatient and outpatient operating rooms, a specialty library, a specialty radiology unit, and physical therapy and rehabilitation facilities. Its specialty clinics deal with virtually every orthopedic disorder known, including, but not limited to scoliosis, club feet, congenital dislocated hip, neuromuscular disease, metabolic disease, amputation, neoplasm, trauma, and neck, back, hip, foot, knee, and hand problems. Physicians in the outpatient clinic see approximately 280 patients per day and over

70,000 patients per year. Approximately 7,000 surgeries are performed each year.

The department's Sports Medicine Clinic provides MRI, X-ray, and physical therapy services, and a full range of nonoperative orthopedic ambulatory care services.

## Laboratories

The orthopedics laboratories deal with problems in these major subject areas.

### Biochemistry

The biochemistry of proteoglycans, collagens, and matrix proteins, both normal and altered in musculoskeletal disorders.

### Biomechanics

Problems of the upper extremity; biomechanics of the spine, hip, and gait; total joint replacements (in conjunction with the College of Engineering [p. 1539]).

### Bone Healing

Provides research toward better ways to heal bones.

### Cell and Molecular Biology

Studies of normal bone, cartilage, tendon, muscle, and tissues altered by experiment and disease.

## Courses

- Orthopedics and Rehabilitation Courses [p. 1920]
- Athletic Training Courses [p. 1921]

## Orthopedics and Rehabilitation Courses

<b>ORTH:8301 Clinical Orthopedics</b>	<b>arr.</b>
<b>ORTH:8401 Advanced Clinical Orthopedics</b>	<b>2,4 s.h.</b>
Requirements: fourth-year M.D. enrollment.	
<b>ORTH:8402 Advanced Inpatient Subinternship in Orthopedics: Trauma</b>	<b>4 s.h.</b>
Requirements: fourth-year M.D. enrollment.	
<b>ORTH:8403 Advanced Inpatient Subinternship in Orthopedics: Adult Hip/Knee Reconstruction</b>	<b>4 s.h.</b>
Opportunity to enhance clinical skills by taking intern-level responsibility for management of a limited number of orthopedic patients; proficiency in perioperative patient assessment and management, including assisting in procedures and using laboratory diagnosis and radiologic studies pertinent to one faculty member's clinical practice.	
<b>ORTH:8404 Introduction to Physical Medicine and Rehabilitation</b>	<b>2 s.h.</b>
Management of a wide range of common acute and chronic neuro-musculoskeletal pain conditions (shoulder, back, knee pain) to more devastating neuromuscular injuries (spinal cord injuries, brain injury, strokes, amputations). Requirements: M.D. enrollment.	



**ORTH:8405 Advanced Physical Medicine and Rehabilitation****4 s.h.**

Management of a wide range of common acute and chronic neuro-musculoskeletal pain conditions (shoulder, back, or knee pain) to more devastating neuromuscular injuries (spinal cord injuries, brain injury, strokes, amputations); students work-up individual patients in outpatient clinics and perform inpatient consultations at subintern level. Prerequisites: ORTH:8404. Requirements: M.D. enrollment.

**ORTH:8406 Physical Medicine and Rehabilitation Acute Inpatient Rehab, Cedar Rapids****2 s.h.**

Physical medicine and rehabilitation clerkship; participation in daily clinical activities including inpatient rounds, interdisciplinary team meetings, observing a variety of therapy sessions, and inpatient consults.

**ORTH:8407 Orthopedics: Adult Hip/Knee Reconstruction****4 s.h.**

Development of in-depth skill in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8408 Orthopedics: Trauma****4 s.h.**

Development of in-depth skills in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8409 Orthopedics: Pediatrics****4 s.h.**

Development of in-depth skill in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8410 Orthopedics: Sports Medicine****4 s.h.**

Development of in-depth skill in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8411 Orthopedics: Hand/Wrist/Elbow****4 s.h.**

Development of in-depth skill in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8412 Orthopedics: Spine****4 s.h.**

Development of in-depth skill in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8413 Orthopedics: Oncology/Tumor****4 s.h.**

Development of in-depth skill in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8414 Orthopedics: Veterans Affairs****4 s.h.**

Participation in the Veterans Affairs service general orthopedics; development of in-depth skill in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8415 Orthopedics: Foot/Ankle****4 s.h.**

Development of in-depth skill in physical diagnosis and approach to diseases of the musculoskeletal system; increase ability to establish a differential list of problems to recommend appropriate solutions to each problem and assist in management of problem and solution.

**ORTH:8416 Physical Medicine and Rehabilitation Acute Inpatient Rehab, Iowa Rehabilitation Hospital****2 s.h.**

Physical medicine and rehabilitation clerkship; participation in daily clinical activities including inpatient rounds, interdisciplinary team meetings, observation of a variety of therapy sessions, and inpatient consults.

**ORTH:8497 Research in Orthopedics****arr.**

Medical research, clinical or laboratory projects; individual study.

**ORTH:8498 Orthopedics On Campus****arr.**

Requirements: fourth-year M.D. enrollment.

**ORTH:8499 Orthopedics Off Campus****arr.**

Requirements: fourth-year M.D. enrollment.

## Athletic Training Courses

**AT:1010 Exploring Athletic Training****1 s.h.**

Exploration of professional preparation for athletic trainers; application, career opportunities, professional organizations, awareness of basic athletic training principles; topics include emergency care, preventative strategies, injury evaluation, and rehabilitation techniques; for students interested in applying to the M.S. in athletic training program. Requirements: undergraduate major in health and human physiology or enrollment in pre-athletic training program.

**AT:1200 First Aid and CPR for Athletic Training****2 s.h.**

First aid and advanced CPR with automated external defibrillator (AED); opportunity for certification in basic life support (BLS) through the American Heart Association; satisfies the first aid and CPR requirement for athletic training program application; for declared pre-athletic training majors. Prerequisites: AT:1010 or HHP:1010.

**AT:3060 Advanced Anatomy for Athletic Training****4 s.h.**

Extremities and relevant body cavity anatomy; anatomical terminology, anatomical relationships of human body, 3D view of anatomy, clinical relevance of anatomy; basic science lectures, radiologic imaging discussions, introduction to clinically relevant anatomy, gross anatomy dissection laboratories, small group learning and teaching, and computer-assisted resources.

**AT:4000 Foundations of Athletic Training Practice****3 s.h.**

Introduction to athletic training; basic components of a prevention program; injury/illness assessment process including general injury classifications, medical terminology, and patient documentation skills; anatomical basis and technical aspects of applying clinical proficiencies relating to orthopedic applications in the care and prevention of injuries relating to physically active individuals including taping, wrapping, and pad fabrication; basic evaluation skills including goniometric measurements, manual muscle testing, and anatomical palpations.

**AT:4075 Medical Emergency Techniques 2 s.h.**

Educational competencies and clinical proficiencies; focus on emergency medical practice in athletic training using current evidence-based interventions for medical, orthopedic, and environmental emergencies; knowledge of Emergency Medical Service (EMS) system and role athletic trainers play in the acute-care process; emergency pharmacological interventions and other advanced care skills.

**AT:4125 Clinical Experience I 3 s.h.**

Integration of clinical competencies through a supervised field experience in athletic training to link theory with practice; exposure of athletic training students to real-life situations relating to evaluation and management of patient injuries/illnesses; development and application of critical thinking skills; first in a four-part series.

**AT:4200 Orthopedic Pathology and Clinical Examination I 4 s.h.**

Pathomechanics, clinical examination, diagnosis, and appropriate basic treatment plans for orthopedic injuries to the lower extremity and spine; application of theories and skill practice through real-patient interactions and documentation; surgical observation and physician interactions; first in a two-part series.

**AT:4250 Orthopedic Pathology and Clinical Examination II 4 s.h.**

Pathomechanics, clinical examination, diagnosis, and appropriate basic treatment plans for orthopedic injuries to the upper extremity, head, and C-spine; application of theories and skill practice through real-patient interactions and documentation; surgical observation and physician interactions; second in a two-part series. Prerequisites: AT:4200.

**AT:4300 Therapeutic Interventions 2 s.h.**

Introduction to theory, application, and treatment of orthopedic conditions using common therapeutic modalities; application of evidence-based research in planning, implementation, documentation, and evaluation of the efficacy of each therapeutic modality in treatment of injuries and illnesses of patients involved in physical activity; emphasis on indications, contraindications, and precautions; integration of patient-based outcome measures to aid in appropriate clinical decision making.

**AT:4375 Nutrition for Athletic Training 2 s.h.**

Interaction between nutrition, exercise, and athletic performance; biomechanical and physiological aspects of nutrition and exercise; nutrition for training and competition; impact of nutrition on healing processes, nutritional supplements, and ergogenic aids; nutritional aspects of body composition and weight control; demonstration of ability to plan and implement proper sport nutrition.

**AT:4400 Rehabilitation Techniques 3 s.h.**

Rehabilitation for athletic trainers based on theory and principles of therapeutic exercise using current evidence-based concepts; focus on pathology and mechanics of exercise therapy in treatment of musculoskeletal injuries; use of mechanical exercise equipment, stressing safety and use of proper body mechanics during exercise, as well as indications and contraindications for different exercises.

**AT:4450 Applied Rehabilitation Concepts 3 s.h.**

Functional, scientific approach to designing strength and conditioning programs for various populations; testing protocols used for measuring fitness, body composition, flexibility, strength, power, speed, and endurance; evaluation of posture and workplace ergonomics; manual therapy theory and techniques for orthopedic injuries, indications and contradictions, skill development in soft tissue assessment, application of manual and tool-assisted techniques; review of resistance training and program prescription based on literature. Prerequisites: AT:4400.

**AT:4525 Clinical Experience II 4 s.h.**

Integration of clinical competencies through a supervised field experience in athletic training to link theory with practice; exposure of athletic training students to real-life situations relating to evaluation and management of patient injuries/illnesses; development and application of critical thinking skills; second of a four-part series. Prerequisites: AT:4125.

**AT:5000 Pathology and Assessment of Non-Orthopedic Conditions 3 s.h.**

Introduction to recognition, assessment, and appropriate intervention or referral strategies for non-orthopedic conditions and disabilities; pathophysiology at cellular, organ, and total body levels applied in each organ system; systems may include cardiovascular, pulmonary, renal, dermatologic, reproductive, endocrine, neurologic, and gastrointestinal; additional topics include gender and pediatric pathology, ENT/ophthalmology, abdominal evaluation, and common contagious illnesses.

**AT:5075 Diagnostic Imaging and Lab Studies 1 s.h.**

Common diagnostic tests and radiological techniques used commonly by medical community in assessment and diagnosis of common orthopedic and non-orthopedic conditions; students gain knowledge and skills to identify anatomy, pathology, and proper terminology used by health care professionals when discussing diagnostic tests/results; coverage of multiple biological systems and organs of the human body to understand indications, contraindications, and clinical implications for each technique.

**AT:5200 Pathophysiology and Pharmacology in Sports Medicine 2 s.h.**

Pharmacologic applications for injury/illness sustained by various physically active populations; therapeutic drug classifications, indications, contraindications, interactions of medications, drug testing in sport, and relevant governing regulations; emphasis on drugs commonly used for orthopedic injuries, common conditions and illnesses, mental health and their effects on sport performance, and tissue healing.

**AT:6100 Research in Athletic Training 2 s.h.**

Identification of an athletic training problem/issue and examination through theories and research; analysis of literature and derivation of evidence-based concepts for clinical decision making and data-informed practice; use of appropriate academic writing style; differentiation between quantitative and qualitative research; critically responding to research dilemma in a way that aligns professional ethics and values; first in a two-part series.

**AT:6125 Clinical Experience III 6 s.h.**

Complete professional immersive clinical experience; integration of basic and complex clinical competencies through a supervised clinical experience in athletic training to link theory with practice; exposure of athletic training students to real-life situations relating to evaluation and management of patient injuries/illnesses; development and application of critical thinking skills; third in a four-part series. Prerequisites: AT:4525.

**AT:6200 Administration and Leadership 2 s.h.**

Overview of organization and administration of athletic training services; topics include organizational structures, human resources, information management, budget and finance, risk management, legal and ethical considerations in health care, purchasing and maintenance of equipment and facilities, and development of policies and procedures for daily operation of athletic training services.

**AT:6250 Applied Research in Athletic Training 2 s.h.**

Application of research models to athletic training topics; use of appropriate academic writing style; application of basic statistical measures to address clinical problems; continuation and completion of research projects from AT:6100; culminates with dissemination of research findings; second in a two-part series. Prerequisites: AT:6100.

**AT:6300 Psychosocial Recognition and Referral 2 s.h.**

Psychological factors relative to injury, rehabilitation, and performance; strategies for identifying problems, intervening, and making referrals especially related to psychological disorders, decreased performance, and health/substance abuse; exploration of various theories and models of cultural competence through the lens of sports medicine; students examine and analyze roles of cultural differences including cultural attitudes, beliefs, and expectations as they pertain to effective health care in diverse settings.

**AT:6400 Seminar in Athletic Training 2 s.h.**

Review of knowledge, skills, and abilities for successful pursuit of athletic training Board of Certification (BOC) credential and processes to obtain employment; résumé development and interviewing skills; emphasis on regulation of practice; professional and ethical responsibilities contributing to practice of athletic training; creation of a professional development plan.

**AT:6450 Advanced Topics in Athletic Training 1 s.h.**

Investigation and discussion of current events and advanced topics in athletic training and related health professions; evaluation of current professional and legislative issues in athletic training; discussions vary depending on current relevant topics.

**AT:6525 Clinical Experience IV 5 s.h.**

Integration of clinical competencies through a supervised clinical experience in athletic training to link theory with practice; exposure of athletic training students to real-life situations relating to evaluation and management of patient injuries/illnesses; development and application of critical thinking skills; last in a four-part series. Prerequisites: AT:6125.

# Athletic Training, M.S.

Athletic trainers are health care professionals who render service or treatment under the direction of, or in collaboration with, a physician in accordance with their education and training and the states' statutes, rules, and regulations. Services provided by athletic trainers include injury and illness prevention, wellness promotion and education, emergent care, examination and clinical diagnosis, therapeutic intervention, and rehabilitation of injuries and medical conditions.

Students who want to become certified athletic trainers may earn the M.S. degree or pursue the combined program as they earn the B.S. in exercise science and the M.S. in athletic training. See the B.S. in exercise science [p. 653] (College of Liberal Arts and Sciences) in the Catalog.

The University of Iowa is accredited by the Commission on Accreditation of Athletic Training Education (CAATE).

## Learning Outcomes

Upon graduation, students will:

- communicate effectively among health care providers, patients, and all other stakeholders in their delivery of health care;
- practice with professionalism and integrity adhering to the Code of Ethics outlined by the National Athletic Trainers' Association (NATA) and the Code of Professional Responsibility by the Board of Certification (BOC);
- demonstrate cognitive and psychomotor competence and clinical proficiency based on clinically relevant research in the following BOC Practice Analysis content areas— injury and illness prevention and wellness promotion; examination, assessment, and diagnosis; immediate and emergency care; therapeutic intervention; and health care administration and professional responsibility;
- demonstrate critical thinking to effectively solve problems in a variety of dynamic athletic training environments;
- demonstrate growth in cultural competence among health care providers, patients, and all other stakeholders in their delivery of health care; and
- demonstrate a Kaizen philosophy in their learning and professional practice.

## Requirements

The Master of Science program in athletic training requires 62 s.h. of coursework. Students must maintain a cumulative g.p.a. of at least 3.00 and must earn a grade of C-minus or higher in all major coursework.

The program involves two full years, including summer sessions, of concentrated didactic and clinical experiences that lead to eligibility for the Board of Certification examination.

The M.S. with a major in athletic training requires the following work.

Code	Title	Hours
AT:3060	Advanced Anatomy for Athletic Training	4
AT:4000	Foundations of Athletic Training Practice	3
AT:4075	Medical Emergency Techniques	2

AT:4125	Clinical Experience I	3
AT:4200	Orthopedic Pathology and Clinical Examination I	4
AT:4250	Orthopedic Pathology and Clinical Examination II	4
AT:4300	Therapeutic Interventions	2
AT:4375	Nutrition for Athletic Training	2
AT:4400	Rehabilitation Techniques	3
AT:4450	Applied Rehabilitation Concepts	3
AT:4525	Clinical Experience II	4
AT:5000	Pathology and Assessment of Non-Orthopedic Conditions	3
AT:5075	Diagnostic Imaging and Lab Studies	1
AT:5200	Pathophysiology and Pharmacology in Sports Medicine	2
AT:6100	Research in Athletic Training	2
AT:6125	Clinical Experience III	6
AT:6200	Administration and Leadership	2
AT:6250	Applied Research in Athletic Training	2
AT:6300	Psychosocial Recognition and Referral	2
AT:6400	Seminar in Athletic Training	2
AT:6450	Advanced Topics in Athletic Training	1
AT:6525	Clinical Experience IV	5
<b>Total Hours</b>		<b>62</b>

## Admission

Admission to the Master of Science program is competitive with a limited number of students admitted for each cohort. Applicants are expected to meet technical standards, pass a background check, and comply with health and safety standards, including vaccination requirements. Students are required to provide their own transportation to all clinical experiences and are responsible for all costs they incur during travel, including parking and gas.

To be considered for the Master of Science program in athletic training, applicants must:

- have completed a B.A. or B.S. degree at an accredited institution in the United States or have completed the first three years with at least 80 s.h. of undergraduate work for the 3+2 combined program at the University of Iowa;
- have completed 30 s.h. at the University of Iowa if a transfer student;
- have a cumulative undergraduate g.p.a. of at least 3.00 or a cumulative g.p.a. of at least 3.25 in the Undergraduate to Graduate (U2G) combined program;
- submit an application to the Graduate College through the Athletic Training Centralized Application Service (ATCAS), set up a University of Iowa account, and pay the supplemental fee;
- include two letters of recommendation—one from a medical professional and one from an academic professional;

- submit a résumé;
- include a statement of purpose and career goals;
- submit a Test of English as a Foreign Language (TOEFL) score (only the iBT—Internet-Based Test is accepted with a total score of 93 and a speaking score of 26) and the test must have been taken within the last two years, or submit a current acceptable score from the International English Language Testing System (IELTS) or from the Duolingo English Test (DET) if an international applicant and if English is not student's first language;
- have current CPR certification obtained within one year—Basic Life Support (BLS) or professional rescuer level and consistent with Board of Certification standards;
- have current first aid certification obtained within one year;
- submit a signed copy of the program's Technical Standards for Admission form;
- have completed a minimum of 50 hours of observation under a certified athletic trainer;
- have completed required prerequisite coursework with a grade of C or higher in biology, chemistry, physics, human anatomy, human physiology, exercise physiology, general psychology, biomechanics or kinesiology, nutrition, and statistics (see list below); and
- have completed additional recommended coursework in medical terminology, introductory athletic training, public health, motor learning, or psychology courses in areas such as abnormal, adolescent, or sports psychology.

Community college coursework is accepted as well as online coursework from accredited universities. AP and CLEP coursework may satisfy course requirements if listed on a college transcript.

Students must earn a grade of C or higher in these prerequisite courses.

Code	Title	Hours
	Biology (preferred human biology; with or without lab)	3
	Biomechanics or kinesiology	3
	Chemistry (with or without lab)	3
	Exercise physiology	3
	Human anatomy (may be taken combined with human physiology; two semesters minimum, if combined)	3
	Human physiology (may be taken combined with human anatomy; two semesters minimum, if combined)	3
	Nutrition (general or sport)	3
	Physics (with or without lab)	3
	Psychology (general psychology is required; additional psychology coursework recommended)	3
	Statistics	3

All application materials are due by February 1. Following the February 1 deadline, applications will be accepted on a continuing basis until program capacity is met. A personal interview is required. Coursework begins during the summer session.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Career Advancement

Athletic trainers have opportunities for employment in many areas. They include career options in:

- public and private secondary schools, colleges and universities, professional and Olympic sports;
- youth leagues, municipal and independently owned youth sports facilities;
- physician offices;
- rural and urban hospitals, hospital emergency rooms, urgent and ambulatory care centers;
- clinics with specialties in sports medicine, cardiac rehabilitation, medical fitness, wellness, and physical therapy;
- occupational health departments in commercial settings, which include manufacturing, distribution, and offices to assist with ergonomics;
- police and fire departments, academies, municipal departments, and branches of the military; and
- performing arts areas, including professional and collegiate-level dance and music settings.

# Otolaryngology—Head and Neck Surgery

## Chair

- Marlan R. Hansen

**Faculty:** <https://medicine.uiowa.edu/oto/profile>

**Website:** <https://medicine.uiowa.edu/oto/>

The Department of Otolaryngology—Head and Neck Surgery is one of the most comprehensive otolaryngology departments in the world. Founded in 1922, it is among the oldest in the United States. *U.S. News & World Report* has consistently ranked the department's program among the top 10 in the nation.

The department's chief focus areas are education and training, patient care, and research. M.D. students in the Carver College of Medicine, residents, and fellows benefit from a faculty dedicated to providing thorough training in all aspects of otolaryngology and patient care. Patients in the otolaryngology clinic enjoy access to comprehensive care in any of five subspecialties: pediatric otolaryngology, otology/neurotology, general otolaryngology and rhinology, head and neck oncology, and facial plastic and reconstructive surgery. University of Iowa faculty members from ophthalmology and visual sciences and radiation oncology hold joint appointments in otolaryngology, adding depth to the department's resources.

The department is home to prominent research programs in cleft palate and other craniofacial defects, head and neck oncology, cochlear implants, and molecular genetics. It also offers fellowships in otology/neurotology, pediatric otolaryngology, and head and neck oncology.

The department is located at University of Iowa Hospitals & Clinics.

## Fellowships

The Department of Otolaryngology—Head and Neck Surgery offers a two-year fellowship in otology/neurotology and a one-year fellowship in pediatric otolaryngology, which are accredited by the Accreditation Council for Graduate Medical Education. It also offers a one-year fellowship in head and neck oncology accredited by the Advanced Training Council of the American Head and Neck Society.

The otology/neurotology fellowship program accepts one applicant every two years. Otolaryngology fellows spend a minimum of 20 months in clinical service. They attend all otology/neurotology clinics and neurotology cases in the operating room and are responsible for inpatient service. They also have one day of dedicated research time each week.

The pediatric otolaryngology fellowship program accepts one applicant each year. Fellows spend a year in clinical service, where they have the opportunity to train with all pediatric otolaryngology faculty members.

One applicant is accepted as a head and neck oncology fellow each year. Training is largely clinical, allowing fellows the opportunity to participate in a variety of procedures, ranging from skull base resection to laryngeal rehabilitation. Fellows routinely perform 35 to 45 free-tissue transfers during one year of training. They also complete a clinical and/or basic science research project relating to head and neck oncology.

## Residency

The Department of Otolaryngology—Head and Neck Surgery offers a residency program accredited by the Accreditation Council for Graduate Medical Education. The program has two tracks: a five-year clinical track and a seven-year research track. Five applicants are accepted each year, three to the clinical track and two to the research track.

The clinical track provides five years of concentrated clinical study and application in all aspects of otolaryngology. Residents begin their training with a five-week intensive basic science course divided into an anatomy component and a 100-hour lecture series. The anatomy component includes a supervised cadaver dissection, and the lecture series details the study of otolaryngology and related disciplines. Residents also complete two research rotations in order to explore research areas that interest them.

The research track is a combined clinical-research program designed for residents interested in an otolaryngology research career. After an internship year, residents complete two years of research followed by four years of clinical training. The interaction of clinicians and basic scientists from several departments affords residents the opportunity for involvement in a wide spectrum of current research in areas such as electrophysiology of the auditory system, the genetics of head and neck cancer, and gene therapy.

## Courses

### Otolaryngology—Head and Neck Surgery Courses

<b>OTO:8199 Foundations of Otolaryngology</b>	<b>arr.</b>
Supervised cadaver head and neck dissection, with 14 areas in detail. Two weeks.	
<b>OTO:8301 Clinical Otolaryngology</b>	<b>2 s.h.</b>
<b>OTO:8401 Subinternship in Otolaryngology</b>	<b>arr.</b>
<b>OTO:8402 Advanced Otolaryngology</b>	<b>4 s.h.</b>
Students become proficient in physical examination of the head and neck; increase their ability to diagnose, evaluate, and manage common disorders of the ears, nose, and throat; and work in outpatient clinic, on inpatient services, and in operating room.	
<b>OTO:8497 Research in Otolaryngology</b>	<b>arr.</b>
Medical research, clinical or laboratory projects; individual study.	
<b>OTO:8498 Otolaryngology On Campus</b>	<b>arr.</b>
<b>OTO:8499 Otolaryngology Off Campus</b>	<b>arr.</b>
Arranged by student with department approval.	

# Pathology

## Chair

- Nitin J. Karandikar

## Interim Director, Clinical Functions

- Brad Seaton

**Graduate degree:** M.S. in pathology

**Faculty:** <https://medicine.uiowa.edu/pathology/people>

**Website:** <https://medicine.uiowa.edu/pathology/>

The Department of Pathology offers education and training for a broad range of students, from undergraduates through postgraduate fellows and researchers. It provides basic pathology courses to health sciences students, a clinical training program for medical laboratory scientists, a Master of Science program in pathology, residency training programs leading to American Board of Pathology certification in anatomic pathology and clinical pathology, fellowship training in pathology subspecialties, and postdoctoral research training in cellular and molecular pathology.

## Undergraduate Education

Pathology courses are a major component of the University's program in Medical Laboratory Science, a Bachelor of Science program that trains medical laboratory scientists; see Medical Laboratory Science [p. 1885] in the Catalog.

## Postgraduate Training

The Department of Pathology offers postgraduate clinical fellowship programs in hematopathology, transfusion medicine, clinical microbiology, cytopathology, molecular genetic pathology, and surgical pathology for physicians who have completed residency training in pathology. These fellowships consist of one to two years of diagnostic work and research.

The department provides postdoctoral research training in immunology, neuropathology, apoptosis, cancer biology, and clinical microbiology as well as in other areas of cellular and molecular pathology. These positions are open to individuals who have earned a Ph.D. or an M.D. degree.

## Programs

### Graduate Programs of Study

#### Majors

- Master of Science in Pathology [p. 1929]
- Experimental pathology subprogram for the Doctor of Philosophy in Biomedical Science

Students interested in doctoral studies in experimental pathology should apply under the umbrella program in Biomedical Science [p. 1702] (select experimental pathology subprogram).

## M.D. Training

The department provides five to seven 12-month fellowships for M.D. students (pathology externship), for students interested in careers as pathologists, and the Emory Warner Fellowship, a full-time research position in a facet

of experimental pathology. It also offers clerkships for M.D. students in all areas of anatomical and clinical pathology.

## Residency

The department offers 20 residency positions in pathology, which provide up to four years of training. Patients at University of Iowa Hospitals & Clinics and the VA Iowa City Health Care are integral to the residency programs.

Residents gain experience in systematic rotation through the varied laboratory services, including surgical pathology, autopsy pathology, neuropathology, dermatopathology, cytology, clinical chemistry, clinical microbiology, hematology, immunopathology, molecular pathology, and transfusion medicine. They also have the opportunity to pursue one or two years of additional fellowship training in many pathology subspecialties. To learn more, see Education on the Department of Pathology website.

## Facilities

The Department of Pathology is well-equipped to carry out the sophisticated technology of modern cellular and molecular pathology. It administers more than 90,000 square feet of clinical laboratories at University of Iowa Hospitals & Clinics and has individual research and core facility laboratories, including histopathology and laser capture microscopy for cellular and molecular pathology research, in the Medical Research Center, Medical Laboratories, and at the VA Iowa City Health Care. Also available are Carver College of Medicine research facilities for nucleic acid chemistry, hybridoma production, flow cytometry, ultrastructural studies, protein structure, image analysis, electron spin resonance, mass spectroscopy, nuclear magnetic resonance, and laboratory animal care.

## Courses

### Pathology Courses

**PATH:4151 MLS Program Registration** **0 s.h.**  
Requirements: admission to Medical Laboratory Science Program.

**PATH:5260 Translational Histopathology** **3 s.h.**  
Didactic sessions on human comparative histology, molecular and cellular pathology, and animal model applications; laboratory sessions on microscopy, histology, histotechnology, and immunohistochemistry, with group discussions of model papers; experience in scientific writing and oral presentation skills; for students who plan to investigate experimental models of human disease.

**PATH:5270 Pathogenesis of Major Human Diseases** **3 s.h.**  
Critical analysis of pathogenesis models in a series of major human diseases; clinical presentation, analysis of cellular and molecular events leading to the disease, discussion of key papers. Offered spring semesters of even years. Same as IGPI:5270, MMED:5270.

**PATH:5461 Introduction to Morphology in Research** **1 s.h.**  
Introduction to the histologic examination of organs and tissues utilizing human and/or animal examples; organ identification, comparative morphology, use of histologic techniques (e.g., stains).

**PATH:6220 Seminar in Pathology 1 s.h.**

Current research and literature. Requirements: pathology graduate standing.

**PATH:7001 Molecular and Cellular Biology of Cancer 3 s.h.**

Fundamental aspects of oncology at cellular and molecular levels; mechanisms of cancer initiation and progression, oncogene action, DNA damage and repair, carcinogenesis by radiation, chemicals, viruses; tumor immunology, anticancer therapies. Offered spring semesters. Requirements: strong basic science background. Same as FRRB:7001.

**PATH:7211 Research in Pathology arr.**

Basic aspects of pathology or clinical patient material; emphasis on experimental design, methods, literature review, obtaining formal answers to specific questions. Requirements: M.D. enrollment or graduate standing.

**PATH:8007 Medical Student Fellowships in Pathology (Externships) 0 s.h.**

First-hand experience in autopsy, surgical and clinical pathology, teaching, and research to further understanding of disease mechanisms, normal and pathologic anatomy, laboratory use.

**PATH:8008 Warner Fellowship in Experimental Pathology 0 s.h.**

One-year, full-time membership in established research laboratory in the Department of Pathology or collaborating laboratory. Requirements: M.D. enrollment.

**PATH:8133 Introduction to Human Pathology for Graduate Students 3-4 s.h.**

Human disease; basic disease processes, organ-related and multisystem diseases; case analysis. Offered fall semesters.

**PATH:8401 Autopsy Pathology Clerkship arr.****PATH:8402 Hematopathology Clerkship arr.****PATH:8403 Surgical Pathology Clerkship arr.****PATH:8404 Transfusion Medicine arr.****PATH:8405 Clinical Microbiology 2,4 s.h.**

Students rotate through bacteriology, molecular microbiology, mycology, mycobacteriology, and virology while participating in clinical and technical activities.

**PATH:8497 Research in Pathology arr.**

Medical research, clinical or laboratory projects; individual study with department approval.

**PATH:8498 Pathology On Campus arr.****PATH:8499 Pathology Off Campus arr.**



# Pathology, M.S.

The M.S. program in pathology prepares postbaccalaureate science majors for a range of biomedical careers. Graduate-level coursework provides students with a foundation in cellular and molecular biology, as well as specialized knowledge in pathobiology. A laboratory intensive thesis project equips trainees with cutting edge research skills. Students typically complete the program in two and one-half years.

## Learning Outcomes

Graduates will be able to:

- demonstrate subject matter expertise in basic cell and molecular biology, biostatistics, and pathobiology/mechanisms of human disease;
- understand and apply scientific method allowing for the appropriate development and testing of hypotheses, problem solving, and utilization of current literature and contemporary laboratory approaches;
- understand and apply the need to conduct research using a team-based approach, including ongoing input from the thesis mentor and committee as well as peers within the laboratory and departmental environment;
- understand and apply the key principles of carrying out research and interpreting results using the highest ethical standards; and
- acquire the ability to effectively communicate research goals, approaches, and results using both written and oral means.

## Requirements

The Master of Science program in pathology requires a minimum of 30 s.h. of graduate credit, including 21 s.h. of coursework and 9 s.h. of research leading up to the thesis. Students must maintain a program g.p.a. of at least 2.75.

The M.S. with a major in pathology requires the following coursework.

## Required Coursework

Code	Title	Hours
All of these:		
PATH:5270/ MMED:5270	Pathogenesis of Major Human Diseases	3
PATH:6220	Seminar in Pathology (taken two semesters for 1 s.h. each)	2
BIOS:4120	Introduction to Biostatistics	3
BMED:5207	Principles of Molecular and Cellular Biology	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0

Required coursework results in:

- a basic understanding of molecular and cellular biology,
- a basic understanding of biostatistics, and

- an advanced understanding of pathobiology and mechanisms of human disease.

## Electives

Remaining graduate-level coursework consists of electives focused on the area or topic related to a student's thesis project. The elective courses are offered by a range of departments on the biomedical campus.

## Thesis

The thesis project is carried out under the guidance of the mentor and thesis committee. The committee is composed of a student's mentor and two additional faculty members. In general, the thesis consists of four chapters with the first being a concise review of the literature; the second, materials and methods; and the last two, a scholarly description of the project results. The thesis must be defended before the committee prior to final approval.

For more information, view the Master of Science in Pathology on the Department of Pathology website.

## Admission

Applicants must have a bachelor's degree in a science discipline from a regionally accredited American college or university, or an equivalent degree from another country as determined by the Office of Admissions. Applicants also must have a minimum g.p.a. of 3.00 on a 4.00 scale, or the foreign equivalent as determined by the Office of Admissions. In addition, laboratory-based research experience is highly desired. Graduate Record Examination (GRE) General Test scores are not required to apply.

International students must submit English proficiency test scores that meet institutional requirements. For more information on English proficiency requirements, visit English Proficiency Requirements on the Iowa Graduate Admissions website.

A subset of applicants will be selected for interviews, conducted either in person or by Zoom. Admission decisions are determined based on academic performance, research experience, letters of recommendation, personal statement and interviews.

Students who are applying must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

## Financial Support

All pathology graduate students receive full stipend and tuition support until they complete the program. Stipend amounts are at the same level as other graduate programs on the biomedical campus. The program also pays most of the costs for health and dental insurance.

## Career Advancement

The M.S. program in pathology is designed for graduates to advance into research assistant or research scientist positions in academic and private sector laboratories, or to be competitive for advanced degree programs such as the Ph.D., M.B.A., or M.D.

# Physical Therapy and Rehabilitation Science

## Chair

- Richard K. Shields

**Graduate degrees:** D.P.T.; M.A. in physical rehabilitation science; Ph.D. in physical rehabilitation science

**Faculty:** [https://medicine.uiowa.edu/pt/profile/?](https://medicine.uiowa.edu/pt/profile/?appointment=PRIMARY&category=&query=&page=1&size=10)

[appointment=PRIMARY&category=&query=&page=1&size=10](https://medicine.uiowa.edu/pt/)

**Website:** <https://medicine.uiowa.edu/pt/>

Physical therapists provide services to patients and clients who have impairments, functional limitations, disabilities, pain, or changes in physical function resulting from injury, disease, or other causes. Physical therapists practice and collaborate with a variety of health professionals. In the area of health promotion and wellness, they provide screening examinations, prescribe fitness programs, and educate the public regarding healthy lifestyles. Research, teaching, consultation, and administration also are parts of a physical therapist's professional role.

The Department of Physical Therapy and Rehabilitation Science is located in the Carver College of Medicine on the University of Iowa health sciences campus, which includes University of Iowa Hospitals & Clinics, one of the nation's largest university-owned teaching hospitals. Students have access to faculty members in the basic sciences and medicine, basic sciences courses, clinical specialty expertise, and innovative learning experiences associated with a medical college environment.

## Programs

### Graduate Programs of Study

#### Majors

- Doctor of Physical Therapy [p. 1936]
- Master of Arts in Physical Rehabilitation Science [p. 1935]
- Doctor of Philosophy in Physical Rehabilitation Science [p. 1940]

## Facilities

The department has state-of-the-art independent research laboratories and is well equipped for classroom and laboratory instruction and innovative research. The department's state-of-the-art research facilities include the Movement and Rehabilitation Laboratory and a spinal cord research laboratory at University Hospitals & Clinics, the Human Movement Control/Performance Laboratory, the Neurobiology of Pain Laboratory, the Neuromuscular Biomechanics Laboratory, the Human Integrative and Cardiovascular Physiology Laboratory, the Applied Neuroplasticity Laboratory, the Human Performance and Clinical Outcomes Laboratory, and the Orthopaedic Gait Analysis Laboratory.

## Courses

### Physical Therapy and Rehabilitation Science Courses

#### **PTRS:5100 Professional Issues and Ethics** 1 s.h.

Contemporary issues in clinical practice and professional development; legal and ethical perspectives on human rights, ethical theory and principles for analyzing and acting on ethical problems; professional and peer relationships.

#### **PTRS:5101 Introduction to Physical Therapy Practice** 2 s.h.

Professional development of physical therapists; evolution of profession; analysis of current role in health care and public health with respect to societal health challenges; patient management terminology including medical terminology and language utilized in the *Guide to Physical Therapist Practice*; concepts of enablement models and disablement models, including World Health Organization's *International Classification of Functioning, Disability and Health* model in the biopsychosocial model of health; introduction to evidence-based practice principles.

#### **PTRS:5102 Principles of Physical Therapy I** 2 s.h.

Patient management skills: fostering therapeutic alliance, history taking, systems review, positioning, draping, transfers, body mechanics, assisted gait, wheelchairs, and negotiation of architectural barriers.

#### **PTRS:5103 Principles of Physical Therapy II** 2 s.h.

Continuation of PTRS:5102; expansion of existing skills and provides new learning experiences in documentation, assessment of joint range of motion/goniometry, manual muscle testing, preambulatory intervention strategies, gait analysis; musculoskeletal, neuromuscular, and integumentary systems review. Prerequisites: PTRS:5102.

#### **PTRS:5131 Therapeutic Physical Agents** 2 s.h.

Theoretical and practical applications for safe, effective use of physical agents (superficial and deep heat, cold, hydrotherapy), electrotherapeutic modalities (biofeedback, NMES, TENS, iontophoresis); massage and soft tissue mobilization; emphasis on problem solving, clinical decision making.

#### **PTRS:5144 Interprofessional Education I: Team-Based Approach to Health Care** 1 s.h.

Development and interaction within small group of interprofessional students from physical therapy, medicine, pharmacy, dentistry, nursing, and public health; deans and faculty from each college facilitate; three-hour initial session for all disciplines followed by informal monthly electronic scenarios, second formal meeting followed by informal monthly electronic discussions.

#### **PTRS:5201 Musculoskeletal Therapeutics I** 3 s.h.

Musculoskeletal techniques and biomechanical principles applied to assessment and evaluation of common orthopedic problems of the spine; problem solving, case-study approach to clinical methods, skill acquisition.

- PTRS:5205 Health Promotion and Wellness** 3 s.h.  
Overview of health promotion, fitness, and wellness strategies, including information on levels of health promotion, risk assessment, applied physiology (skeletal muscle, energy metabolism, and physiological responses to exercise), exercise testing and training guidelines, body composition assessment, and development of individual weight management and exercise training programs; classroom and laboratory experiences.
- PTRS:5206 Cardiopulmonary Therapeutics** 3 s.h.  
Cardiorespiratory anatomy, physiology, and application of basic concepts, techniques in management of patients with acute and chronic cardiac, pulmonary disorders; laboratories.
- PTRS:5209 Surface Anatomy** 1 s.h.  
Laboratory teaching activities that parallel the human anatomy course; observation, palpation, and problem solving skills; upper- and lower-limb, head and neck, thorax, and abdomen.
- PTRS:5210 Kinesiology and Pathomechanics** 4 s.h.  
Normal and pathological movement based on understanding of muscle mechanics, segment and joint mechanics, muscle function; instructor- and student-centered learning experiences; integrative human movement system laboratories.
- PTRS:5212 Human Pathology for the Physical Therapist** 3 s.h.  
Students gain a cursory understanding of the physiologic mechanisms of human health and pathologic mechanisms of disease; emphasis on morphologic changes of cells and tissues, identification of causes of change (etiology), mechanisms of development (pathogenesis), and clinical manifestations of specific disease processes; influence of disease and medical diagnosis on physical therapy practice and physical therapy diagnosis.
- PTRS:5215 Applied Clinical Medicine** 2 s.h.  
Pathological disorders frequently encountered by physical therapists in clinical practice, addressed by physicians and health professionals who are not physical therapists; physical therapy management.
- PTRS:5235 Case-Based Learning I** 1 s.h.  
Small group case study seminars and simulated patient instructor learning experiences; clinical problems coordinated with concurrent courses; student-centered, problem-based learning format with emphasis on evidence-based practice objectives. First in a two-course sequence.
- PTRS:5236 Case-Based Learning II** 1 s.h.  
Small-group case study seminars and simulated patient instructor learning experiences; clinical problems coordinated with concurrent courses taken in curriculum; student centered, problem-based learning format; emphasis on evidence-based practice objectives. Second in a two-part series of integrated courses. Prerequisites: PTRS:5235.
- PTRS:5790 Integrated Clinical Education in Physical Therapy I** 1 s.h.  
Integrated clinical experiences in area physical therapy clinics; overview of diverse nature of practice through half-day experiences; basic skills in examination, intervention, and documentation.
- PTRS:5791 Integrated Clinical Education in Physical Therapy II** 1 s.h.  
Continuation of PTRS:5790; integrated clinical experiences in area physical therapy clinics; overview of diverse nature of practice through full-day clinical experiences; basic skills in examination, intervention, and documentation. Prerequisites: PTRS:5790. Requirements: Doctor of Physical Therapy program enrollment.
- PTRS:6120 Physical Therapy Management and Administration I** 2 s.h.  
The changing U.S. health care system; physical therapy services across continuum of care, reimbursement to health care providers, mechanisms for controlling costs while providing quality care; clinical vignettes, small group problem solving.
- PTRS:6121 Physical Therapy Management and Administration II** 1 s.h.  
Principles of management in physical therapy practice; historical perspective, current health care environment; business principles; marketing, managing risk, medical/legal concerns, professional and personal growth and development.
- PTRS:6122 Psychosocial Aspects of Patient Care** 1 s.h.  
Emotional reactions to illness/trauma; social determinants of health; recognition of mental illness in physical therapy examination and intervention; psychosocial aspects of disability as they relate to patient-physical therapist interaction; effective communication strategies; cultural competence in professional behavior and patient care.
- PTRS:6133 Pain Mechanisms and Treatment** 1-2 s.h.  
Introduction to basic science mechanisms, assessment, and management of pain; basic science mechanism involved in transmission and perception of painful stimuli after tissue injury, assessment and physical therapy management of pain; emphasis on scientific principles and published literature to support treatment techniques.
- PTRS:6134 Physical Therapy Management of Integumentary System** 2 s.h.  
Overview of physical therapy examination and management of the integumentary system; wound pathology, diagnosis associated with the integumentary system, inflammation and repair, examination and reexamination techniques, documentation, clinical decision making, lecture and laboratory formats; interventions, including patient/client information, physical agents, electrotherapy, wound dressing.
- PTRS:6143 Selected Topics in Physical Therapy Practice** 2 s.h.  
Specialty area of practice including wheelchair seating and prescription, pelvic health, home assessment, durable medical equipment (DME) recommendations, and geriatrics; topics dictated by changing needs of health care and the profession; emphasis on clinical decision making, synthesis and evaluation of information with respect to first-year physical therapy curriculum.
- PTRS:6145 Interprofessional Education II: Teaching Neural and Musculoskeletal Evaluation Principles** 1 s.h.  
Active involvement in integrating anatomy, kinesiology, and movement control principles as applied to a select group of pathologies with the goal of being able to teach content area; preassigned student group leaders; emphasis on student as active learner; opportunity to teach academic areas previously studied in first and second years of curriculum; may include teaching several of these musculoskeletal principles in a first-year medical student anatomy course.

**PTRS:6170 Management of People with Prosthetic and Orthotic Needs 2 s.h.**

Physical therapy management and assessment of patients in need of prosthetic and orthotic devices; principles and components of prosthetic and orthotic design and use.

**PTRS:6172 Radiology/Imaging for Physical Therapists 2 s.h.**

Basic principles and procedures for acquisition and interpretation of radiology and imaging in clinical practice and research; plain film radiographs, CT, MRI, other common imaging modalities; case-based, multidisciplinary approach.

**PTRS:6173 Differential Diagnosis in Physical Therapy 2 s.h.**

Use of physical therapy examination and evaluation skills to diagnose physical therapy problems; focus on use of good clinical decision-making skills when analyzing a patient's history and administering physical therapy tests and measures to confirm or rule out differential diagnoses; components of the medical examination; importance of collaboration between therapists and other health professionals; interactive case studies presented by clinical experts.

**PTRS:6176 Pharmacology for Physical Therapists 3 s.h.**

Contemporary pharmacology; overview of basic pharmacokinetic and pharmacodynamic principles; relation of drug therapy to therapeutic interventions provided by physical therapists; small group clinical case presentations.

**PTRS:6200 Pediatric Physical Therapy 2 s.h.**

Preparation for physical therapy practice in pediatric settings using interdisciplinary family-centered practice; normal and abnormal development, standardized assessment, service-delivery settings, interventions, management strategies specific to pediatrics.

**PTRS:6202 Musculoskeletal Therapeutics II 3 s.h.**

Pathology, assessment, management of orthopedic disorders of the upper quarter; problem-solving approach to evaluation and management of patients with musculoskeletal conditions. Prerequisites: PTRS:5201.

**PTRS:6203 Musculoskeletal Therapeutics III 4 s.h.**

Pathology, assessment, management of orthopedic disorders of the lower quarter; problem-solving approach to evaluation and management of patients with musculoskeletal conditions. Prerequisites: PTRS:6202.

**PTRS:6204 Progressive Functional Exercise 2 s.h.**

Therapeutic exercise options (e.g., isometrics, isotonic, isokinetic, plyometric, endurance exercises, stretching exercises) and training principles; application to functional activities, including those of daily living, work, recreation, and sport; laboratory component.

**PTRS:6224 Activity-Based Neural and Musculoskeletal Plasticity in Health Care 4 s.h.**

Examination of neural, muscular, and skeletal plasticity to increased and decreased use in normal and pathological states (chronic inactivity, obesity, metabolic syndromes, orthopedic and neurological injuries); principles of genetic regulation with physical activity including underlying mechanisms contributing to acute and chronic adaptations of muscle, spinal circuitry, and supra-spinal centers; integration of movement control concepts through contemporary papers evaluating short and long latency reflexes, posture and balance control, spasticity, and motor learning in individuals with acute and chronic perturbations to the nervous system.

**PTRS:6225 Neuromuscular Therapeutics 3 s.h.**

Evidence-based application of clinical neuroscience, motor control, and learning principles to practice of neurological physical therapy; approaches to evaluation and therapeutic intervention for clients with adult-onset neurological conditions, with emphasis on examination, developing a diagnosis, clinical decision making, and prescribing interventions that help clients accomplish goals. Prerequisites: PTRS:6224.

**PTRS:6237 Community Outreach and Engagement I 1 s.h.**

Outreach and engagement activities with individuals and organizations in the community; students select service learning experiences from current community partners, or may suggest their own idea, and develop their individual learning goals for these experiences; discussion and written assignments focus on reflection of student experiences with persons who are different than themselves, and on social responsibility, advocacy, and professionalism in the field of physical therapy; first in a two-course series.

**PTRS:6238 Community Outreach and Engagement II 1 s.h.**

Outreach and engagement activities with individuals and organizations in the community; students select from current community partners, or may suggest their own idea, and develop their individual learning goals for these experiences; discussion and written assignments focus on reflection about student experiences with persons who are different than themselves, and on social responsibility, advocacy, and professionalism in the field of physical therapy; second in a two-course series. Prerequisites: PTRS:6237.

**PTRS:6250 Critical Inquiry I: Evidence-Based Practice 2 s.h.**

Topics relevant to evidence-based practice and research design; identification of appropriate questions for research and clinical applications, location and evaluation of available evidence, identification of issues that affect validity of research designs, interpretation of basic statistical analyses.

**PTRS:6251 Critical Inquiry II: Rehabilitation Research 2 s.h.**

Experience conducting group research projects under faculty supervision; data collection and analysis, manuscript preparation, oral defense of research findings during a formal poster presentation. Prerequisites: PTRS:6250.

**PTRS:6252 Critical Inquiry III: Clinical Application 1 s.h.**

Principles and procedures learned in PTRS:6250 and PTRS:6251 applied to a clinical setting; students write and present a case report with an evidence-based practice focus, using a clinical case from their final internships. Prerequisites: PTRS:6251. Requirements: Physical Therapy and Rehabilitation Science program enrollment.

**PTRS:6253 Functional Neuroanatomy arr.**

Basic principles of neuroanatomy and neurophysiology; emphasis on human central nervous system; laboratory emphasis on anatomical study of spinal cord and brain. Offered spring semesters. Requirements: physical therapy and rehabilitation science enrollment or graduate standing. Same as ACB:6252.

**PTRS:6792 Integrated Clinical Education in Physical Therapy IV 1 s.h.**

Two-week, full-time clinical experience in physical therapy clinics under guidance of physical therapists; theory and practice of physical therapy procedures, competence building in basic skills. Prerequisites: PTRS:6793. Requirements: Doctor of Physical Therapy Program enrollment.

- PTRS:6793 Integrated Clinical Education in Physical Therapy III** 3 s.h.  
Six-week, full-time clinical education experience in a rural health environment. Prerequisites: PTRS:5791. Requirements: Doctor of Physical Therapy program enrollment.
- PTRS:6794 Terminal Clinical Education in Physical Therapy I** arr.  
Nine week, full-time clinical education experience divided among various settings; development of competence in independent examination, evaluation, and treatment of patients under supervision of clinical faculty. Prerequisites: PTRS:6792. Requirements: Doctor of Physical Therapy program enrollment.
- PTRS:6795 Terminal Clinical Education in Physical Therapy II** 4 s.h.  
Nine-week, full-time clinical education experience divided among various settings; development of competence in independent examination, evaluation, and treatment of patients under supervision of clinical faculty. Prerequisites: PTRS:6794. Requirements: Doctor of Physical Therapy program enrollment.
- PTRS:6796 Terminal Clinical Education in Physical Therapy III** 4 s.h.  
Nine-week, full-time clinical education experience divided among various settings; development of competence in independent examination, evaluation, and treatment of patients under supervision of clinical faculty. Prerequisites: PTRS:6795. Requirements: Doctor of Physical Therapy program enrollment.
- PTRS:7812 Biomedical Instrumentation and Measurement** 3 s.h.  
Introduction to biomedical instrumentation and measurement; understanding sources of error and noise in biomedical research applications; basic circuit analysis, calibration of measurement tools, A/D conversion, digital filtering; lab components. Offered fall semesters of even years.
- PTRS:7820 Seminar in Rehabilitation Science** 1 s.h.  
Exploration of research related to rehabilitation science; lectures by faculty, graduate students, and guest scholars with expertise in areas relevant to rehabilitation science (e.g., neuroscience, physiology, medicine, engineering, pharmacology, integrated physiology).
- PTRS:7826 Scientific Writing in Rehabilitation Science** 2 s.h.  
Knowledge of and experience related to scientific writing, critical review of scientific literature, publication in the biomedical sciences, thesis/dissertation writing, grant writing, scientific presentation, writing used in academic and scientific careers.
- PTRS:7875 Analysis of Activity-Based Neural and Musculoskeletal Plasticity** 3 s.h.  
Examination of neural, muscular, and skeletal plasticity to increased/decreased use in normal and pathological states (chronic inactivity, obesity, metabolic syndromes, orthopedic and neurological injuries); genetic regulation with physical activity and underlying mechanisms contributing to acute and chronic adaptations of muscle, spinal circuitry, and supra-spinal centers; integration of movement control concepts through contemporary papers evaluating short and long latency reflexes, posture and balance control, spasticity, and motor learning in individuals with acute and chronic perturbations to the nervous system; individual research projects.
- PTRS:7880 Teaching Practicum** arr.  
Individual instruction, observation, experimentation in teaching, guidance, analysis of evaluation processes in Physical Therapy and Rehabilitation Science.
- PTRS:7884 Practicum in Research** arr.  
Laboratory experiences connected with investigative process; individual instruction, observation, activities in methodological development, data acquisition, data analysis aspects of research.
- PTRS:7895 Advanced Seminar in Rehabilitation Science** arr.  
Current status of research for biological, mechanical, psychological components pertinent to cardiopulmonary, musculoskeletal, neuromuscular areas of rehabilitation science; preparation for comprehensive exam.
- PTRS:7899 Introduction to Pain: Overview of Theories, Concepts, and Mechanisms** 1 s.h.  
Overview of pain concepts and mechanisms; general overview of pain, models of pain, peripheral and central mechanisms, and pain inhibition. Requirements: prior neuroscience course.
- PTRS:7900 Rehabilitation Research Capstone Project** arr.  
Specific phases of the research process; development of a research question and associated hypotheses, collection and analysis of data, interpretation and discussion of the information's meaning; presentation to sponsoring mentor's laboratory/program, and written document.
- PTRS:7901 Clinical Correlates of Pain: Syndromes and Management** 1 s.h.  
Common pain conditions and management of pain using an interdisciplinary focus; lectures by University of Iowa Hospitals and Clinics clinicians on a variety of acute and chronic pain conditions and management approaches. Requirements: prior neuroscience course.
- PTRS:7902 Molecular, Cellular, and Neural Mechanisms of Pain** 2 s.h.  
Basic science mechanisms of pain and pain modulation; understanding molecular basis for pain in nociceptive afferents (peripheral sensitization), underlying molecular and neuronal mechanisms of central processing of pain (central sensitization), cortical pain processing, animal and human experimental pain models; readings from past and current literature. Prerequisites: PTRS:7899. Requirements: prior neuroscience course.
- PTRS:7903 Rehabilitation Management of Pain** 1 s.h.  
Basic principles of rehabilitation for pain control including education, exercise, and electrophysical modalities; evidence-based approach to rehabilitation covering mechanisms of action and clinical effectiveness; case studies. Prerequisites: PTRS:7899 and PTRS:7901.
- PTRS:7925 Independent Study** arr.  
Problem-solving experience in physical therapy; commensurate with student's interest, ability.
- PTRS:7927 Research in Rehabilitation Science** arr.  
Placement of physical therapy on sound scientific base; therapy; initiation, refinement, establishment of methods in physical therapy evaluation, treatment; direct clinical and laboratory approach, philosophical treatise, or research proposal.
- PTRS:7930 Critical Thinking in Neuro-Mechanical Systems** arr.  
Problem solving experience in neuro-mechanical systems, commensurate with student interest, ability.

- PTRS:7931 Critical Thinking in Pain** arr.  
Problem solving experience in pain, commensurate with student interest, ability.
- PTRS:7932 Critical Thinking in Biomechanics and Human Performance Assessment** arr.  
Problem solving experience in biomechanics and human performance assessment, commensurate with student interest, ability.
- PTRS:7933 Critical Thinking in Activity-Based Plasticity** arr.  
Problem solving experience in movement control/human performance, commensurate with student interest, ability.
- PTRS:7934 Critical Thinking in Neural Plasticity** arr.  
Problem solving experience in neural plasticity, commensurate with student interest, ability.
- PTRS:7935 Critical Thinking in Movement Science** arr.  
Problem solving experience in movement science, commensurate with student interest; ability.
- PTRS:7936 Critical Thinking in Cardiovascular Physiology** arr.  
Problem solving experience in cardiovascular physiology, commensurate with student interest, ability.
- PTRS:7990 Thesis: Rehabilitation Science** arr.  
Investigative process: formulation of problem, literature search and analysis, procedure for collecting data, data analysis, organization and writing of thesis proposal, thesis.

# Physical Rehabilitation Science, M.A.

The Master of Arts program in physical rehabilitation science is granted to students working toward the Doctor of Philosophy in physical rehabilitation science.

## Learning Outcomes

Graduates will be prepared for research appointments that emphasize research in rehabilitation science. They will possess:

- theoretical and scientific knowledge to perform basic, applied, or clinical-level original research that leads to scientific presentations, publication in peer-reviewed journals, and competition for extramural funding through scientific grant writing; and
- breadth of knowledge in exercise physiology, biomechanic, neuroscience, or motor control specialty areas as they relate to impairment, functional limitation, and disability.

## Requirements

The Master of Arts with a major in physical rehabilitation science is awarded to students pursuing knowledge about the underlying science of rehabilitation. The M.A. degree does not prepare students to practice physical therapy. Students often work toward the Doctor of Philosophy in physical rehabilitation science with the goal to promote scholarship in the field. See the Ph.D. in physical rehabilitation science [p. 1940] in this section of the Catalog.

# Doctor of Physical Therapy, D.P.T.

The Doctor of Physical Therapy (D.P.T.) is the entry-level professional degree for physical therapists. Based on the number of outstanding applicants, approximately 45 students are annually enrolled in the D.P.T. program.

## Technical Standards

Physical therapy is a profession that requires physical, mental, and emotional fitness. In the program, students obtain the foundation of knowledge, skills, attitudes, and behaviors that are necessary for a successful career as a physical therapist. Technical standards reflect the abilities that a physical therapist must possess for safe and effective clinical practice. Prospective and current students must meet the following technical standards.

### General Abilities

Students are expected to possess the intellectual ability to learn, integrate, analyze, and synthesize data. They must have functional use of the senses of vision, hearing, and smell, as well as unimpaired equilibrium. Their exteroceptive senses (touch, movement, stereognosis, and vibratory) must be sufficiently intact to perform activities required for a complete physical therapy education. Students must have motor function capabilities, physical endurance, and the emotional health to meet the demands of entry-level physical therapy education and the demands of total patient care, which may include extended hours of instruction and time in clinic (evenings, nights, and weekends). Students must be capable of punctual, consistent, and reliable attendance in the didactic and clinical education component of the curriculum.

### Observation

The ability to observe is required for demonstrations, visual presentations in lectures, and laboratories. Observation requires the functional use of vision, hearing, smell, somatic sensations, and the use of common sense. Students must be able to observe patients accurately and completely, both at a distance and up close, attending to both verbal and nonverbal communication.

### Communication

Students must be able to speak and listen to patients in order to elicit information, perceive nonverbal communication, describe changes in mood, communicate effectively and sensitively with patients and their families, as well as instruct patients and their families. Communication in oral, written, and electronic form with the health care team must be effective, efficient, and timely.

### Motor/Psychomotor Function

Students are required to have sufficient motor function to ascertain information from patients by auscultation, percussion, palpation, and movement facilitation. Intervention methods may include exercising, lifting, transferring of patients, and assisting during ambulation. These methods must be completed in a manner that assures the safety of a patient as well as the safety of the student. Students must have motor function sufficient to perform the movements required to provide both nonurgent and emergent treatment.

Such skills require coordination of gross and fine muscular movements, equilibrium, sensation, and muscle strength.

## Intellectual—Conceptual, Integrative, and Qualitative Abilities

Problem solving is a critical skill demanded of physical therapists, and requires conceptual, integrative, and qualitative thinking abilities. Students must be able to synthesize knowledge and integrate the relevant aspects of a patient's history, laboratory results, and physical examination to provide an explanation for intervention by recalling and retaining information in an efficient and timely manner. They must have the ability to incorporate new information from peers, teachers, and research to formulate intervention plans. Students must be able to comprehend three-dimensional relationships, the spatial and functional relationships of structures, and analyze and apply this information for problem-solving and decision-making purposes. They must be able to organize, prioritize, analyze, and evaluate detailed and complex information individually, in small groups, and in clinical settings, and do so within a limited time frame.

## Behavioral/Interpersonal Skills/Professionalism

It is necessary that students have the emotional health to maximize their intellectual ability, exercise good judgment, and complete all responsibilities required for the evaluation and treatment of patients. They must be able to self-assess, accept criticism, and assume responsibility for maintaining professional behavior. Students must be able to develop mature, sensitive, and effective relationships with patients, families, caregivers, and colleagues. They must be able to tolerate physical and emotional stress and continue to function effectively. Students must possess qualities of adaptability and flexibility and be able to function in an atmosphere of uncertainty. They must be motivated to serve and demonstrate a high level of compassion for others. Students are required to demonstrate integrity and act in a manner that demonstrates consciousness of the profession's core values. They must possess sufficient interpersonal skills to interact positively with people from all levels of society, ethnic backgrounds, and belief systems.

## Learning Outcomes

Graduates will be prepared to:

- examine, evaluate, treat, and prevent impairments, functional limitations, and disabilities;
- maintain and promote fitness, health, and quality of life; and
- ensure availability, accessibility, and excellence in the delivery of physical therapy services to patients/clients.

As essential participants in the health care delivery system, graduates will be:

- prepared to assume leadership roles in prevention and health maintenance programs, in the provision of rehabilitation services, and in professional and community organizations; and
- able to play important roles in developing health policy and appropriate standards as well as assessing clinical outcomes for the various elements of physical therapy practice.



## Requirements

The Doctor of Physical Therapy requires a minimum of 104 s.h. and is completed in two and a half years. Students must maintain a program g.p.a. of at least 3.00.

The program is fully accredited by the Commission on Accreditation in Physical Therapy Education. Satisfactory completion of the professional program qualifies candidates to take the National Physical Therapy Exam for licensure to practice. The minimum passing score on the exam is the same in all jurisdictions.

The Doctor of Physical Therapy degree requires the following coursework.

### First Year, Summer

Code	Title	Hours
PTRS:5101	Introduction to Physical Therapy Practice	2
PTRS:5102	Principles of Physical Therapy I	2
PTRS:5205	Health Promotion and Wellness	3

### First Year, Fall

Code	Title	Hours
PTRS:5100	Professional Issues and Ethics	1
PTRS:5103	Principles of Physical Therapy II	2
PTRS:5144	Interprofessional Education I: Team-Based Approach to Health Care	1
PTRS:5209	Surface Anatomy	1
PTRS:5210	Kinesiology and Pathomechanics	4
PTRS:5212	Human Pathology for the Physical Therapist	3
PTRS:5235	Case-Based Learning I	1
PTRS:5790	Integrated Clinical Education in Physical Therapy I	1
ACB:5108	Human Anatomy	5

### First Year, Spring

Code	Title	Hours
PTRS:5131	Therapeutic Physical Agents	2
PTRS:5201	Musculoskeletal Therapeutics I	3
PTRS:5206	Cardiopulmonary Therapeutics	3
PTRS:5215	Applied Clinical Medicine	2
PTRS:5236	Case-Based Learning II	1
PTRS:5791	Integrated Clinical Education in Physical Therapy II	1
PTRS:6253	Functional Neuroanatomy	4

### Second Year, Summer

Code	Title	Hours
PTRS:6120	Physical Therapy Management and Administration I	2

PTRS:6143	Selected Topics in Physical Therapy Practice	2
PTRS:6176	Pharmacology for Physical Therapists	3
PTRS:6793	Integrated Clinical Education in Physical Therapy III	3

### Second Year, Fall

Code	Title	Hours
PTRS:6122	Psychosocial Aspects of Patient Care	1
PTRS:6134	Physical Therapy Management of Integumentary System	2
PTRS:6145	Interprofessional Education II: Teaching Neural and Musculoskeletal Evaluation Principles	1
PTRS:6170	Management of People with Prosthetic and Orthotic Needs	2
PTRS:6200	Pediatric Physical Therapy	2
PTRS:6202	Musculoskeletal Therapeutics II	3
PTRS:6224	Activity-Based Neural and Musculoskeletal Plasticity in Health Care	4
PTRS:6237	Community Outreach and Engagement I	1
PTRS:6250	Critical Inquiry I: Evidence-Based Practice	2
One of these (with advisor approval):		1
PTRS:7930	Critical Thinking in Neuro-Mechanical Systems	
PTRS:7931	Critical Thinking in Pain	
PTRS:7932	Critical Thinking in Biomechanics and Human Performance Assessment	
PTRS:7933	Critical Thinking in Activity-Based Plasticity	
PTRS:7934	Critical Thinking in Neural Plasticity	
PTRS:7935	Critical Thinking in Movement Science	
PTRS:7936	Critical Thinking in Cardiovascular Physiology	

### Second Year, Spring

Code	Title	Hours
PTRS:6121	Physical Therapy Management and Administration II	1
PTRS:6133	Pain Mechanisms and Treatment	2
PTRS:6172	Radiology/Imaging for Physical Therapists	2
PTRS:6173	Differential Diagnosis in Physical Therapy	2
PTRS:6203	Musculoskeletal Therapeutics III	4

PTRS:6204	Progressive Functional Exercise	2
PTRS:6225	Neuromuscular Therapeutics	3
PTRS:6238	Community Outreach and Engagement II	1
PTRS:6251	Critical Inquiry II: Rehabilitation Research	2
PTRS:6792	Integrated Clinical Education in Physical Therapy IV	1

## Third Year, Summer

Code	Title	Hours
PTRS:6794	Terminal Clinical Education in Physical Therapy I	4

## Third Year, Fall

Code	Title	Hours
PTRS:6252	Critical Inquiry III: Clinical Application	1
PTRS:6795	Terminal Clinical Education in Physical Therapy II	4
PTRS:6796	Terminal Clinical Education in Physical Therapy III	4

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. They must have completed a baccalaureate degree and all prerequisite coursework from an accredited institution in the United States, or anticipate completing the degree before enrolling in the D.P.T. program. They must have a cumulative g.p.a. of at least 3.00 and must have completed the following prerequisite coursework, preferably with a g.p.a. of at least 3.00.

All applicants must take the Graduate Record Examination (GRE) General Test. They must take the test early enough for their scores to be received prior to the application deadline.

## Prerequisite Science Courses

All science courses must include the appropriate laboratory instruction. The prerequisite courses must have been taken for a letter grade. Credit awarded through advanced placement testing may be applied only to the mathematics requirement.

## Biological Sciences

A complete introductory series of courses in principles of general biology or zoology and advanced coursework in biology or zoology (for which an introductory course is prerequisite) equivalent to 12 s.h.

## Anatomy

Human or comparative vertebrate anatomy, preferably with a lab component, equivalent to 3 s.h.

## Physiology

A systemic human physiology course equivalent to 3 s.h.

A two-course sequence of anatomy and physiology equivalent to 6 s.h., preferably with a lab component, can fulfill the physiology and anatomy prerequisites.

## Physics

A complete introductory series equivalent to 8 s.h.

## Chemistry

A complete introductory series equivalent to 8 s.h.

## Psychology

Courses equivalent to 6 s.h.

## Mathematics

A college-level mathematics course, at the level of trigonometry or higher, equivalent to 3 s.h.

## Statistics

A statistical methods course equivalent to 3 s.h.

## Applications

Applications are submitted online through the Physical Therapist Centralized Application Service (PTCAS). PTCAS allows applicants to use a single application and one set of materials to apply to multiple physical therapy programs. Once the application portfolio is complete with PTCAS, they will forward it to the University of Iowa.

Applications are accepted July 1 for entry into the D.P.T. program the following summer. Applicants who apply early and by September 15 will be given priority status in the admissions process. It is to an applicant's benefit to apply as soon as possible after July 1 as the admissions committee will begin the application review process to select those for interviews. Priority status application deadline is September 15, mid-application deadline is October 1, and final application deadline is December 1.

The physical therapy admissions committee requires personal, on-campus interviews. Since the number of students admitted into each class is limited, not all who apply for admission are invited for an interview.

## Background Checks

Enrollment in the Doctor of Physical Therapy program is contingent on a successful criminal background check. Drug screening may be required for some clinical rotations.

## Expenses

Applicants admitted to the D.P.T. program must make an advance tuition payment which is forfeited if the applicant does not enroll. In addition to paying University of Iowa tuition and fees plus departmental fees, students are assessed laboratory fees for the human anatomy and neuroanatomy courses and are responsible for purchasing supplies, such as lab coats. Students also are responsible for all costs associated with professional development and clinical experiences.

All students are required to comply with the pre-entry and periodic health screening program developed by Student Health in cooperation with University of Iowa Hospitals & Clinics. All costs incurred for the health screenings are the student's responsibility. Students also are required to have health insurance.

## Financial Support

Many academic and professional development scholarship opportunities are available to D.P.T. students matriculating

within the department; view the awards on the Department of Physical Therapy and Rehabilitation Science website.

Entering physical therapy students are eligible for financial aid as determined on the Free Application for Federal Student Aid (FAFSA). Students must sustain a strong academic performance in order to qualify for funds.

## Career Advancement

The employment outlook for physical therapy graduates is strong. Opportunities exist for professional practice in inpatient, outpatient, and community-based organizations. These include general or specialized hospitals, programs for children with disabilities, private physical therapy clinics, extended care facilities, nursing homes, community and governmental agencies, rehabilitation centers, the armed forces, foreign service, home health agencies, school systems, fitness centers, and athletic facilities. Teaching and research positions also are available as well as options for successful self-employment.

Physical therapists report a very high level of job satisfaction, driven both by prevalent employment opportunities and social interaction.

# Physical Rehabilitation Science, Ph.D.

Through coursework and participation in research, the Doctor of Philosophy program in physical rehabilitation science emphasizes the development of an individual's expertise as a researcher in rehabilitation science. Approximately 20 students are enrolled in the Ph.D. program each year.

## Learning Outcomes

Graduates who complete the program are prepared for academic appointments that emphasize research, scholarship, and teaching. They possess:

- theoretical and scientific knowledge to perform basic, applied, or clinical-level original research that leads to scientific presentations, publication in peer-reviewed journals, and competition for extramural funding through scientific grant writing;
- breadth of knowledge in exercise physiology, biomechanic, neuroscience, or motor control specialty areas as they relate to impairment, functional limitation, and disability; and
- theoretical and practical skills required for college or university teaching at the professional entry and advanced graduate levels.

## Requirements

The Doctor of Philosophy with a major in physical rehabilitation science requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00.

The program is designed to advance a student's ability to independently develop and carry out research that establishes the scientific basis for prevention, evaluation, and treatment of impairments, functional limitations, and disability. The curriculum is flexible enough to accommodate research focusing on basic, applied, or clinical studies in the rehabilitation sciences. Students have access to the program's research laboratories (see Facilities [p. 1930] in this section of the Catalog).

## Curriculum

Students and their faculty advisor develop an individualized study plan. A preliminary study plan is developed within the first 9 s.h. of graduate study; a final plan is submitted to the Graduate College when the Ph.D. comprehensive examination is scheduled.

To ensure breadth of knowledge, all students complete specific core, research, and scientific specialty area content courses. Elective courses are selected to provide in-depth study of the specialty; they are complemented by an advanced seminar course specific to a student's specialty and taken in preparation for the comprehensive examination.

Students must satisfactorily complete the comprehensive examination, which is taken after all required coursework is completed. Doctoral study culminates with 12 s.h. of thesis research and an oral examination.

## General Core Requirement

Ph.D. students must complete the following core requirements. In addition to the courses below, the

Collaborative Institutional Training Initiative (CITI)—online, web-based training—must be completed before a student enrolls in BMED:7270 and BMED:7271.

Code	Title	Hours
All of these:		
PTRS:7812	Biomedical Instrumentation and Measurement	3
PTRS:7820	Seminar in Rehabilitation Science (taken twice for 1 s.h. each)	2
PTRS:7880	Teaching Practicum	arr.
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II	0
PSQF:7385/ CSED:7385/ EDTL:7385/ EPLS:7385/ GRAD:7385	Teaching and Learning in Higher Education	3
One of these:		
BIOS:4120	Introduction to Biostatistics	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Research Requirement

Students complete at least 27 s.h. from the following. The capstone course PTRS:7900 is recommended but not required for students who enter the program with a master's or doctoral-level degree; however, it is required for students who enter with a bachelor's degree.

Code	Title	Hours
PTRS:7826	Scientific Writing in Rehabilitation Science	2
PTRS:7884	Practicum in Research	arr.
PTRS:7895	Advanced Seminar in Rehabilitation Science	arr.
PTRS:7900	Rehabilitation Research Capstone Project	arr.
PTRS:7927	Research in Rehabilitation Science	arr.
PTRS:7930	Critical Thinking in Neuro-Mechanical Systems	arr.
PTRS:7931	Critical Thinking in Pain	arr.
PTRS:7932	Critical Thinking in Biomechanics and Human Performance Assessment	arr.
PTRS:7933	Critical Thinking in Activity-Based Plasticity	arr.
PTRS:7934	Critical Thinking in Neural Plasticity	arr.
PTRS:7935	Critical Thinking in Movement Science	arr.
PTRS:7936	Critical Thinking in Cardiovascular Physiology	arr.

PTRS:7990	Thesis: Rehabilitation Science	arr.
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## Specialty Content Requirement

Students must complete at least 9 s.h. in their scientific specialty area. Students may choose courses from the following list, but other courses suited to a student's background knowledge and interest area are considered.

Code	Title	Hours
<b>Anatomy and Cell Biology</b>		
ACB:8401	Advanced Human Anatomy	arr.
<b>Epidemiology</b>		
EPID:6900	Design of Intervention and Clinical Trials	3
<b>Health and Human Physiology</b>		
HHP:6130	Advanced Skeletal Muscle Physiology	1,3
HHP:6150	Advanced Clinical Exercise Physiology	1,3
HHP:6300	Motor Control Seminar	1
HHP:6410	Advanced Exercise Physiology	1,3
HHP:6460	Advanced Cardiovascular Physiology	1,3
HHP:6470	Advanced Physiology of Aging	1,3
HHP:6480	Advanced Human Pharmacology	1,3
<b>Neuroscience</b>		
NSCI:7235/ NEUR:7235	Neurobiology of Disease	3
<b>Nursing</b>		
NURS:3460	Professional Role II: Research	3
<b>Occupational and Environmental Health</b>		
OEH:4310	Occupational Ergonomics: Principles	3
<b>Pharmacology</b>		
PCOL:5137	Neurotransmitters	1
PCOL:6207	Ion Channel Pharmacology	1
PCOL:6250	Advanced Problem Solving in Pharmacological Sciences	1
<b>Physical Therapy</b>		
PTRS:5210	Kinesiology and Pathomechanics	4
PTRS:5206	Cardiopulmonary Therapeutics	3
PTRS:6224	Activity-Based Neural and Musculoskeletal Plasticity in Health Care	4
PTRS:6250	Critical Inquiry I: Evidence-Based Practice	2
PTRS:6251	Critical Inquiry II: Rehabilitation Research	2
PTRS:6253	Functional Neuroanatomy	arr.
PTRS:7875	Analysis of Activity-Based Neural and Musculoskeletal Plasticity	3
PTRS:7899	Introduction to Pain: Overview of Theories, Concepts, and Mechanisms	1

PTRS:7901	Clinical Correlates of Pain: Syndromes and Management	1
PTRS:7902	Molecular, Cellular, and Neural Mechanisms of Pain	2
PTRS:7903	Rehabilitation Management of Pain	1

## Admission

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations. They should have a cumulative g.p.a. of at least 3.00 and scores at or above the 50th percentile for each section of the Graduate Record Exam (GRE) General Test. A minimum of two years of clinical experience may be considered highly desirable, depending on the research interest area.

Applicants whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Acceptable scores for the International English Language Testing System (IELTS) and the Duolingo English Test (DET) also may be submitted.

Application materials must include a complete Graduate College application form, test scores, transcripts, three letters of recommendation, and a statement of purpose.

Personal interviews are required of all applicants selected for consideration by the admissions committee. On-campus interviews are preferred, but telephone interviews may be substituted when necessary.

Application deadlines are October 15 for spring semester entry (notification by December 15); March 15 for summer entry (notification by May 15); and May 15 for fall semester entry (notification by July 15).

## Financial Support

A number of assistantships are available for Ph.D. students. Faculty advisors provide guidance for students seeking external scholarship support through foundations and federal programs that support Ph.D. training.

## Career Advancement

The Ph.D. program trains students to obtain positions as professors and researchers in rehabilitation science.

## Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Physical Rehabilitation Science, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
BIOS:4120 or STAT:4143	Introduction to Biostatistics or Introduction to Statistical Methods	3
<b>Hours</b>		<b>3</b>
<b>Fall</b>		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I <sup>b</sup>	0
PTRS:7812	Biomedical Instrumentation and Measurement <sup>c</sup>	3
PTRS:7820	Seminar in Rehabilitation Science <sup>d</sup>	1
Research course <sup>e</sup>		3
Research course <sup>e</sup>		2
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II <sup>b</sup>	0
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
PTRS:7820	Seminar in Rehabilitation Science <sup>d</sup>	1
Research course <sup>e</sup>		3
<b>Hours</b>		<b>7</b>
<b>Second Year</b>		
<b>Any Semester</b>		
PSQF:7385	Teaching and Learning in Higher Education	3
PTRS:7880	Teaching Practicum	1
<b>Hours</b>		<b>4</b>
<b>Fall</b>		
Research course <sup>e</sup>		3
Specialty Content course <sup>f</sup>		3
Specialty Content course <sup>f</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Research course <sup>e</sup>		3
Specialty Content course <sup>f</sup>		3
<b>Hours</b>		<b>6</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Research course <sup>e</sup>		3
Research course <sup>e</sup>		3
Research course <sup>e</sup>		3
Research course <sup>e</sup>		3
<b>Hours</b>		<b>12</b>

### Spring

Research course <sup>e</sup>		3
Research course <sup>e</sup>		3
Research course <sup>e</sup>		3
Research course <sup>e</sup>		1
<b>Hours</b>		<b>10</b>

### Fourth Year

#### Fall

PTRS:7990	Thesis: Rehabilitation Science <sup>e</sup>	6
<b>Hours</b>		<b>6</b>

#### Spring

PTRS:7990	Thesis: Rehabilitation Science <sup>e</sup>	6
Final Exam <sup>g</sup>		
<b>Hours</b>		<b>6</b>

**Total Hours** **72**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Online, web-based training on the Collaborative Institutional Training Initiative (CITI) must be completed before enrolling in BMED:7270 and BMED:7271.

c Typically offered during fall semesters of even years.

d Take twice for a total of 2 s.h.

e At least 27 s.h. of research content courses are required, but students typically take more to fulfill degree requirements. The capstone course PTRS:7900 is recommended but not required for students who enter the program with a master's or doctoral-level degree; however, it is required for students who enter with a bachelor's degree. Work with faculty advisor to determine appropriate research coursework and sequence.

f Students must complete at least 9 s.h. in their scientific specialty area; work with faculty advisor to determine appropriate graduate coursework and sequence.

g Dissertation defense.

# Physician Assistant Studies and Services

## Chair

- David P. Asprey

## Director

- Anthony E. Brenneman

## Director, Administrative and Student Services

- Thomas M. O'Shea

## Director, Clinical Education

- Carol S. Gorney

## Director, Curriculum and Evaluation

- Theresa E. Hegmann

## Medical Director

- George R. Bergus

**Graduate degree:** M.P.A.

**Faculty:** <https://medicine.uiowa.edu/pa/physician-assistant-program-faculty>

**Website:** <https://medicine.uiowa.edu/pa/>

The physician assistant profession is one of the newest and most exciting in health care. Physician assistants (PAs) are licensed to practice medicine with physician supervision. They are responsible for making medical decisions and providing a broad range of diagnostic and therapeutic services.

In the traditional office setting, PAs see patients, obtain histories, perform physical examinations, and order necessary laboratory and/or radiological studies. Based on this information, the PA establishes a diagnosis, develops an appropriate management plan, and initiates treatment that may include prescribing medications. The physician is consulted as needed and remains ultimately responsible for the care provided by the physician/PA team. PAs also are involved in both patient and community health education.

The Department of Physician Assistant Studies and Services is located on the University of Iowa health sciences campus, which includes University of Iowa Hospitals & Clinics, one of the nation's largest university-owned teaching hospitals.

## Programs

### Graduate Program of Study

#### Major

- Master of Physician Assistant Studies

## Courses

### Physician Assistant Studies and Services Courses

#### **PA:8212 Fundamentals of EKG and ACLS for Physician Assistant Students** 2 s.h.

Theory and practice with basic analysis of EKG strips and interpretation, including rhythm disturbances; completion of American Heart Association's Advanced Cardiac Life Support (ACLS) program.

#### **PA:8213 Fundamentals of Radiology for Physician Assistant Students** 1 s.h.

Theory and practice for interpretation of radiographs including general radiology, body, chest, musculoskeletal, pediatrics, and neurology. Requirements: enrollment in physician assistant studies and services.

#### **PA:8214 Fundamentals of Clinical Laboratory Medicine for Physician Assistant Students** 1 s.h.

Theory and practice of selected clinical laboratory techniques and procedures; emphasis on effective utilization of clinical laboratory in diagnosis and management of disease states. Requirements: enrollment in physician assistant studies and services.

#### **PA:8301 Seminar for Physician Assistant Students** 1 s.h.

Professional issues that affect the physician assistant's practice of medicine.

#### **PA:8302 Physician Assistant Professional and Clinical Skills** 1 s.h.

Hands-on experience and activities; suturing, injections, prescription and order writing, medical records, patient confidentiality, Iowa Law governing physician assistant practice, motivational interviewing, toddler and disability exams.

#### **PA:8303 Physician Assistant Senior Capstone** 1 s.h.

Demonstration of strong clinical knowledge base and proficiency in basic clinical problem solving; focus on student's ability to think logically and critically, integrate and synthesize knowledge, access evidence-based medical resources, document patient care appropriately, apply clinical knowledge, and demonstrate professional behavior. Requirements: enrollment in physician assistant studies and services.

#### **PA:8304 Emergency Medicine for Physician Assistant Students** arr.

Obtaining and recording pertinent historical data, obtaining indicated laboratory studies, assessing the results, arriving at a diagnosis, formulating a treatment plan, implementing appropriate therapy.

#### **PA:8305 Gynecology for Physician Assistant Students** 4 s.h.

Opportunity to develop proficiency in history and physical exams of gynecological patients; outpatient, family planning, gynecological cancer, concepts of diagnostic techniques and therapy.

#### **PA:8306 Family Practice I for Physician Assistant Students** 4 s.h.

Obtaining and recording complete history and physical exams; formulation of differential diagnosis and problem list; ordering, obtaining, and interpreting lab and diagnostic studies; implementation of therapeutic procedures and treatment plans.

**PA:8307 Family Practice II for Physician Assistant Students 4 s.h.**

Opportunity to participate in delivery of ambulatory primary care; at a different site from PA:8306.

**PA:8308 General Surgery for Physician Assistant Students 4-6 s.h.**

Preparation for work as an assistant to the generalist; outpatient and inpatient surgical services, including surgical procedures and management of postoperative course.

**PA:8309 Internal Medicine for Physician Assistant Students 4,6 s.h.**

Eliciting a medical history, doing a pertinent physical exam, obtaining indicated lab studies, assessment of results, formulation of management plan, and implementation of appropriate therapy for common internal medicine problems.

**PA:8310 Pediatrics for Physician Assistant Students arr.**

Knowledge and skills required for providing appropriate medical care to infants, children, and adolescents; initiation and promotion of interpersonal relationships.

**PA:8311 Psychiatry for Physician Assistant Students 4 s.h.**

Training in history and physical exams of psychiatry patients, including individual and family therapy, vocational testing and guidance, development of interviewing skills.

**PA:8312 Long-Term Care for Physician Assistant Students arr.**

Development of clinical knowledge and skill in diagnosing, treating, and performing procedures for patients of long-term care settings; knowledge of relevant conditions.

**PA:8320 Dermatology Elective for Physician Assistant Students arr.**

Recognizing dermatologic diseases and disorders, instituting appropriate management of patients with dermatologic problems.

**PA:8321 Neurology Elective for Physician Assistant Students arr.**

Performing general and neurological exams, establishing diagnosis, recommending lab studies, instituting appropriate management of common neurological diseases and disorders, recognizing the need for urgent treatment.

**PA:8322 Obstetrics for Physician Assistant Students arr.**

Proficiency in physical exam of OB patients; applying concepts of diagnostic techniques and therapy; following patients' course, including labor, delivery, and postpartum care.

**PA:8323 Ophthalmology Elective for Physician Assistant Students arr.**

Proficiency in recognizing ophthalmology problems; how to institute appropriate management of these conditions.

**PA:8324 Otolaryngology Elective for Physician Assistant Students arr.**

Proficiency in recognizing otolaryngology problems; how to institute appropriate management of these conditions; opportunity for involvement in varied surgical procedures.

**PA:8325 Pediatric Elective for Physician Assistant Students arr.**

Experience working with children and adolescents.

**PA:8326 Radiology Elective for Physician Assistant Students arr.**

Proficiency in systematic evaluation of normal and abnormal routine radiologic examinations; listing indications for special exam procedures, including details of prepping the patient.

**PA:8327 Pediatric Elective (Hematology/Oncology) for Physician Assistant Students arr.**

Basic clinical knowledge and skills for diagnosis, treatment, and management of pre- and post-bone marrow transplant patients.

**PA:8328 Pediatric (Cardiology) Elective for Physician Assistant Students arr.**

Cardiovascular assessment and problem management of pediatric patients; experience with a range of acute, chronic, common, and rare cardiology diseases.

**PA:8329 Psychiatry Elective for Physician Assistant Students arr.**

Training in evaluation and treatment of psychiatry patients.

**PA:8330 Surgery Elective for Physician Assistant Students arr.**

Experience in a wide range of surgical problems, procedures, and treatments, including diagnosis, care and treatment, and postoperative courses of surgical patients.

**PA:8331 Surgery Elective (Transplant/Organ Retrieval) for Physician Assistant Students arr.**

Extensive experience in care of patients with end-stage organ failure; evaluation of potential transplant candidates, participation in surgical procedures on transplant service.

**PA:8332 Surgery Elective (Burn Unit) for Physician Assistant Students arr.**

Involvement in care on burn unit and in operating room; skills in burn debridement, grafting techniques, skin storage techniques, dressing changes, tub baths, and physical therapy procedures.

**PA:8333 Surgery Elective (Cardiac Surgery) for Physician Assistant Students arr.**

Development of technical skills in operating room; essentials of preoperative evaluation and postoperative management of cardiac surgical patient.

**PA:8334 Orthopedics Elective for Physician Assistant Students arr.**

Recognition of varied orthopedic problems and treatments; musculoskeletal diseases and disorders, both emergencies and common conditions, and how to establish appropriate management.

**PA:8335 Internal Medicine Elective for Physician Assistant Students arr.**

Training in varied internal medicine problems; recognition, appropriate treatment.

**PA:8336 Internal Medicine (Cardiology) Elective for Physician Assistant Students arr.**

Cardiovascular assessment and problem management; experience with wide range of acute, chronic, common, and rare diseases.

**PA:8337 Internal Medicine (EKG) Elective for Physician Assistant Students arr.**

Experience reading electrocardiograms, interpreting cardiac arrhythmias, performing and evaluating EKG stress tests.

**PA:8338 Internal Medicine (Gastroenterology) Elective for Physician Assistant Students arr.**

Experience with a wide range of gastrointestinal pathology; history and physical exams of gastrointestinal diagnostic procedures, follow-up care of patients through outpatient clinics.



**PA:8339 Internal Medicine (Oncology) Elective for Physician Assistant Students arr.**

Experience to develop diagnostic skills in clinical oncology and gain familiarity with methods of staging common cancers; assistance in therapy and outpatient management of cancer patients.

**PA:8340 Internal Medicine (Geriatrics) Elective for Physician Assistant Students arr.**

Familiarity with broad spectrum of medical conditions among the elderly; experience in history and physical exams, diagnosis of geriatric patients along with follow-up visits.

**PA:8341 Internal Medicine (Pulmonary) Elective for Physician Assistant Students arr.**

Development of basic clinical knowledge and skills for diagnosis, treatment, and management of pulmonary diseases.

**PA:8342 Internal Medicine (Palliative Care/Hospice) Elective for Physician Assistant Students arr.**

Work on a hospice care team performing evaluation, treatment, and education of patients with terminal illnesses; dealing with the prospect of death.

**PA:8343 Internal Medicine (Infectious Disease) Elective for Physician Assistant Students arr.**

Development of basic clinical knowledge and skills for diagnoses, treatment, and management of infectious diseases.

**PA:8345 Urology Elective for Physician Assistant Students arr.**

Proficiency in managing patients with urologic conditions; skill in taking a urologic history, performing physical exams, interpreting laboratory studies and data.

**PA:8346 Family Practice Elective for Physician Assistant Students arr.**

Proficiency in delivering ambulatory primary care.

**PA:8347 Gynecology Elective (Women's Health) for Physician Assistant Students arr.**

Experience in annual gynecologic exams, PAP screening, gynecology problems, contraception issues, STD screening and counseling, common gynecologic procedures.

**PA:8348 Migrant Health Elective for Physician Assistant Students arr.**

Basic clinical knowledge and skills for diagnosis, treatment, and prevention of diseases, injuries, and conditions related to environmental exposure in migrant worker populations.

**PA:8349 Occupational Medicine Elective for Physician Assistant Students arr.**

Basic clinical knowledge and skills for diagnosis, treatment, and prevention of work-related diseases, injuries, and conditions related to environmental exposure.

**PA:8350 Pediatrics (Neonatology) Elective for Physician Assistant Students arr.**

Basic clinical knowledge and skill for diagnosis, treatment, and management of critically ill infants.

**PA:8351 Internal Medicine (Rheumatology) for Physician Assistant Students arr.**

Basic clinical knowledge and skills for diagnosis, treatment, and management of rheumatologic diseases.

**PA:8352 Medical Intensive Care for Physician Assistant Students arr.**

Basic clinical knowledge and skills for diagnosis, treatment, and management of critically ill patients.

**PA:8353 International Medicine for Physician Assistant Students arr.**

Basic clinical knowledge and skills for diagnosis, treatment, and prevention of diseases, injuries, and conditions relevant to international medicine.

**PA:8354 Interventional Radiology for Physician Assistant Students arr.**

Basic clinical knowledge and skills for diagnosis and treatment of conditions requiring interventional therapy.

**PA:8355 Gynecologic Oncology Elective for Physician Assistant Students arr.**

Experience developing diagnostic skills in clinical gynecologic oncology, learning methods of staging specific cancers; and assisting in therapy and outpatient management of patients with varied cancers.

**PA:8356 Wilderness Medicine for Physician Assistant Students arr.**

Four-week emergency medicine elective taken in conjunction with Carver College of Medicine; mix of didactic and experiential learning; ten-day trip to Colorado to learn about hypothermia, altitude medicine, search and rescue, field evaluation, treatment and evacuation of common back country injuries; lectures and simulations.

**PA:8357 Physician Assistant Transitions to Clinical Rotations 1 s.h.**

Additional didactic and hands-on skills essential for preparation prior to core and elective clinical rotations. Requirements: enrollment in physician assistant studies and services.

**PA:8358 Internal Medicine (Endocrinology) Elective for Physician Assistant Students arr.**

Basic clinical knowledge and skills for diagnosis treatment and management for common endocrinology diseases.

**PA:8359 Surgery Elective for Physician Assistant Students (Plastics and Reconstruction) arr.**

Experience in a wide range of surgical problems, procedures, and treatments in medical reconstruction, plastics, and trauma; includes diagnosis, care and treatment, and postoperative courses for surgical patients.

**PA:8360 Physician Assistant Summer Clinicals 6 s.h.**

Clinical course for physician assistant students during their second summer session.

**PA:8361 Physician Assistant Remediation and Self Study arr.**

Completion of remediation or self-study program requirements.

**PA:8362 Independent Study for Physician Assistant Students arr.**

Students work on alternative experiences to supplement coursework and/or clinical experiences throughout various areas of the physician assistant program; self-guided experiences with faculty supervision.

**PA:8363 Primary Care Academic Rotation arr.**

Additional academic opportunities that enhance previous experiences gained in a clinical setting; emphasis on student participation in direct activities to supplement primary care experiences with observation and simulation activities as needed to provide a balanced experience in meeting course objectives.

**PA:8364 Emergency Medicine Elective for Physician Assistant Students 2,4,6,8,10 s.h.**

Training in varied emergency medicine problems; recognition and appropriate treatments.

# Psychiatry

## Chair

- Peggy C. Nopoulos

**Faculty:** <https://medicine.uiowa.edu/psychiatry/profile/>

**Website:** <https://medicine.uiowa.edu/psychiatry/>

The Department of Psychiatry teaches M.D. students, principally during their third year, and trains resident physicians for academic and clinical careers in psychiatry.

## Research

Department of Psychiatry staff members are involved in genetic and family studies of psychiatric disorders and research in genetic and biological psychiatry, neurochemistry, neuroimaging, neurophysiology, neuropsychiatry, psychosocial aspects of behavior, and neuroinvasive brain stimulation.

The department's students and residents have many research opportunities in psychiatry and in the basic science areas of neurochemistry, neurophysiology, and electrophysiology. The clinical areas of psychology, child psychiatry, and psychotherapy also offer opportunities for research and further study to a limited number of students.

## Residency

The department offers a four-year training program approved by the Residency Review Committee of the American Medical Association. Training experiences are available at University of Iowa Hospitals & Clinics and at the VA Iowa City Health Care. Additional experiences are available at affiliated institutions: Broadlawns Medical Center in Des Moines, the Iowa Medical and Classification Center at Oakdale, the Mid-Eastern Iowa Community Mental Health Center in Iowa City, and the Independence Mental Health Institute (Iowa Department of Human Services).

The department also offers an approved two-year residency in child psychiatry. Fellowships in consult/liason psychiatry and addiction medicine are available after residency training.

## Courses

### Psychiatry Courses

- PSYC:8301 Clinical Psychiatry** **4 s.h.**  
Requirements: third-year M.D. enrollment.
- PSYC:8401 Adult Psychiatry, Pappajohn Pavilion** **arr.**  
Requirements: M.D. enrollment.
- PSYC:8402 Child Psychiatry, Pappajohn Pavilion** **arr.**  
Roles of child psychiatry as a consultation service.  
Requirements: M.D. enrollment.
- PSYC:8403 Adult Outpatient Psychiatry and Psychotherapy** **2,4 s.h.**  
Diagnostic assessment, evaluation, treatment of psychiatric patients; exposure to both psychotherapeutic, psychopharmacologic treatments. Requirements: M.D. enrollment.

**PSYC:8404 Women's Wellness and Counseling Service** **4 s.h.**

Experience evaluating and treating women with mental illness, with some emphasis on practitioner's autonomy; four-week rotation. Requirements: psychiatry clerkship.

**PSYC:8405 Advanced Inpatient Subinternship in Medical Psychiatry** **4 s.h.**

Hands-on experience in evaluation and treatment of patients with combined medical and psychiatric disease; decisions regarding appropriate consultations, diagnostic tests, treatment; etiology and pathophysiology. Requirements: M.D. enrollment.

**PSYC:8408 Advanced Inpatient Subinternship in Mood/Psychotic Disorders** **4 s.h.**

Subinternship in adult psychiatry; experiences that maximize autonomy and responsibility; inpatient rotation focuses on one subspecialty area (psychotic disorders or mood disorders); emphasis on substantial medical comorbidity; assess and address medical and psychiatric needs of assigned patients in a collaborative and integrative fashion; assess and manage patients independently at the level of a psychiatry intern, reporting directly to the attending; call is required; didactic curriculum focuses on critical appraisal of medical literature. Prerequisites: PSYC:8301. Requirements: fourth-year M.D. enrollment.

**PSYC:8409 Eating Disorders** **2,4 s.h.**

Inpatient rotation; emphasis on co-occurring psychiatric and comorbid medical conditions associated with eating disorders; patient assessment and management at an advanced level; direct patient care and engagement in clinical decision making for complex patients with substantial comorbidity; call is required; student experience maximizes autonomy and responsibility; didactic curriculum; focus on critical appraisal of relevant medical literature. Prerequisites: PSYC:8301. Requirements: fourth-year M.D. enrollment.

**PSYC:8410 Intellectual Disability** **2,4 s.h.**

In-depth two week clinical experience in the interdisciplinary approach to assessment and management of individuals with intellectual disability. Requirements: M.D. enrollment.

**PSYC:8411 Substance Use** **2,4 s.h.**

In-depth clinical experience in assessment and management of individuals with alcohol and drug abuse. Requirements: M.D. enrollment.

**PSYC:8412 Emergency Psychiatry** **2,4 s.h.**

In-depth clinical experience in assessment and management of acute psychiatric illness under supervision of faculty with expertise in care within this setting; clinical experiences centered in emergency department at University of Iowa Hospitals & Clinics. Prerequisites: PSYC:8301. Requirements: third- or fourth-year M.D. enrollment.

**PSYC:8413 The Thriving Physician** **2 s.h.**

Two-week elective for medical students in their clinical years; designed to promote awareness, wellbeing, compassion, and career satisfaction through contemplative practices and the integration of concepts of positive psychology into daily living; through readings, discussions, and experiential activities, physicians-in-training will learn how to engage in reflective personal and professional self-care; classes will be half-day in length with time outside of class dedicated to practicing and incorporating skills into everyday activities. Requirements: M.D. enrollment.

**PSYC:8414 Consultation Psychiatry 2,4 s.h.**

Opportunity for in-depth clinical experience in psychiatric assessment and management of general medical and surgical patients; elective clerks serve on consultation-liaison psychiatry teams at the University of Iowa Hospitals & Clinics and the VA Iowa City Health Care; may include opportunities for outpatient work in relevant settings (e.g., emergency psychiatry, outpatient clinics providing integrated psychiatric and medical care). Requirements: M.D. enrollment.

**PSYC:8415 Geriatric Inpatient Psychiatry 4 s.h.**

Rotation in Department of Psychiatry specialized inpatient geriatric psychiatry unit; students work under faculty and resident supervision.

**PSYC:8450 Continuity of Care in Psychiatry 4 s.h.**

Experience in Psychiatry Continuity of Care Clinic; maximizes autonomy and responsibility in an outpatient continuous care setting. Requirements: fourth-year M.D. enrollment.

**PSYC:8497 Research in Psychiatry arr.**

Experience and training in practical application of scientific methodology; work with research project at psychiatric service or affiliated cooperating research centers.

**PSYC:8498 Psychiatry On Campus arr.**

Arranged by student with departmental approval. Requirements: M.D. enrollment.

**PSYC:8499 Psychiatry Off Campus arr.**

Requirements: M.D. enrollment.

# Radiation Oncology

## Chair

- John M. Buatti

## Director, Medical Physics Residency Program

- Joël J. St-Aubin

## Director, Physician Residency Program

- Carryn M. Anderson

## Associate Director, Physician Residency Program

- Kristin A. Plichta

**Faculty:** <https://medicine.uiowa.edu/radiationoncology/profile/?appointment=PRIMARY&category=&query=&page=1&size=10>  
**Website:** <https://medicine.uiowa.edu/radiationoncology/>

Radiation oncology specializes in the delivery of radiation treatments for cancer patients. It includes treatments with linear accelerators as well as isotopes and temporary and permanent surgically implanted sources. Radiation oncologists also use these methods to treat some benign diseases, such as Graves' ophthalmopathy and trigeminal neuralgia. Treatments often employ stereotactic CT-image guided and MR-image guided techniques.

The Department of Radiation Oncology is dedicated to educating undergraduate and graduate students, M.D. and other health professions students, and residents. Its faculty members provide instruction for Doctor of Philosophy students in the Free Radical and Radiation Biology Program [p. 1877] through their participation in FRRB:3110 Medical Physics I, FRRB:3215 Medical Physics II, FRRB:5000 Radiation Biology, FRRB:7000 Redox Biology and Medicine, and FRRB:7001 Molecular and Cellular Biology of Cancer.

The department's professional staff provides training in radiation therapy technology for undergraduate students in the Radiation Sciences Program [p. 1949] by teaching courses RSTH:3120 Radiation Therapy Clinical Internship I, RSTH:3225 Radiation Therapy Clinical Internship II, RSTH:3325 Radiation Therapy Clinical Internship III, RSTH:4125 Radiation Therapy Clinical Internship IV, and RSTH:4225 Radiation Therapy Clinical Internship V.

The department also offers specialized research projects and sponsors postdoctoral students in biology, physics, and clinical disciplines by arrangement with the instructor or mentor. Frequently, students from the Departments of Biomedical Engineering and Electrical and Computer Engineering are involved.

## Residency

The department provides a four-year physician residency training program in radiation oncology that includes clinical care and education. It also has a two-year residency program in medical physics.

M.D. students can elect a four-week radiation oncology rotation and/or a two-week multidisciplinary cancer care elective. Nursing students, dental residents, and fellows in gynecologic oncology, breast cancer, and in adult and

pediatric hematology and oncology complete rotations in the department.

## Courses

### Radiation Oncology Courses

- RADO:8401 Radiation Oncology for Medical Students** **4 s.h.**  
 Integration of clinical oncology, physics, and cancer biology; clinical work with faculty mentors; experience in clinical evaluation, technical physics, biological application.
- RADO:8491 Introduction to Radiation Oncology** **2 s.h.**  
 Role of radiation therapy in the management cancer patients; exposure to a variety of radiation oncology topics including basic principles of radiation oncology, radiation physics, radiation/cancer biology, oncologic work-up and management, and radiation treatment planning; for advanced medical students with an interest in radiation oncology or oncology related specialties.
- RADO:8497 Research in Radiation Oncology** **arr.**  
 Medical research, clinical or laboratory projects; individual study.
- RADO:8498 Radiation Oncology On Campus** **arr.**  
 Arranged by student with department approval.
- RADO:8499 Radiation Oncology Off Campus** **arr.**  
 Arranged by student with department approval.

# Radiation Sciences

## Director, Undergraduate Program

- Anthony W. Knight

## Director, Diagnostic Medical Sonography Program

- Stephanie Ellingson

## Director, Radiation Therapy Program

- Jared L. Stiles

## Director, Radiologic Technology Program

- Holly Bonfig-Becker

## Director, Student Affairs

- Jennifer J. Maiers

**Undergraduate major:** radiation sciences (B.S.)

**Website:** <https://medicine.uiowa.edu/radsci/>

Radiation sciences professionals work with physicians to gather accurate patient information for diagnosis, treatment, and/or research of disease and injury. They provide direct patient care, produce quality images, and deliver treatment using a variety of radiation sources. The radiation sciences professional must apply knowledge, skill, and mature judgment while operating complex equipment safely and efficiently. Strong communication, organizational, and patient care skills are essential for a successful career in radiation sciences.

The University of Iowa's radiation sciences educational programs are designed to provide students with opportunities for intellectual, professional, and social growth. Students learn with faculty members and instructors who are committed to radiation sciences education.

Radiation sciences is one of two undergraduate majors in the field of medical imaging offered by the Carver College of Medicine. It encompasses radiologic technology, breast imaging, computed tomography, magnetic resonance imaging, cardiovascular interventional, diagnostic medical sonography, and radiation therapy programs. The other undergraduate major in medical imaging is nuclear medicine technology; see Nuclear Medicine Technology [p. 1909] in the Catalog.

The Carver College of Medicine is located on the University of Iowa health sciences campus, which includes University of Iowa Hospitals & Clinics, one of the nation's largest university-owned teaching hospitals. For information about the college's academic programs and resources, see Carver College of Medicine [p. 1830] in the Catalog.

UI Health Care and the Carver College of Medicine have a proud academic tradition of preparing students for successful careers in the radiation sciences. Today, that tradition continues through its strong curriculum, quality clinical experience, and commitment to undergraduate education in the creation of images and treatment of patients using highly sophisticated equipment and techniques.

The Carver College of Medicine, in partnership with the Department of Radiology, shares the University's commitment to equal access, and consistent with its academic mission and standards, strives to achieve excellence through the advancement of diversity, equity, and inclusion. The college is mindful of all aspects of human difference and defines

diversity in the broadest sense to mean inclusion of all persons. The programs it offers strive to create a welcoming and inclusive culture.

## Programs

### Undergraduate Program of Study

#### Major

- Major in Radiation Sciences (Bachelor of Science) [p. 1957]

## Courses

- Breast Imaging Courses [p. 1949]
- Cardiovascular Interventional Courses [p. 1950]
- Computed Tomography Courses [p. 1950]
- Diagnostic Medical Sonography Courses [p. 1951]
- Magnetic Resonance Courses [p. 1953]
- Radiation Sciences Courses [p. 1954]
- Radiation Therapy Courses [p. 1954]
- Radiologic Technology Courses [p. 1955]

### Breast Imaging Courses

#### RSBI:3310 Patient Care for Breast Imaging 3 s.h.

Foundation for providing high-quality patient care during breast imaging exams and procedures; patient communication, assessment, and treatment options including surgical, nonsurgical, and reconstruction. Requirements: acceptance to radiation sciences RT degree track or ARRT primary certification in radiography.

#### RSBI:3315 Breast Imaging Clinical Internship I 2 s.h.

Breast imaging clinical internship practicum at UI Health Care; rotation through department imaging rooms; competency and objective-based education with required clinical performance evaluations; participation in routine and advanced breast imaging exams; performance expectations become progressively higher as students gain experience and skills. Requirements: radiation sciences major.

#### RSBI:4110 Breast Imaging Procedures and Analysis 3 s.h.

Breast imaging exams including technique, image evaluation, and positioning.

#### RSBI:4115 Breast Imaging Clinical Internship II 4 s.h.

Breast imaging clinical internship scheduled at University of Iowa Hospital & Clinics; rotation through department imaging rooms; competency and objective-based education with required clinical performance evaluations; experience facilitated by breast imaging technologists, radiologists, residents, and clinical coordinator; participation in routine and advanced breast imaging exams; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSBI:3315. Requirements: radiation sciences major.

#### RSBI:4120 Anatomy and Pathology for Breast Imaging 2 s.h.

Anatomy, localization terminology, histology, and cytology; pathology including mammographic appearance and reporting terminology; benign, high risk, and malignant conditions and their mammographic appearances.

**RSBI:4130 Breast Imaging Acquisitions and Principles** 2 s.h.

Physics and hardware used in obtaining exams in breast imaging; equipment operations including design characteristics of mammography units, digital acquisition, display, and informatics.

**RSBI:4210 Breast Imaging Advanced Procedures and Analysis** 3 s.h.

Advanced breast imaging modalities including breast sonography, breast MRI, sentinel node mapping, and interventional procedures.

**RSBI:4215 Breast Imaging Clinical Internship III** 4 s.h.

Breast imaging clinical internship scheduled at University of Iowa Hospitals & Clinics; rotation through department imaging rooms; competency and objective-based education with required clinical performance evaluations; experience facilitated by breast imaging technologists, radiologists, residents, and clinical coordinator; participation in routine and advanced breast imaging exams; performance expectations become progressively higher as students gain experience and skills.

**RSBI:4220 Quality Control in Breast Imaging** 3 s.h.

Quality control aspects related to breast imaging; quality assurance and evaluation including accreditation, certification, and Mammography Quality Standards Act (MQSA) regulations; quality control including mammographers tests and digital quality control tests; medical physicist test including general quality control tests and quality control tests specific to digital imaging and tomosynthesis.

## Cardiovascular Interventional Courses

**RSCI:4110 Vascular Anatomy** 3 s.h.

Normal arterial and venous anatomy of the circulatory system illustrated through angiographic, magnetic resonance imaging (MRI), and computed tomography (CG) images; common variants. Prerequisites: ACB:3110 or HHP:1100 or HHP:1150 or HHP:3105 or HHP:3115.

**RSCI:4120 CVI Principles** 4 s.h.

Imaging and accessory equipment for vascular interventional and cardiac interventional procedures; imaging equipment quality control; fundamental principles of vascular and cardiac procedures; patient preparation and care, radiation safety, contrast medium, pharmacology, and sedation. Corequisites: RSCI:4110. Requirements: acceptance to B.S. radiation science RT/CVI track or ARRT primary RT certification.

**RSCI:4130 Electrocardiogram and Hemodynamics** 3 s.h.

ECG analysis, hemodynamic principles and waveform analysis, cardiac output, vascular resistance, calculations of stenotic valves. Prerequisites: ACB:3110 or HHP:1100 or HHP:1150.

**RSCI:4140 CVI Peripheral Procedures and Pathology** 3 s.h.

Angiographic and interventional procedures of the abdomen, thorax, and upper and lower extremities; associated pathologies. Prerequisites: RSCI:4110. Corequisites: RSCI:4120, if not taken as a prerequisite. Requirements: RSCI:4110 or three months CVI experience.

**RSCI:4150 CVI Neurology and Nonvascular Procedures and Pathology** 3 s.h.

Angiographic and interventional procedures of the head and neck; associated pathologies. Prerequisites: RSCI:4110. Corequisites: RSCI:4120, if not taken as a prerequisite. Requirements: RSCI:4110 or three months CVI experience.

**RSCI:4160 CVI Cardiac Procedures and Pathology** 4 s.h.

Cardiac diagnostic and interventional procedures; associated pathologies. Prerequisites: RSCI:4110. Corequisites: RSCI:4120 and RSCI:4130, if not taken as prerequisites. Requirements: RSCI:4110 or three months CVI experience.

**RSCI:4170 CVI Clinical Internship III** 4 s.h.

Cardiac-interventional clinical time scheduled at University of Iowa Hospitals & Clinics and Mercy Hospital, Iowa City; rotations in adult cardiac, electrophysiology, and pediatric catheterization; competency and objective-based education provided with clinical performance evaluations and constructive feedback from CI staff and clinical coordinator; clinical coordinator facilitates schedules, rotations, learning objectives, evaluations, and competencies. Corequisites: RSCI:4130 and RSCI:4160, if not taken as prerequisites. Requirements: acceptance to B.S. radiation sciences RT/CVI track.

**RSCI:4180 CVI Clinical Internship II** 4 s.h.

Vascular-interventional clinical time scheduled at University of Iowa Hospitals & Clinics; labs specialize in peripheral, neuro- and non-vascular procedures; competency and objective-based education; clinical performance evaluations providing constructive feedback from VI staff and clinical coordinator; clinical coordinator facilitates schedules, rotations, learning objectives, evaluations, and competencies. Corequisites: RSCI:4140 and RSCI:4150, if not taken as prerequisites. Requirements: acceptance to B.S. radiation sciences RT/CVI track.

**RSCI:4190 CVI Clinical Internship I** 2 s.h.

Introduction to VI and CI labs including basic set up, equipment, and procedures; preparation to spend more concentrated time in each area for future internships; provides 192 hours of clinical experience over a 12-week period. Requirements: acceptance to radiation sciences RT/CVI degree track or CVI clinical internship.

## Computed Tomography Courses

**RSCT:4100 Sectional Anatomy for Imaging Sciences** 3 s.h.

Sectional anatomy identifiable on computed tomography and magnetic resonance imaging, including transverse, coronal, and sagittal planes. Prerequisites: ACB:3110 or HHP:1100 or HHP:1150 or HHP:3105 or HHP:3115.

**RSCT:4105 Computed Tomography Clinical Internship I** 2 s.h.

Clinical internship scheduled at University of Iowa Hospitals & Clinics; rotation through CT scanners, 3D lab, and radiation therapy departments; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as student gains experience and skills. Requirements: acceptance to B.S. radiation sciences RT/CT track.

**RSCT:4110 CT/MRI Pathology** 3 s.h.

Common pathological conditions found in CT and MRI images; protocol appearance variations; units of CNS, musculoskeletal, neck/thorax, and abdominopelvic pathology; textbook readings, in-class discussions, special projects including case studies and presentations. Requirements: concurrent enrollment in RSCT:4100, if not taken as a prerequisite, or at least 3 months fulltime CT/MRI clinical experience.

**RSCT:4115 Computed Tomography Clinical Internship II** 4 s.h.

CT scanners, 3D lab, and radiation therapy department rotation at University of Iowa Hospitals & Clinics; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedule, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSCT:4105.

**RSCT:4120 Computed Tomography Procedures I** 4 s.h.

Computed tomography procedures of the head, neck, thorax, mediastinum, abdomen, and pelvis; positioning techniques, patient preparation, monitoring and care, indications and contraindications for procedures; contrast media usage; basic protocol information with adjustments to tailor procedures for patient's indications; brief units on patient care relevant to CT; CT parameters and equipment. Corequisites: RSCT:4100. Requirements: acceptance to B.S. radiation sciences RT/CT track or ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy.

**RSCT:4125 Computed Tomography Procedures II** 4 s.h.

Imaging information in musculoskeletal exams, 3D reconstruction, CTAs; cardiac, including gating, biopsies, drains, post-myelography, radiation therapy planning, and 4D imaging; CT arthrography, PET/CT, SPECT/CT, virtual colonoscopy; procedure indications and contraindications, patient and room preparation, positioning techniques, contrast media usage, and scan parameters; basic protocol information and how to tailor procedures to a patient's indications. Prerequisites: RSCT:4120. Corequisites: RSCI:4110, if not taken as a prerequisite.

**RSCT:4130 Computed Tomography Physical Principles and QC** 4 s.h.

Physical principles and instrumentation; historical development and evolution of CT; characteristics of radiation, beam attenuation, linear attenuation coefficients, tissue characteristics, Hounsfield numbers, data acquisition, image manipulation techniques, tube configuration, collimation design and function, detectors, image quality factors, functions of CT computer and array processor; image processing and display examined from data acquisition through postprocessing and archiving; radiation protection practices and QC. Requirements: acceptance to B.S. radiation sciences RT/CT degree track or ARRT primary certification in radiologic technology, nuclear medicine, or radiation therapy.

**RSCT:4215 Computed Tomography Clinical Internship III** 4 s.h.

CT scanners, 3D lab, and radiation therapy department rotation at University of Iowa Hospitals & Clinics; competency and objective-based education with required clinical performance evaluations; clinical coordinator facilitates schedule, rotations, learning objectives, evaluations, and competencies; experience facilitated by CT technologists, radiologists, residents, and coordinator; participation in routine and advanced CT scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSCT:4115.

**Diagnostic Medical Sonography Courses****RSMS:3100 Cardiac Sonography I** 3 s.h.

Anatomy and physiology of cardiovascular system imaged sonographically; proper sonographic imaging techniques, normal anatomy, exam protocol, and proper instrument settings; pathology and pathophysiology of common conditions related to adult cardiovascular system. Prerequisites: RSMS:3110 with a minimum grade of C.

**RSMS:3101 Cardiac Sonography I Lab** 2 s.h.

Laboratory-based learning and simulation experience involving basic sonographic adult cardiac imaging and clinical history analysis; students perform sonographic exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plane orientation, transducer manipulation, instrumentation, and exam protocols. Prerequisites: RSMS:3111 with a minimum grade of C. Corequisites: RSMS:3100.

**RSMS:3110 Foundations of Sonography** 3 s.h.

Sonography history, ergonomics, terminology, image orientation; basic theories of sound waves, echo production, transducers, equipment operation, body imaging, Doppler, hemodynamics.

**RSMS:3111 Foundations of Sonography Lab** 1 s.h.

Sonography history, ergonomics, terminology, image orientation; basic theories of sound waves, echo production, transducers, equipment operation, body imaging, Doppler, and hemodynamics. Corequisites: RSMS:3110.

**RSMS:3115 Diagnostic Medical Sonography Clinical Internship I** 2 s.h.

Introductory clinical experience in health care setting developing a basic understanding of sonography clinical environment and professional practice standards; applying patient care techniques and developing professional communication skills. Prerequisites: RSP:2120.

**RSMS:3120 Abdominal Sonography I** 3 s.h.

Embryology, anatomy, and physiology of various abdominal structures imaged sonographically; abdominal vasculature, hepatobiliary system, pancreas, urinary system, adrenals, spleen, male anatomy; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings. Prerequisites: RSMS:3110 with a minimum grade of C.

**RSMS:3121 Abdominal Sonography I Lab** 1 s.h.

Laboratory-based learning and simulation experience in sonographic abdominal imaging; students perform exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plane orientation, transducer manipulation, instrumentation, and exam protocols. Prerequisites: RSMS:3111 with a minimum grade of C. Corequisites: RSMS:3120.

**RSMS:3130 Obstetrical and Gynecological Sonography I** 3 s.h.

Embryology, anatomy, and physiology of the female reproductive system and developing fetus; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings. Prerequisites: RSMS:3110 with a minimum grade of C.

**RSMS:3131 Obstetrical and Gynecological Sonography I Lab 1 s.h.**

Laboratory-based learning and simulation experience involving basic sonographic obstetrical and gynecological imaging and clinical history analysis; students perform sonographic exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plan orientation, transducer manipulation, instrumentation, and exam protocols. Prerequisites: RSMS:3111 with a minimum grade of C. Corequisites: RSMS:3130.

**RSMS:3140 Vascular Sonography I 3 s.h.**

Anatomy and physiology of peripheral and cerebral vascular systems; analysis of hemodynamics, Doppler waveforms, pressure measurements, plethysmography, sonographic appearance, scanning techniques; evaluation of pathology and pathophysiology common to the lower extremity arterial and venous systems, and cerebrovascular system. Prerequisites: RSMS:3110 with a minimum grade of C.

**RSMS:3141 Vascular Sonography I Lab 1 s.h.**

Laboratory-based learning and simulation experience involving basic vascular sonographic imaging and clinical history analysis; students perform non-imaging vascular physiologic tests and sonographic exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plane orientation, transducer manipulation, instrumentation, and exam protocols. Prerequisites: RSMS:3111 with a minimum grade of C. Corequisites: RSMS:3140.

**RSMS:3150 Cardiac Physiology and Hemodynamics 3 s.h.**

Analysis of cardiac physiology and hemodynamics related to sonography; correlation with Doppler application in cardiovascular imaging, ECG, auscultation, cardiac catheterization; advanced and developing imaging techniques.

**RSMS:3205 Cardiac Sonography II 3 s.h.**

Sonographic evaluation of advanced pathophysiology of human heart; sonographic appearance, imaging techniques, and exam modification. Prerequisites: RSMS:3100.

**RSMS:3206 Cardiac Sonography II Lab 1 s.h.**

Laboratory-based learning and simulation experience involving the application of advanced sonographic cardiac imaging and clinical history analysis. Prerequisites: RSMS:3101. Corequisites: RSMS:3205.

**RSMS:3215 Diagnostic Medical Sonography Clinical Internship II 3 s.h.**

Application of basic skills of sonographic imaging and physiologic vascular testing in the health care setting.

**RSMS:3230 Sonography Principles, Physics, and Instrumentation 3 s.h.**

Physical principles of sound waves, their applications to imaging of the human body, operation and physical characteristics of various ultrasound transducers, method by which the sound wave is converted into a visual image, instrumentation components and their functions, Doppler principles, image artifacts, advanced hemodynamics, and spectral Doppler waveform analysis. Prerequisites: RSMS:3110.

**RSMS:3231 Sonography Principles, Physics, and Instrumentation Lab 1 s.h.**

Laboratory-based learning and simulation experience in the application of sonographic imaging emphasizing physics principles, instrumentation, and quality assurance testing. Corequisites: RSMS:3230.

**RSMS:3240 Abdominal Sonography II 3 s.h.**

Pathology and pathophysiology of abdominal and superficial structures imaged sonographically; interventional sonographic procedures; post-procedure protocol; associated clinical and laboratory findings; imaging techniques, analysis of findings, and documentation of pathology. Prerequisites: RSMS:3120.

**RSMS:3250 Obstetrical and Gynecological Sonography II 3 s.h.**

Sonographically related pathological and abnormal congenital conditions of gynecology and obstetrics, infertility, assisted reproductive therapy, invasive procedures in obstetrics and gynecology, postpartum complications and maternal-fetal bonding; clinical findings, laboratory studies, and prognosis correlated with sonographic findings; appropriate image analysis and documentation of pathology. Prerequisites: RSMS:3130.

**RSMS:3260 Breast Sonography 2 s.h.**

Embryology, anatomy, physiology, and pathophysiology of the breast as it relates to sonographic imaging; proper sonographic imaging techniques, including appearance of normal anatomy, imaging protocol, proper instrument settings; sonographic findings of diseases involving the breast.

**RSMS:3270 Vascular Sonography II 3 s.h.**

Pathology and pathophysiology of complex diseases of the peripheral, cerebral, and abdominal vascular systems evaluated sonographically; associated clinical findings; techniques in physiologic, nonimaging tests, and duplex sonography; analysis of findings and documentation of pathology. Prerequisites: RSMS:3140.

**RSMS:3300 Pediatric Sonography 3 s.h.**

Anatomy, sonographic anatomy, pathophysiology, sonographic appearance, and Doppler correlation of disorders affecting the pediatric population, including abdominal, musculoskeletal, peripheral vascular, and cerebrovascular systems, neonatal brain and spinal cord.

**RSMS:3305 Pediatric Cardiac Sonography 3 s.h.**

Anatomy, sonographic anatomy, pathophysiology, sonographic appearance, and Doppler correlation of disorders affecting the pediatric cardiac population; associated clinical findings; techniques in sonographic imaging, analysis of findings, and documentation of pathology. Requirements: completion of or current enrollment in a diagnostic medical sonography program.

**RSMS:3306 Pediatric Cardiac Sonography Laboratory 1 s.h.**

Laboratory-based learning and simulation experience involving basic sonographic pediatric cardiac imaging and clinical history analysis; students perform sonographic exams utilizing scanning simulation to develop skills in sonographic anatomy recognition, scan plane orientation, transducer manipulation, instrumentation, and exam protocols. Corequisites: RSMS:3305. Recommendations: completion of or current enrollment in a diagnostic medical sonography program.

**RSMS:3315 Diagnostic Medical Sonography Clinical Internship III 4 s.h.**

Application of sonographic imaging and physiologic vascular testing skills in health care setting; students develop competency in basic exams.



**RSMS:3325 Abdominal Sonography II Lab 1 s.h.**

Laboratory-based learning and simulation utilizing computer-aided learning and scanning simulation to develop skills in interventional sonographic procedures with real-time ultrasound guidance; advanced abdominal and superficial structure imaging; exploring case studies; image analysis in identifying pathologies and differential diagnoses. Prerequisites: RSMS:3121.

**RSMS:3376 Vascular Sonography II Lab 1 s.h.**

Laboratory-based learning and simulation experience to develop skills in advanced sonographic imaging of the vascular system and performance of advanced nonimaging vascular physiologic tests; analysis of findings and documentation of pathology. Prerequisites: RSMS:3141.

**RSMS:4110 Advanced Sonography 3 s.h.**

Exploration of advanced sonographic imaging techniques and new technologies. Prerequisites: (RSMS:3240 with a minimum grade of C and RSMS:3250 with a minimum grade of C and RSMS:3270 with a minimum grade of C) or (RSMS:3205 with a minimum grade of C and RSMS:3270 with a minimum grade of C).

**RSMS:4111 Advanced Sonography Lab 1 s.h.**

Laboratory-based learning and simulated application of advanced sonographic imaging techniques and new technologies. Prerequisites: (RSMS:3325 with a minimum grade of C and RSMS:3376 with a minimum grade of C) or (RSMS:3206 with a minimum grade of C and RSMS:3376 with a minimum grade of C). Corequisites: RSMS:4110.

**RSMS:4115 Diagnostic Medical Sonography Clinical Internship IV 5 s.h.**

Application of sonographic imaging and physiologic vascular testing skills in the health care setting; students develop competency in high-level procedures. Prerequisites: RSMS:3315 with a minimum grade of C and RSMS:3376 with a minimum grade of C.

**RSMS:4120 Advanced Cardiac Sonography 3 s.h.**

Advanced cardiac sonographic imaging techniques, quantifications, and new technologies; analysis of applications and limitations of imaging techniques. Prerequisites: RSMS:3205 with a minimum grade of C and RSMS:3270 with a minimum grade of C.

**RSMS:4121 Advanced Cardiac Sonography Lab 1 s.h.**

Laboratory-based learning and simulated application of advanced cardiac sonographic imaging techniques, quantifications, and new technologies. Prerequisites: RSMS:3206 with a minimum grade of C. Corequisites: RSMS:4120.

**RSMS:4215 Diagnostic Medical Sonography Clinical Internship V 5 s.h.**

Application of sonographic imaging and physiologic vascular testing skills in health care setting; students develop advanced skills. Prerequisites: RSMS:4115 with a minimum grade of C and RSMS:4110 with a minimum grade of C and RSMS:4111 with a minimum grade of C.

**RSMS:4220 Multidisciplinary Capstone Seminar 3 s.h.**

Case-based learning; students analyze and synthesize data, determine proper course of action, and evaluate outcomes; preparation for professional work environment. Prerequisites: RSMS:4110.

## Magnetic Resonance Imaging Courses

**RSMR:4110 Fundamentals for the MRI Technologist 3 s.h.**

Caregiving skills specific to patients undergoing MRI examinations, including techniques in effectively communicating for safety and comfort; maintaining patient and personnel safety; patient preparation, monitoring, and venipuncture; technologist's role in a wide variety of MRI examinations and patient conditions. Requirements: acceptance to B.S. radiation sciences RT/MRI track or ARRT primary certification in radiologic technology, nuclear medicine, sonography, or radiation therapy.

**RSMR:4120 MRI Procedures I 4 s.h.**

Imaging techniques related to central nervous and musculoskeletal systems; specific clinical applications; available coils and their use; considerations in imaging parameters; specific choices in protocols and positioning criteria; anatomical structures and the plane that best demonstrates anatomy; signal characteristics of normal and abnormal structures. Prerequisites: RSCT:4100 and RSMR:4110. Requirements: concurrent registration in RSMR:4110, if not taken as a prerequisite; or three months MRI experience.

**RSMR:4130 MRI Procedures II 4 s.h.**

MRI techniques related to neck, thorax, breast, abdomen, and pelvis; specific clinical applications; available coils and their use; considerations in imaging parameters; specific choices in protocols and positioning criteria. Prerequisites: RSMR:4120.

**RSMR:4140 MRI Acquisition and Principles I 3 s.h.**

Physics and hardware used in obtaining a magnetic resonance signal, including magnetism, NMR signal production, tissue characteristics, spatial localization, pulse sequencing, imaging parameters and options, and special applications; exploration of skills useful in maximizing MR image quality. Prerequisites: RSMR:4110. Requirements: concurrent registration in RSMR:4110, if not taken as a prerequisite; or three months MRI experience.

**RSMR:4150 MRI Acquisition and Principles II 3 s.h.**

Advanced MRI techniques; MR angiography and further investigation of fast image acquisition sequences; overview of MR magnets, installation, operation, and facility design; computers and digital image acquisition as they apply to MR; outline of quality assurance procedures. Prerequisites: RSMR:4140.

**RSMR:4160 MRI Clinical Internship I 2 s.h.**

Application of magnetic resonance imaging skills in health care setting; development of competency in high-level procedures and protocols. Prerequisites: RSMR:4110. Corequisites: RSMR:4120 and RSMR:4140, if not taken as prerequisites. Requirements: acceptance to B.S. radiation sciences RT/MRI track.

**RSMR:4170 MRI Clinical Internship II 4 s.h.**

MRI clinical internship scheduled at University of Iowa Hospitals & Clinics; rotation through each MRI department scanning room; competency and objective-based education with required clinical performance evaluations; clinical preceptor facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by MRI technologists, radiologists, residents, and preceptor; participation in routine and advanced MRI scans; performance expectations become progressively higher as student gains experience and skills. Prerequisites: RSMR:4160. Corequisites: RSMR:4140, if not taken as a prerequisite. Requirements: acceptance to B.S. radiation sciences RT/MRI track.

**RSMR:4175 MRI Clinical Internship III 4 s.h.**

Rotation through MRI department scanning rooms at University of Iowa Hospitals & Clinics; competency and objective-based education with required clinical performance evaluations; clinical preceptor facilitates schedules, rotations, learning objectives, evaluations, and competencies; experience facilitated by MRI technologists, radiologists, residents, and preceptor; participation in routine and advanced MRI scans; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSMR:4170.

## Radiation Sciences Courses

**RSP:1100 Introduction to the Radiation Sciences 1 s.h.**

Exploration of radiation sciences field (radiologic technology, nuclear medicine and PET, diagnostic medical sonography, radiation therapy, computed tomography, magnetic resonance imaging, cardiovascular interventional); introduction to basic principles and modalities associated with the field in preparation for application to radiation sciences or nuclear medicine technology major.

**RSP:2110 Pathology for Radiation Sciences 2 s.h.**

General pathologic processes; introduction to imaging modalities; pathological terms that describe the body's response to stress and disease; how the body responds to and forms pathological diseases (e.g., infectious and parasitic diseases, inflammation and repair, immunopathology, neoplasia, genetic disorders, dietary deficiencies and excesses, hemodynamic disorders, trauma and emergencies). Requirements: acceptance to radiation science degree track.

**RSP:2120 Patient Care for the Radiation Sciences 3 s.h.**

Foundation for providing care to clients during radiographic examinations; taking medical histories, basic life support, medical emergencies, vital sign assessment, body mechanics, infection control, sterile techniques, intravenous equipment, administration; advance concepts in client assessment and monitoring, including evaluation and monitoring of clients in pain, and clients in acute and chronic states of illness; communication techniques, role playing. Requirements: acceptance to radiation science degree track.

**RSP:3130 Radiation Safety and Radiobiology 2 s.h.**

Instruction on safe operation of radiation producing equipment and handling of radioactive materials; origin and/or derivation of certain formulae and techniques useful in radiation protection programs; regulatory agencies, regulations, and regulatory guides pertinent to student's field; emphasis on applied aspects of radiation protection; characteristics and biological effects of ionizing radiations, properties and uses of radioisotopes, medical applications, and biological basis for protection procedures. Requirements: enrollment in radiation sciences or nuclear medicine technology program. Same as FRRB:3130.

**RSP:3210 Medical Ethics and Law 2 s.h.**

Introduction to ethical reasoning and problem solving; integration of knowledge about patient care and ethical/legal issues which occur in process of providing care; ethical principles of autonomy, beneficence, justice, nonmaleficence, paternalism, Patient's Bill of Rights, resolving moral dilemmas; legal principles of malpractice, intentional torts, negligence. Requirements: radiation science or nuclear medicine technology major.

**RSP:3220 Radiation Sciences Quality Management and Health Care Administration 2 s.h.**

Introduction to health care administration; quality management, safety, and patient satisfaction concepts for the radiation sciences professional. Requirements: radiation sciences or nuclear medicine technology major.

**RSP:4110 Research Methodology for Radiation Sciences 3 s.h.**

Introduction to research concepts and methods for the radiation science professional. Requirements: radiation sciences or nuclear medicine technology major.

## Radiation Therapy Courses

**RSTH:3100 Introduction to Radiation Therapy 3 s.h.**

Introduction to cancer as a disease; defining methods to treat cancer with emphasis on radiation therapy; simulation, planning, and treatment delivery of radiation therapy. Requirements: acceptance to radiation sciences therapy program.

**RSTH:3110 Medical Physics I 1-3 s.h.**

Introduction to radiation used in clinical setting; fundamental physical units, measurements, principles, atomic structure and types of radiation; X-ray generating equipment, X-ray production, and its interaction with matter. Requirements: admission to free radical and radiation biology program or acceptance to radiation sciences therapy program, and maxillofacial or radiation oncology resident. Same as FRRB:3110.

**RSTH:3120 Radiation Therapy Clinical Internship I 3 s.h.**

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Requirements: acceptance to radiation sciences therapy program.

**RSTH:3205 Principles of Radiation Therapy I 3 s.h.**

Didactic and laboratory work in principles of radiation therapy; historic and current aspects of cancer treatment; role of radiation therapist; patient care, treatment delivery accessories, tumor localization treatment delivery protocols. Prerequisites: RSTH:3100. Requirements: enrollment in radiation sciences therapy program.

**RSTH:3215 Medical Physics II 0-3 s.h.**

Treatment units used in external radiation therapy; beam calculations, isodose distributions, brachytherapy, quality assurance and quality management, protection and safety. Prerequisites: RSTH:3110. Requirements: admission to free radical and radiation biology program or acceptance to radiation sciences therapy program. Same as FRRB:3215.

**RSTH:3225 Radiation Therapy Clinical Internship II** 3 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSTH:3120. Requirements: acceptance to radiation sciences therapy program.

**RSTH:3325 Radiation Therapy Clinical Internship III** 4 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSTH:3225. Requirements: acceptance to radiation sciences therapy program.

**RSTH:4105 Principles of Radiation Therapy II** 2 s.h.

Evaluation and management of neoplastic disease using knowledge in arts and sciences; critical thinking and basis of ethical clinical decision making; epidemiology, etiology, detection, diagnosis, patient condition, treatment and prognosis of neoplastic disease. Prerequisites: RSTH:3205. Requirements: enrollment in radiation sciences therapy program.

**RSTH:4125 Radiation Therapy Clinical Internship IV** 4 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSTH:3325. Requirements: acceptance to radiation sciences therapy program.

**RSTH:4225 Radiation Therapy Clinical Internship V** 5 s.h.

Student rotations through different radiation therapy related areas; assist, practice, and test radiation therapy principles learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSTH:4125. Requirements: acceptance to radiation sciences therapy program.

**RSTH:4230 Radiation Therapy Capstone** 3 s.h.

Professional development; review of concepts. Requirements: acceptance to radiation sciences therapy program.

**Radiologic Technology Courses****RSRT:2110 Radiographic Procedures and Analysis I** 4 s.h.

Introduction to radiographic positioning principles; technical, positioning, and analysis information needed to perform and evaluate images of chest and abdomen on adult and pediatric patients; emphasis on quality patient care and adaptation to a variety of client conditions; labs. Requirements: acceptance to radiation sciences RT/CT, CVI, or MRI degree track.

**RSRT:2120 Radiologic Technology Clinical Internship I** 1 s.h.

Student rotations through different radiography-related areas of University of Iowa Hospitals & Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Requirements: acceptance to radiation sciences RT/CT, CVI, or MRI degree track.

**RSRT:2225 Radiologic Technology Clinical Internship II** 3 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals & Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:2120.

**RSRT:2230 Radiographic Procedures II** 3 s.h.

Technical and radiographic positioning information needed to perform images of upper and lower extremity; emphasis on quality patient care and adaptation to a variety of client conditions. Prerequisites: RSRT:2110.

**RSRT:2240 Radiographic Analysis II** 3 s.h.

Radiographic procedure and image analysis information needed to evaluate images of upper and lower extremity and shoulder; emphasis on quality patient care and adaptation to a variety of client conditions; labs. Prerequisites: RSRT:2110.

**RSRT:2250 Radiographic Fluoroscopic Procedures** 2 s.h.

Technical, radiographic positioning, and analysis information needed to perform radiographic procedures that utilize fluoroscopy; emphasis on quality patient care and adaptation to a variety of client conditions. Prerequisites: RSRT:2110.

**RSRT:2325 Radiologic Technology Clinical Internship III** 3 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals & Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:2225.

**RSRT:3115 Radiographic Procedures and Analysis III** 4 s.h.

Technical, positioning, and analysis information needed to perform and evaluate images of hip, pelvis, spine, thorax, skull, and GU system radiographic procedures; emphasis on quality patient care and adaptation to a variety of client conditions; labs.

**RSRT:3125 Radiologic Technology Clinical Internship IV** 4 s.h.

Student rotation through different radiography-related areas of University of Iowa Hospitals & Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:2325.

**RSRT:3140 Radiographic and Digital Imaging 5 s.h.**

Factors that govern and influence production of radiographic image; X-ray and scatter production; patient interactions; function of kVp, mAs, and distance as applied to contrast and spatial resolution; practical issues concerning automatic exposure control and grid usage; labs to practice and apply theoretical principles associated with production of quality images. Requirements: acceptance to radiation sciences RT/CT, CVI or MRI degree track.

**RSRT:3220 Emotional Intelligence for the Health Care Professional 2 s.h.**

Introduction to emotional intelligence; scientific background for why emotional intelligence exists and exploring its applications to the health care setting; connection of emotional intelligence to interactions that occur between health care professional and their patients, patient families, and coworkers.

**RSRT:3225 Radiologic Technology Clinical Internship V 3 s.h.**

Student rotation through different radiography-related areas of University of Iowa Hospitals & Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:3125.

**RSRT:3230 Radiographic Physics and Imaging Equipment 4 s.h.**

Characteristics of atomic structure, electricity, and X-ray machines; properties of X-rays and their interaction with matter; measurement of radiation exposure; construction principles and theories of operation of specialized imaging equipment, including fundamentals of acquisition for imaging intensification, geometric tomography, mobile/portable radiography, and magnification principles.

**RSRT:3325 Radiologic Technology Clinical Internship VI 2 s.h.**

Student rotation through different radiography-related areas of University of Iowa Hospitals & Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:3225.

**RSRT:4125 Radiologic Technology Clinical Internship VII 1 s.h.**

Student rotation through different radiography-related areas of University of Iowa Hospitals & Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:3325.

**RSRT:4225 Radiologic Technology Clinical Internship VIII 1 s.h.**

Student rotation through different radiography-related areas of University of Iowa Hospitals & Clinics; assist, practice, and test radiographic examinations learned in didactic setting; skill building for care and management of patients; conduction of performance assessments and completion of guideline objectives for each rotation; performance expectations become progressively higher as students gain experience and skills. Prerequisites: RSRT:4125.

**RSRT:4230 Radiologic Technology Capstone and Certification Exam Preparation 1 s.h.**

Certification exam preparation; preparation and distribution of detailed written outlines of exam content; series of content-specific quizzes, midterm, and final "mock board" exam to evaluate student learning and preparedness for taking the American Registry of Radiologic Technologists (ARRT) national certification exams; professional preparation; for students in final semester of program. Requirements: enrollment in radiation sciences RT/BI, CT, CVI, or MRI program.

## Radiation Sciences, B.S.

The Radiation Sciences Program offers two paths toward completing the major:

- an on-campus program in radiologic technology, diagnostic medical sonography, or radiation therapy for students who have not completed a radiation sciences modality; or
- an online program for registered radiologic technologists and nuclear medicine technologists who would like to earn a Bachelor of Science degree by distance education.

Undergraduate study in radiation sciences is guided by the academic rules and procedures outlined under Undergraduate Rules and Procedures [p. 1831] in the Carver College of Medicine section of the Catalog.

### Requirements

The Bachelor of Science with a major in radiation sciences requires a minimum of 120 s.h. Work for the on-campus degree includes a set of courses that are prerequisite to entering the radiation sciences major, completion of one of eight radiation sciences professional programs, and elective coursework sufficient to complete the minimum of 120 s.h. required for graduation. Students must complete the radiation sciences professional program at the University of Iowa. Registered radiologic technologists interested in earning the degree by distance education should see RT to B.S. (Online) [p. 1965] in this section of the Catalog.

Admission to the radiation sciences major is competitive and selective; acceptance into a professional program or the major is not guaranteed. Students who wish to enter the major must first be admitted to the University of Iowa as College of Liberal Arts and Sciences (CLAS) students with a radiation sciences interest. As CLAS students, they must apply to the radiation sciences professional program of their choice by January 15 of the year in which they wish to enter; see Apply on the Radiation Sciences Program website. Transfer students are encouraged to apply in early December to allow for time for transfer course articulation. Accepted students enter a professional program, the radiation sciences major, and the Carver College of Medicine the following fall semester.

Applicants for admission to the University of Iowa whose first language is not English are strongly encouraged to complete the University of Iowa English Proficiency Evaluation and satisfy the University's English Proficiency Requirements before they apply to a professional program. Students must have permission to register for a full academic load before they may be admitted to a radiation sciences professional program.

The radiation sciences major requires students to complete a minimum of two years of a high school world language prior to admission.

For additional information on UI admission requirements, contact the University of Iowa Office of Admissions.

First-year and transfer applicants admitted to the College of Liberal Arts and Sciences as radiation sciences interest students must complete all courses that are prerequisite to the radiation sciences major (including approved transfer equivalents) by June 1 before they may begin one of the radiation sciences professional programs and enter the major. The only exception to this deadline is that the physics course required for the diagnostic medical sonography program may

be completed in the summer session. Prerequisite courses vary slightly depending on which professional program a student wishes to enter.

Students who have declared a radiation sciences interest but have not yet applied and been accepted to a professional program are advised at the University of Iowa Academic Advising Center. After they have been accepted to a professional program, they are advised by the Radiation Sciences Program.

Upon successful completion of the professional program, students are eligible to apply for national certification exams for their program's specialty area(s). Once they have completed the professional program and all other requirements for graduation, they are granted a Bachelor of Science degree.

The Bachelor of Science with a major in radiation sciences requires the following work.

### Prerequisites to the Radiation Sciences Major

Students must complete the following prerequisite courses (28-33 s.h.) before they may enter the program and the major. Students who wish to enter either of the two-year professional programs (radiologic technology or radiation therapy) must complete a total of 60 s.h. of college coursework, including the following prerequisites, before they may enter the program and the major. Students are advised for success, based on academic strength, not necessarily for a four-year plan. Prerequisite courses for the three-year professional programs (multi-credentialed radiologic technology and diagnostic medical sonography) may take more than one year to complete. Prerequisite courses for the radiologic technology and radiation therapy professional programs may take more than two years to complete.

#### Rhetoric

Code	Title	Hours
This course:		
RHET:1030	Rhetoric	4

#### Anatomy

Code	Title	Hours
One of these:		
ACB:3110	Principles of Human Anatomy	3
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:3105	Anatomy for Human Physiology	3
HHP:3115	Anatomy for Human Physiology with Lab	5

#### Physiology

Code	Title	Hours
One of these:		
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3500	Human Physiology	3

HHP:3550	Human Physiology with Laboratory	5
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## Physics

Code	Title	Hours
Students interested in diagnostic medical sonography or radiation therapy programs complete one of these:		
PHYS:1400	Basic Physics	3-4
PHYS:1511	College Physics I	4

## Quantitative or Formal Reasoning

Code	Title	Hours
One of these:		
MATH:1020	Elementary Functions	4
MATH:1440	Mathematics for the Biological Sciences	4

## Psychology

Code	Title	Hours
This course:		
PSY:1001	Elementary Psychology	3

## Medical Terminology

Code	Title	Hours
This course:		
CLSA:3750	Medical and Technical Terminology	2

## Culture, Society, and the Arts

Two courses for 3 s.h. each in two of these areas.

- Diversity and Inclusion.
- Historical Perspectives.
- International and Global Issues.
- Literary, Visual, and Performing Arts.
- Values and Culture.

See GE CLAS Core [p. 20] (College of Liberal Arts and Sciences) in the Catalog for approved courses in the areas listed above.

## Recommended Pre-Major Work

The Radiation Sciences Program recommends that before students submit an application to a radiation sciences professional program and the major, they job-shadow a professional who works in their area of interest, gain hands-on patient care experience, and complete the following additional preparatory courses.

Code	Title	Hours
This course:		
RSP:1100	Introduction to the Radiation Sciences (required for radiologic technology track)	1
One of these:		
BIOL:1140	Human Biology: Nonmajors	4
HHP:1400	Human Anatomy and Physiology	3
One of these:		
CHEM:1070	General Chemistry I	3
CHEM:1110	Principles of Chemistry I	4

One of these:		
PHYS:1400	Basic Physics	3-4
PHYS:1511	College Physics I	4
One of these:		
BAIS:1500	Business Computing Essentials	2
CS:1020	Principles of Computing	3
One of these:		
STAT:1020	Elementary Statistics and Inference	3
STAT:3510	Biostatistics	3
STAT:4143	Introduction to Statistical Methods	3

## Electives

In order to earn the minimum of 120 s.h. required for graduation, students may need to complete elective coursework in addition to the prerequisite coursework listed above and one of the professional programs in medical imaging. They should plan their elective courses in consultation with their advisor.

## Radiation Sciences Professional Programs

Students must complete one of the following on-campus radiation sciences professional programs at University of Iowa Hospitals & Clinics (UIHC):

- radiologic technology [p. 1960],
- radiologic technology and breast imaging [p. 1960],
- radiologic technology and cardiovascular interventional [p. 1960],
- radiologic technology and computed tomography [p. 1960],
- radiologic technology and magnetic resonance imaging [p. 1960],
- diagnostic medical sonography and cardiac/vascular [p. 1959],
- diagnostic medical sonography and general/vascular [p. 1959], or
- radiation therapy [p. 1964].

Each program offers modality-specific didactic and supervised clinical education courses. Graduates of the professional programs and associated internships are eligible to apply for one or more certification exams.

The diagnostic medical sonography programs span three years, the radiation therapy program spans two years, and the radiologic technology programs span two or three years. Each program begins in the fall.

Students must apply to the program of their choice by January 15 of the year in which they intend to enter the program. Students must first apply to the College of Liberal Arts and Sciences (CLAS) as a radiation sciences interest major and complete all prerequisite coursework. Students with transfer credit are encouraged to apply to CLAS by early December to allow time for transcript course articulation.

Admission to all radiation sciences professional programs is competitive; each program accepts a limited number of students and acceptance is not guaranteed. In addition to the prerequisite courses listed above, students must have

earned a cumulative college g.p.a. of at least 2.50 prior to professional program admission.

Students participating in clinical rotations at non-UIHC facilities as part of their professional program are required to meet the immunization and testing requirements of those facilities in addition to those required at UIHC locations.

## Diagnostic Medical Sonography

A diagnostic medical sonographer is a skilled professional who uses high-frequency sound wave equipment to create diagnostic images and data that assist health care professionals in their diagnosis of patients with disease. Ultrasound imaging is used on many parts of the body, including the abdomen, heart, blood vessels, and the developing fetus of a pregnant woman. When determining normal and abnormal findings, the sonographer must demonstrate sectional anatomy through transducer manipulation. The sonographer uses independent judgment in recognizing the need to extend the scope of the study according to the diagnostic findings. The sonographer spends extended time with the patient obtaining a thorough history of symptoms, explaining the exam, answering questions, and performing the exam.

Each of the radiation sciences diagnostic medical sonography (DMS) degree tracks consist of two professional programs —DMS and cardiac and vascular sonography or DMS and general and vascular sonography. Each of these three-year programs is selective and competitive; acceptance is not guaranteed. Students must satisfy all UI admission requirements, complete all prerequisites, and be accepted into the diagnostic medical sonography professional program following an application and selection process; see Diagnostic Medical Sonography on the Radiation Sciences Program website.

## Diagnostic Medical Sonography and Cardiac and Vascular Sonography

The diagnostic medical sonography program in cardiac and vascular sonography provides a multispecialty education in cardiac (echocardiography) and vascular sonography (ultrasound imaging). Students learn about sonographic imaging and evaluation, hemodynamics and Doppler evaluation, sonography equipment, sectional anatomy, pathology, patient care, medical ethics, emotional intelligence, and quality assurance methods. They become proficient in using sonographic imaging equipment and in performing cardiac and vascular sonographic procedures, including invasive procedures, emergency exams, and 3D imaging. They also participate in supervised clinical education. An elective course and lab in pediatric cardiac sonography is available.

Upon completing the program, graduates are eligible to apply for the national certification exams in diagnostic medical sonography in the specialty areas of cardiac (echocardiography) and vascular technology.

Students who have completed all prerequisite courses by June 1 (except physics, which may be completed in the summer session) are eligible to apply to this three-year program. Application deadline is January 15. Eight students are accepted into this track each year, which begins in the fall.

## Required Courses

Code	Title	Hours
All of these:		
RSCI:4110	Vascular Anatomy (online)	3
RSCI:4130	Electrocardiogram and Hemodynamics (online)	3
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSMS:3100	Cardiac Sonography I	3
RSMS:3101	Cardiac Sonography I Lab	2
RSMS:3110	Foundations of Sonography	3
RSMS:3111	Foundations of Sonography Lab	1
RSMS:3115	Diagnostic Medical Sonography Clinical Internship I	2
RSMS:3140	Vascular Sonography I	3
RSMS:3141	Vascular Sonography I Lab	1
RSMS:3150	Cardiac Physiology and Hemodynamics	3
RSMS:3205	Cardiac Sonography II	3
RSMS:3206	Cardiac Sonography II Lab	1
RSMS:3215	Diagnostic Medical Sonography Clinical Internship II	3
RSMS:3230	Sonography Principles, Physics, and Instrumentation	3
RSMS:3231	Sonography Principles, Physics, and Instrumentation Lab	1
RSMS:3270	Vascular Sonography II	3
RSMS:3315	Diagnostic Medical Sonography Clinical Internship III	4
RSMS:3376	Vascular Sonography II Lab	1
RSMS:4110	Advanced Sonography	3
RSMS:4111	Advanced Sonography Lab	1
RSMS:4115	Diagnostic Medical Sonography Clinical Internship IV	5
RSMS:4120	Advanced Cardiac Sonography	3
RSMS:4121	Advanced Cardiac Sonography Lab	1
RSMS:4215	Diagnostic Medical Sonography Clinical Internship V	5
RSMS:4220	Multidisciplinary Capstone Seminar	3
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3

RSRT:3220	Emotional Intelligence for the Health Care Professional	2
Recommended elective credit:		
RSMS:3305	Pediatric Cardiac Sonography (online elective)	3
RSMS:3306	Pediatric Cardiac Sonography Laboratory	1
STAT:1020	Elementary Statistics and Inference	3
Recommended elective credit, one of these:		
BAIS:1500	Business Computing Essentials	2
CS:1020	Principles of Computing	3

## Diagnostic Medical Sonography and General and Vascular Sonography

The diagnostic medical sonography program in general and vascular sonography provides a multispecialty education in obstetrical, abdominal, and vascular sonography (ultrasound imaging). Students learn about sonographic imaging and evaluation, hemodynamics and Doppler evaluation, sonography equipment, sectional anatomy, pathology, patient care, medical ethics, emotional intelligence, and quality assurance methods. They become proficient in using sonographic imaging equipment and in performing obstetrical and gynecological, abdominal, and vascular sonographic procedures, including invasive procedures, emergency exams, pediatric sonography, and 3D imaging. They also participate in supervised clinical education. An elective course in breast sonography is available.

Upon completing the program, graduates are eligible to apply for the national certification exams in diagnostic medical sonography in the specialty areas of obstetrics and gynecology, abdomen, and vascular technology.

Students who will have completed all prerequisite courses by June 1 (except physics, which may be completed in the summer session) are eligible to apply to this three-year program. Application deadline is January 15. Ten students are accepted into this track each year, which begins in the fall.

### Required Courses

Code	Title	Hours
All of these:		
RSCI:4110	Vascular Anatomy (online)	3
RSCI:4130	Electrocardiogram and Hemodynamics (online)	3
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSMS:3110	Foundations of Sonography	3
RSMS:3111	Foundations of Sonography Lab	1
RSMS:3115	Diagnostic Medical Sonography Clinical Internship I	2
RSMS:3120	Abdominal Sonography I	3
RSMS:3121	Abdominal Sonography I Lab	1
RSMS:3130	Obstetrical and Gynecological Sonography I	3

RSMS:3131	Obstetrical and Gynecological Sonography I Lab	1
RSMS:3140	Vascular Sonography I	3
RSMS:3141	Vascular Sonography I Lab	1
RSMS:3215	Diagnostic Medical Sonography Clinical Internship II	3
RSMS:3230	Sonography Principles, Physics, and Instrumentation	3
RSMS:3231	Sonography Principles, Physics, and Instrumentation Lab	1
RSMS:3240	Abdominal Sonography II	3
RSMS:3250	Obstetrical and Gynecological Sonography II	3
RSMS:3270	Vascular Sonography II	3
RSMS:3300	Pediatric Sonography (online)	3
RSMS:3315	Diagnostic Medical Sonography Clinical Internship III	4
RSMS:3325	Abdominal Sonography II Lab	1
RSMS:3376	Vascular Sonography II Lab	1
RSMS:4110	Advanced Sonography	3
RSMS:4111	Advanced Sonography Lab	1
RSMS:4115	Diagnostic Medical Sonography Clinical Internship IV	5
RSMS:4215	Diagnostic Medical Sonography Clinical Internship V	5
RSMS:4220	Multidisciplinary Capstone Seminar	3
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
Recommended elective credit:		
RSMS:3260	Breast Sonography (online elective)	2
STAT:1020	Elementary Statistics and Inference	3
Recommended elective credit, one of these:		
BAIS:1500	Business Computing Essentials	2
CS:1020	Principles of Computing	3

## Radiologic Technology

A radiologic technologist is a professional, qualified by education and clinical experience, who provides radiological (x-ray) services using a variety of exams and procedures.



While utilizing excellent patient care skills, the technologist operates radiological equipment so that optimum radiographic quality is achieved with the minimum radiation exposure to the patient. Radiographers are employed primarily in hospitals, clinics, and doctors' offices, where they work closely with other members of the health care team to help diagnose and treat patients.

The radiation sciences radiologic technology degree tracks consist of five professional programs.

- Radiologic Technology [p. 1961]
- Radiologic Technology and Breast Imaging [p. 1961]
- Radiologic Technology and Cardiovascular Interventional [p. 1962]
- Radiologic Technology and Computed Tomography [p. 1963]
- Radiologic Technology and Magnetic Resonance Imaging [p. 1963]

Each of these two- or three-year programs is selective and competitive; acceptance is not guaranteed. Students must satisfy all UI admission requirements, complete all prerequisites, and be accepted into a radiologic technology professional program following an application and selection process; see Radiologic Technology on the Radiation Sciences Program website.

## Radiologic Technology

The radiologic technology (RT) program provides education in pathology, radiation biology, radiation protection, patient care, sectional anatomy, emotional intelligence, medical ethics, medical research, quality management, and health care administration. Students learn about radiographic procedures and positioning, digital imaging, and evaluation. Students become proficient in using a variety of different types of imaging equipment and participate in supervised clinical education in diagnostic radiography.

Upon completion of the program, graduates are eligible to apply for the national certification exam in radiography.

Students who will have completed a total of 60 s.h., including prerequisite courses by June 1, are eligible to apply to this program. Students typically apply to this two-year program during their second year and begin in fall of their junior year. Application deadline is January 15. Four students are accepted into this track each year.

Code	Title	Hours
All of these:		
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2110	Radiographic Procedures and Analysis I	4

RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1

Required for two-year radiologic technology track; recommended for all tracks:

RSP:1100	Introduction to the Radiation Sciences (online)	1
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## Radiologic Technology and Breast Imaging

Students participate in the radiologic technology curriculum as stated above for the first two years.

The breast imaging (BI) component offers intensive study and practice in breast imaging, including patient care procedures, pathology, anatomy, imaging procedures and analysis, Mammography Quality Standards Act (MQSA) quality control, and image acquisition principles. Students become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography and breast imaging.

Upon completion of the program, graduates are eligible to apply for the national certification exams in radiography and mammography.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this program. Students typically apply to this three-year program during their first year and begin in the fall of their sophomore year. Application deadline is January 15. Two students are accepted into this track each year.

### Required Courses

Code	Title	Hours
All of these:		
RSBI:3310	Patient Care for Breast Imaging (online)	3
RSBI:3315	Breast Imaging Clinical Internship I	2
RSBI:4110	Breast Imaging Procedures and Analysis (online)	3

RSBI:4115	Breast Imaging Clinical Internship II	4
RSBI:4120	Anatomy and Pathology for Breast Imaging (online)	2
RSBI:4130	Breast Imaging Acquisitions and Principles (online)	2
RSBI:4210	Breast Imaging Advanced Procedures and Analysis (online)	3
RSBI:4215	Breast Imaging Clinical Internship III	4
RSBI:4220	Quality Control in Breast Imaging (online)	3
RSCI:4110	Vascular Anatomy (online)	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1

## Radiologic Technology and Cardiovascular Interventional

Students participate in the radiologic technology curriculum as stated above for the first two years.

The cardiovascular interventional (CVI) component concentrates on imaging equipment, pharmacology, sterile techniques, cardiac monitoring, vascular anatomy and physiology; cardiovascular, peripheral, and neurological procedures and pathology; therapeutic intervention techniques; and digital angiography. Students become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography, cardiac interventional, and peripheral and neurological interventional.

Upon completion of the program, graduates are eligible to apply for the national certification exams in radiography, vascular interventional technology, and cardiac interventional technology.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this program. Students typically apply to this three-year program during their first year and begin in fall of their sophomore year. Application deadline is January 15. Two students are accepted into this track each year.

### Required Courses

Code	Title	Hours
All of these:		
RSCI:4110	Vascular Anatomy (online)	3
RSCI:4120	CVI Principles (online)	4
RSCI:4130	Electrocardiogram and Hemodynamics (online)	3
RSCI:4140	CVI Peripheral Procedures and Pathology (online)	3
RSCI:4150	CVI Neurology and Nonvascular Procedures and Pathology (online)	3
RSCI:4160	CVI Cardiac Procedures and Pathology (online)	4
RSCI:4170	CVI Clinical Internship III	4
RSCI:4180	CVI Clinical Internship II	4
RSCI:4190	CVI Clinical Internship I (online)	2
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1

RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1

## Radiologic Technology and Computed Tomography

Students participate in the radiologic technology curriculum as stated above for the first two years.

The computed tomography (CT) component concentrates on sectional anatomy, single and multislice CT, electron beam CT, physiologic and 3D imaging, CT simulation, physics and imaging, and procedures and pathology. Students become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography and computed tomography.

Upon completion of the program, graduates are eligible to apply for the national certification exams in radiography and computed tomography.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this program. Students typically apply to this three-year program during their first year and begin in fall of their sophomore year. Application deadline is January 15. Four students are accepted into this track each year.

### Required Courses

Code	Title	Hours
All of these:		
RSCI:4110	Vascular Anatomy (online)	3
RSCI:4130	Electrocardiogram and Hemodynamics (online)	3
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSCT:4105	Computed Tomography Clinical Internship I	2

RSCT:4115	Computed Tomography Clinical Internship II	4
RSCT:4120	Computed Tomography Procedures I (online)	4
RSCT:4125	Computed Tomography Procedures II (online)	4
RSCT:4130	Computed Tomography Physical Principles and QC (online)	4
RSCT:4215	Computed Tomography Clinical Internship III	4
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1

## Radiologic Technology and Magnetic Resonance Imaging

Students participate in the radiologic technology curriculum as stated above for the first two years.

The magnetic resonance imaging (MRI) component offers intensive study and practice in MRI, including patient care procedures, pathophysiology, physics, sectional anatomy, and instrumentation. Students become acquainted with imaging equipment, study quality assurance, and participate in supervised clinical education in radiography and magnetic resonance imaging.

Upon completion of the program, graduates are eligible to apply for the national certification exams in radiography and magnetic resonance imaging.

Students who will have completed all prerequisite courses by June 1 are eligible to apply to this program. Students typically apply to this three-year program during their first year and begin in fall of their sophomore year. Application deadline is January 15. Four students are accepted into this track each year.

## Required Courses

Code	Title	Hours
All of these:		
RSCI:4110	Vascular Anatomy (online)	3
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSMR:4110	Fundamentals for the MRI Technologist (online)	3
RSMR:4120	MRI Procedures I (online)	4
RSMR:4130	MRI Procedures II (online)	4
RSMR:4140	MRI Acquisition and Principles I (online)	3
RSMR:4150	MRI Acquisition and Principles II (online)	3
RSMR:4160	MRI Clinical Internship I	2
RSMR:4170	MRI Clinical Internship II	4
RSMR:4175	MRI Clinical Internship III	4
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSRT:3115	Radiographic Procedures and Analysis III	4

RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1

## Radiation Therapy

A radiation therapist functions as a member of a team with physicians (radiation oncologist), physicists, dosimetrists, and nurses to provide treatment using ionizing radiation sources for patients with malignant and some benign diseases. The radiation therapist is responsible for the daily delivery of the prescribed treatment according to the treatment plan prepared by their physician in consultation with the medical physicist. The therapist works with the oncology nurse in the daily assessment of the patient's status and needs during their course of therapy. Radiation therapists are employed in radiation therapy facilities located in hospitals and freestanding centers.

Students completing the Radiation Therapy Program are trained to deliver therapeutic radiation. This two-year program is selective and competitive; acceptance is not guaranteed. Since the program duration is two years, students must have completed a total of 60 s.h., including prerequisite courses by June 1, prior to the start of the program. Students must satisfy all UI admission requirements, complete all prerequisites, and be accepted into the Radiation Therapy professional program following an application and selection process; see Radiation Therapy on the Radiation Sciences Program website. Clinical and didactic education is provided by University of Iowa Hospitals & Clinics faculty in the Department of Radiation Oncology, with a hands-on component under the close guidance of licensed radiation therapists.

## Radiation Therapy

The radiation therapy professional program teaches theory and techniques of radiation therapy technology, with emphasis on competence in areas of oncology treatment planning, treatment delivery, dosimetry, and use of megavoltage radiation-producing equipment to administer treatment. Students participate in clinical education in radiation therapy. Radiation therapy students also complete coursework in sectional anatomy, computed tomography (CT) procedures and physics, and magnetic resonance imaging (MRI) fundamentals.

Upon completing the program, graduates are eligible to apply for the national certification exam in radiation therapy. Students will have completed the coursework but not the clinical component to be eligible to apply for the national

certification exam in computed tomography and/or magnetic resonance imaging.

Students typically apply to this two-year program during their sophomore year and begin it in fall of their junior year. Application deadline is January 15. Eight students are accepted into this track each year.

### Additional Prerequisites

The radiation therapy professional program requires two years of prerequisite coursework. The first year of coursework is listed under "Prerequisites to the Radiation Sciences Major" under Requirements [p. 1957] in this section of the Catalog.

Code	Title	Hours
One of these:		
PHYS:1400	Basic Physics	3
PHYS:1511	College Physics I	4
Recommended:		
CHEM:1070	General Chemistry I	3-4
or CHEM:1110	Principles of Chemistry I	
CHEM:1080	General Chemistry II	3-4
or CHEM:1120	Principles of Chemistry II	
CS:1020	Principles of Computing	2-3
or BAIS:1500	Business Computing Essentials	
PHYS:1512	College Physics II	4
STAT:1020	Elementary Statistics and Inference	3
or STAT:3510	Biostatistics	
or STAT:4143	Introduction to Statistical Methods	
Electives to reach a total of 60 s.h.		6

### Required Courses

Upon acceptance into the radiation therapy professional program, students will complete required courses and internships during their third and fourth years.

Code	Title	Hours
All of these:		
RSCT:4100	Sectional Anatomy for Imaging Sciences (online)	3
RSCT:4120	Computed Tomography Procedures I (online)	4
RSCT:4130	Computed Tomography Physical Principles and QC (online)	4
RSMR:4110	Fundamentals for the MRI Technologist (online)	3
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:3210	Medical Ethics and Law	2
RSP:3220	Radiation Sciences Quality Management and Health Care Administration (online)	2
RSP:4110	Research Methodology for Radiation Sciences	3
RSTH:3100	Introduction to Radiation Therapy	3
RSTH:3110	Medical Physics I	2

RSTH:3120	Radiation Therapy Clinical Internship I	3
RSTH:3205	Principles of Radiation Therapy I	3
RSTH:3215	Medical Physics II	2
RSTH:3225	Radiation Therapy Clinical Internship II	3
RSTH:3325	Radiation Therapy Clinical Internship III	4
RSTH:4105	Principles of Radiation Therapy II	2
RSTH:4125	Radiation Therapy Clinical Internship IV	4
RSTH:4225	Radiation Therapy Clinical Internship V	5
RSTH:4230	Radiation Therapy Capstone	3

### RT to B.S. (Online)

The RT to B.S. is an online program designed for registered radiologic technologists and nuclear medicine technologists who wish to earn a Bachelor of Science degree with a major in radiation sciences by distance education. The program requires a minimum of 120 s.h. Students who successfully complete a radiologic technology (RT) or a nuclear medicine technology (NMT) program are awarded 60 s.h. of credit. They also are awarded credit for equivalent coursework that is prerequisite to entering the major. Upon admission to the major, students complete an online modality, advanced courses, and electives for graduation.

Students choose one of five online modality options: breast imaging (BI), cardiovascular interventional (CVI), computed tomography (CT), magnetic resonance imaging (MRI), or a multi-modality option. The modalities do not require an internship.

In order to be admitted to the radiation sciences major, students must pass the American Registry of Radiologic Technologists (ARRT) radiography, ARRT nuclear medicine technology, or Nuclear Medicine Technology Certification Board (NMTCB) exam. They also must have completed all coursework prerequisite to entering the major with a g.p.a. of at least 2.50, not including RT or NMT program courses. Students may count approved transfer credit toward the required prerequisites; learn more by visiting Transfer Courses on the the University of Iowa's MyUI website.

Applicants for admission to the University of Iowa whose first language is not English are strongly encouraged to complete the University's English Proficiency Evaluation and satisfy the University's English Proficiency Requirements.

The radiation sciences major requires students to complete a minimum of two years of a high school world language prior to admission.

For additional information on UI admission requirements, contact the University of Iowa Office of Admissions.

### Prerequisites to the Radiation Sciences Major

In addition to the completion of an RT or NMT program, students must complete the following prerequisite courses (25-29 s.h.) before they may enter the radiation sciences major.

## Rhetoric

Code	Title	Hours
RHET:1030	Rhetoric	4

## Anatomy

Code	Title	Hours
One of these:		
ACB:3110	Principles of Human Anatomy	3
HHP:1100	Human Anatomy	3
HHP:1150	Human Anatomy Lecture with Lab	4
HHP:3105	Anatomy for Human Physiology	3
HHP:3115	Anatomy for Human Physiology with Lab	5

## Natural Sciences

Code	Title	Hours
One of these:		
BIOL:1140	Human Biology: Nonmajors	4
CHEM:1070	General Chemistry I	3
CHEM:1110	Principles of Chemistry I	4
HHP:1300	Fundamentals of Human Physiology	3
HHP:1350	Fundamentals of Human Physiology with Laboratory	4
HHP:3500	Human Physiology	3
HHP:3550	Human Physiology with Laboratory	5
PHYS:1400	Basic Physics	3-4
PHYS:1511	College Physics I	4

## Quantitative or Formal Reasoning

Code	Title	Hours
One of these:		
MATH:1020	Elementary Functions	4
MATH:1440	Mathematics for the Biological Sciences	4

## Psychology

Code	Title	Hours
PSY:1001	Elementary Psychology	3

## Medical Terminology

Code	Title	Hours
CLSA:3750	Medical and Technical Terminology	2

## Culture, Society, and the Arts

Two courses for 3 s.h. each in two of these areas.

- Diversity and Inclusion
- Historical Perspectives
- International and Global Issues
- Literary, Visual, and Performing Arts
- Values and Society

See GE CLAS Core [p. 20] (College of Liberal Arts and Sciences) in the Catalog for approved courses in the areas listed above.

Once students are admitted to the Carver College of Medicine and the radiation sciences major, they must at least complete their final consecutive 30 s.h. at the University of Iowa, including an online modality (21-23 s.h.), two advanced courses (6 s.h.), and sufficient elective coursework to complete the minimum 120 s.h. and the final consecutive 30 s.h. required for graduation.

## Online Modality

Students complete one of the following online modalities.

### Breast Imaging

The breast imaging online modality requires the following coursework (22 s.h.).

Code	Title	Hours
RSBI:3310	Patient Care for Breast Imaging	3
RSBI:4110	Breast Imaging Procedures and Analysis	3
RSBI:4120	Anatomy and Pathology for Breast Imaging	2
RSBI:4130	Breast Imaging Acquisitions and Principles	2
RSBI:4210	Breast Imaging Advanced Procedures and Analysis	3
RSBI:4220	Quality Control in Breast Imaging	3
RSCI:4110	Vascular Anatomy	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3

### Cardiovascular Interventional

The cardiovascular interventional online modality requires the following coursework (23 s.h.).

Code	Title	Hours
RSCI:4110	Vascular Anatomy	3
RSCI:4120	CVI Principles	4
RSCI:4130	Electrocardiogram and Hemodynamics	3
RSCI:4140	CVI Peripheral Procedures and Pathology	3
RSCI:4150	CVI Neurology and Nonvascular Procedures and Pathology	3
RSCI:4160	CVI Cardiac Procedures and Pathology	4
RSCT:4100	Sectional Anatomy for Imaging Sciences	3

### Computed Tomography

The computed tomography online modality requires the following coursework (21 s.h.).

Code	Title	Hours
RSCI:4110	Vascular Anatomy	3
RSCI:4130	Electrocardiogram and Hemodynamics	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3

RSCT:4120	Computed Tomography Procedures I	4
RSCT:4125	Computed Tomography Procedures II	4
RSCT:4130	Computed Tomography Physical Principles and QC	4

## Magnetic Resonance Imaging

The magnetic resonance imaging online modality requires the following coursework (23 s.h.).

Code	Title	Hours
RSCI:4110	Vascular Anatomy	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSMR:4110	Fundamentals for the MRI Technologist	3
RSMR:4120	MRI Procedures I	4
RSMR:4130	MRI Procedures II	4
RSMR:4140	MRI Acquisition and Principles I	3
RSMR:4150	MRI Acquisition and Principles II	3

## Multi-Modality Option

The multi-modality online modality requires the following coursework (21 s.h.).

Code	Title	Hours
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSCI:4110	Vascular Anatomy	3
	Additional breast imaging (RSBI), computed tomography (RSCT), cardiovascular interventional (RSCI), or magnetic resonance imaging (RSMR) coursework	15

Course schedules can be found on the Online RT to B.S. page of the Radiation Sciences Program website.

## Advanced Courses

### Management and Leadership

Code	Title	Hours
One of these:		
COMM:1819	Organizational Leadership	3
MGMT:2100	Introduction to Management	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3

### Statistics

Code	Title	Hours
One of these:		
STAT:1020	Elementary Statistics and Inference	3
STAT:4143	Introduction to Statistical Methods	3

## Electives

Students choose elective coursework to complete the minimum 120 s.h. required and the final consecutive 30 s.h. necessary to qualify for graduation.

## Career Advancement

The majority of radiation sciences graduates are employed shortly after graduation. Graduates generally find jobs in hospitals, clinics, imaging centers, and physicians' offices. With experience, and sometimes additional education, they may find related jobs in management, sales, education, or as application specialists. Some students choose to continue their education in a master's, physician assistant, or other related medical program.

Most radiation sciences professionals with full-time jobs work 40 hours a week and may have holiday, weekend, evening, night, and on-call hours.

Students who complete Iowa's professional radiation sciences programs are eligible to apply for national certification exams administered by the appropriate agency in order to practice.

Licensure laws for radiographers, sonographers, and radiation therapists vary from state to state. Iowa is a licensing state, requiring radiographers to have a permit to practice. Passing the national exam is a criterion used to issue a permit to practice.

More information on radiation sciences careers and outcomes may be found on the Radiation Sciences Program website. The Pomerantz Career Center offers multiple resources to help students find jobs.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Radiation Sciences, B.S.

- Diagnostic Medical Sonography and Cardiac/Vascular Professional Program [p. 1967]
- Diagnostic Medical Sonography and General/Vascular Professional Program [p. 1969]
- Radiation Therapy Professional Program [p. 1970]
- Radiologic Technology Professional Program [p. 1971]
- Radiologic Technology and Breast Imaging Professional Program [p. 1973]
- Radiologic Technology and Cardiovascular Interventional Professional Program [p. 1974]
- Radiologic Technology and Computed Tomography Professional Program [p. 1975]
- Radiologic Technology and Magnetic Resonance Imaging Professional Program [p. 1977]

### Diagnostic Medical Sonography and Cardiac/Vascular Professional Program

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Students apply to the Radiation Sciences B.S. program through a selective process. Acceptance is not guaranteed.<sup>a</sup>

Students must earn a grade of C or higher in all RS\*\* courses.

The Diagnostic Medical Sonography and Cardiac/Vascular professional program is three years in duration.

**Hours** **0**

### First Year

#### Any Semester

Recommended: health care experience (e.g. CNA), job shadowing in diagnostic medical sonography

**Hours** **0**

#### Fall

RHET:1030 Rhetoric 4

HHP:1400 Human Anatomy and Physiology<sup>b</sup> 3 - 4  
or BIOL:1140 or Human Biology: Nonmajors

MATH:1440 Mathematics for the Biological Sciences<sup>c</sup> 4

GE: General Education course (DI, IGI, HP, LVPA, or VC)<sup>d</sup> 3

RSP:1100 Introduction to the Radiation Sciences<sup>e</sup> 1

Admission Application: begin preparing materials for Radiation Sciences application (due January 15)<sup>f</sup>

**Hours** **15-16**

#### Spring

Human Physiology<sup>g</sup> 3 - 5

Human Anatomy<sup>h</sup> 3 - 5

PSY:1001 Elementary Psychology 3

CLSA:3750 Medical and Technical Terminology 2

GE: General Education course (DI, IGI, HP, LVPA, or VC)<sup>d</sup> 3

**Hours** **14-18**

#### Summer

PHYS:1400 Basic Physics<sup>i</sup> 3

**Hours** **3**

### Second Year

#### Any Semester

The curriculum shown in the second, third, and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Diagnostic Medical Sonography Professional Program.

**Hours** **0**

#### Fall

RSP:2110 Pathology for Radiation Sciences 2

RSP:2120 Patient Care for the Radiation Sciences 3

STAT:1020 Elementary Statistics and Inference<sup>e</sup> 3

RSCI:4110 Vascular Anatomy 3

CS:1020 Principles of Computing<sup>e</sup> 2 - 3  
or BAIS:1500 or Business Computing Essentials

**Hours** **13-14**

#### Spring

RSP:3210 Medical Ethics and Law 2

RSCT:4100 Sectional Anatomy for Imaging Sciences 3

RSCI:4130 Electrocardiogram and Hemodynamics 3

RSMS:3110 Foundations of Sonography 3

RSMS:3111 Foundations of Sonography Lab 1

RSMS:3115 Diagnostic Medical Sonography Clinical Internship I 2

**Hours** **14**

### Third Year

#### Fall

RSMS:3100 Cardiac Sonography I 3

RSMS:3101 Cardiac Sonography I Lab 2

RSMS:3150 Cardiac Physiology and Hemodynamics 3

RSMS:3140 Vascular Sonography I 3

RSMS:3141 Vascular Sonography I Lab 1

**Hours** **12**

#### Spring

RSMS:3230 Sonography Principles, Physics, and Instrumentation 3

RSMS:3231 Sonography Principles, Physics, and Instrumentation Lab 1

RSMS:3205 Cardiac Sonography II 3

RSMS:3206 Cardiac Sonography II Lab 1

RSMS:3270 Vascular Sonography II 3

RSMS:3215 Diagnostic Medical Sonography Clinical Internship II 3

**Hours** **14**

#### Summer

RSMS:3376 Vascular Sonography II Lab 1

RSMS:3315 Diagnostic Medical Sonography Clinical Internship III 4

RSMS:3305 Pediatric Cardiac Sonography<sup>e</sup> 3

RSMS:3306 Pediatric Cardiac Sonography Laboratory<sup>e</sup> 1

**Hours** **9**

### Fourth Year

#### Fall

RSMS:4110 Advanced Sonography 3

RSMS:4111 Advanced Sonography Lab 1

RSMS:4120 Advanced Cardiac Sonography 3

RSMS:4121 Advanced Cardiac Sonography Lab 1

RSMS:4115 Diagnostic Medical Sonography Clinical Internship IV 5

RSP:4110 Research Methodology for Radiation Sciences 3

**Hours** **16**

#### Spring

RSP:3220 Radiation Sciences Quality Management and Health Care Administration 2

RSMS:4220 Multidisciplinary Capstone Seminar 3

RSMS:4215 Diagnostic Medical Sonography Clinical Internship V 5

RSRT:3220 Emotional Intelligence for the Health Care Professional 2

Exam: Upon completion of the program students are eligible to apply to take certification exams.

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

**Hours** **12**

**Total Hours** **122-128**



- a The Academic Advising Center advises Radiation Sciences Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than one year to complete.
- b BIOL:1140 or HHP:1400 is recommended not required. Most students will need to complete BIOL:1140 or HHP:1400 prior to Human Anatomy (based on academic strength).
- c Enrollment in math courses requires completion of a placement exam.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e This course is recommended not required.
- f Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- g Choose from: HHP:1300, HHP:1350, HHP:3500, HHP:3550.
- h Choose from: ACB:3110, HHP:1100, HHP:1150, HHP:3105, HHP:3115.
- i PHYS:1400 may be completed in the spring or summer semester. Summer is recommended if both anatomy and physiology are taken in the spring.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

### Diagnostic Medical Sonography and General/Vascular Professional Program

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Radiation Sciences B.S. program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
Students must earn a grade of C or higher in all RS** courses.		
The Diagnostic Medical Sonography and General/Vascular professional program is three years in duration.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Recommended: health care experience (e.g. CNA), job shadowing in diagnostic medical sonography		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RHET:1030	Rhetoric	4
BIOL:1140 or HHP:1400	Human Biology: Nonmajors <sup>b</sup> or Human Anatomy and Physiology	3 - 4
MATH:1440	Mathematics for the Biological Sciences <sup>c</sup>	4
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
RSP:1100	Introduction to the Radiation Sciences <sup>e</sup>	1

Admission Application: begin preparing materials for Radiation Sciences application (due January 15)<sup>f</sup>

<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
Human Physiology <sup>g</sup>		3 - 5
Human Anatomy <sup>h</sup>		3 - 5
PSY:1001	Elementary Psychology	3
CLSA:3750	Medical and Technical Terminology	2
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3

<b>Hours</b>		<b>14-18</b>
<b>Summer</b>		
PHYS:1400	Basic Physics <sup>i</sup>	3
<b>Hours</b>		<b>3</b>

### Second Year Any Semester

The curriculum shown in the second, third, and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Diagnostic Medical Sonography Professional Program.

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
STAT:1020	Elementary Statistics and Inference <sup>e</sup>	3
RSCI:4110	Vascular Anatomy	3
BAIS:1500 or CS:1020	Business Computing Essentials <sup>e</sup> or Principles of Computing	2 - 3

<b>Hours</b>		<b>13-14</b>
<b>Spring</b>		
RSP:3210	Medical Ethics and Law	2
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
RSCI:4130	Electrocardiogram and Hemodynamics	3
RSMS:3110	Foundations of Sonography	3
RSMS:3111	Foundations of Sonography Lab	1
RSMS:3115	Diagnostic Medical Sonography Clinical Internship I	2

<b>Hours</b>		<b>14</b>
<b>Third Year</b>		
<b>Fall</b>		
RSMS:3120	Abdominal Sonography I	3
RSMS:3121	Abdominal Sonography I Lab	1
RSMS:3130	Obstetrical and Gynecological Sonography I	3
RSMS:3131	Obstetrical and Gynecological Sonography I Lab	1
RSMS:3140	Vascular Sonography I	3
RSMS:3141	Vascular Sonography I Lab	1

<b>Hours</b>		<b>12</b>
<b>Spring</b>		
RSMS:3230	Sonography Principles, Physics, and Instrumentation	3
RSMS:3231	Sonography Principles, Physics, and Instrumentation Lab	1
RSMS:3240	Abdominal Sonography II	3

RSMS:3250	Obstetrical and Gynecological Sonography II	3
RSMS:3270	Vascular Sonography II	3
RSMS:3215	Diagnostic Medical Sonography Clinical Internship II	3
<b>Hours</b>		<b>16</b>
<b>Summer</b>		
RSMS:3325	Abdominal Sonography II Lab	1
RSMS:3376	Vascular Sonography II Lab	1
RSMS:3260	Breast Sonography <sup>e</sup>	2
RSMS:3300	Pediatric Sonography	3
RSMS:3315	Diagnostic Medical Sonography Clinical Internship III	4
<b>Hours</b>		<b>11</b>
<b>Fourth Year</b>		
<b>Fall</b>		
RSMS:4110	Advanced Sonography	3
RSMS:4111	Advanced Sonography Lab	1
RSMS:4115	Diagnostic Medical Sonography Clinical Internship IV	5
RSP:4110	Research Methodology for Radiation Sciences	3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSMS:4220	Multidisciplinary Capstone Seminar	3
RSMS:4215	Diagnostic Medical Sonography Clinical Internship V	5
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		
Exam: Upon completion of the program students are eligible to apply to take certification exams.		
<b>Hours</b>		<b>12</b>
<b>Total Hours</b>		<b>122-128</b>

- a The Academic Advising Center advises Radiation Sciences Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than one year to complete.
- b BIOL:1140 or HHP:1400 is recommended not required. Most students will need to complete BIOL:1140 or HHP:1400 prior to Human Anatomy (based on academic strength).
- c Enrollment in math courses requires completion of a placement exam.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e This course is recommended not required.
- f Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- g Choose from: HHP:1300, HHP:1350, HHP:3500, HHP:3550.
- h Choose from: ACB:3110, HHP:1100, HHP:1150, HHP:3105, HHP:3115.

- i PHYS:1400 may be completed in the spring or summer semester. Summer is recommended if both anatomy and physiology are taken in the spring.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Radiation Therapy Professional Program

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Radiation Sciences B.S. program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
Students must earn a grade of C or higher in all RS** courses.		
The Radiation Therapy professional program is two years in duration.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Recommended: health care experience (e.g. CNA), job shadowing in radiation therapy		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RHET:1030	Rhetoric	4
BIOL:1140 or HHP:1400	Human Biology: Nonmajors <sup>b</sup> or Human Anatomy and Physiology	3 - 4
MATH:1440	Mathematics for the Biological Sciences <sup>c</sup>	4
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
RSP:1100	Introduction to the Radiation Sciences <sup>e</sup>	1
<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
	Human Physiology <sup>f</sup>	3 - 5
	Human Anatomy <sup>g, h</sup>	3 - 5
PSY:1001	Elementary Psychology	3
CLSA:3750	Medical and Technical Terminology	2
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
<b>Hours</b>		<b>14-18</b>
<b>Second Year</b>		
<b>Fall</b>		
CHEM:1070 or CHEM:1110	General Chemistry I <sup>e, i</sup> or Principles of Chemistry I	3 - 4
PHYS:1511 or PHYS:1400	College Physics I or Basic Physics	3 - 4
BAIS:1500 or CS:1020	Business Computing Essentials <sup>e</sup> or Principles of Computing	2 - 3
	Elective course	3 - 4
	Elective course	3
Admission Application: begin preparing materials for Radiation Sciences application (due January 15) <sup>j</sup>		
<b>Hours</b>		<b>14-18</b>

**Spring**

CHEM:1080 or CHEM:1120	General Chemistry II <sup>e</sup> or Principles of Chemistry II	3 - 4
PHYS:1512	College Physics II <sup>e</sup>	4
STAT:1020 or STAT:3510 or STAT:4143	Elementary Statistics and Inference <sup>e</sup> or Biostatistics or Introduction to Statistical Methods	3
Elective course		3
Elective course		3

**Hours 16-17**

**Third Year**

**Any Semester**

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Radiation Therapy Professional Program.

	<b>Hours</b>	<b>0</b>
<b>Fall</b>		
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:2110	Pathology for Radiation Sciences	2
RSTH:3110	Medical Physics I	2
RSTH:3100	Introduction to Radiation Therapy	3
RSTH:3120	Radiation Therapy Clinical Internship I	3

**Hours 15**

**Spring**

RSP:3210	Medical Ethics and Law	2
RSTH:3205	Principles of Radiation Therapy I	3
RSTH:3215	Medical Physics II	2
RSTH:3225	Radiation Therapy Clinical Internship II	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3

**Hours 13**

**Summer**

RSTH:3325	Radiation Therapy Clinical Internship III	4
RSCT:4130	Computed Tomography Physical Principles and QC	4

**Hours 8**

**Fourth Year**

**Fall**

RSTH:4105	Principles of Radiation Therapy II	2
RSTH:4125	Radiation Therapy Clinical Internship IV	4
RSP:4110	Research Methodology for Radiation Sciences	3
RSCT:4120	Computed Tomography Procedures I	4

**Hours 13**

**Spring**

RSTH:4230	Radiation Therapy Capstone	3
RSTH:4225	Radiation Therapy Clinical Internship V	5

RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
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RSMR:4110	Fundamentals for the MRI Technologist	3
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Exam: Upon completion of the program students are eligible to apply to take certification exams.

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)

<b>Hours</b>	<b>13</b>
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**Total Hours 121-131**

- a The Academic Advising Center advises Radiation Sciences Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than two years to complete.
- b BIOL:1140 or HHP:1400 is recommended not required. Most students will need to complete BIOL:1140 or HHP:1400 prior to Human Anatomy (based on academic strength).
- c Enrollment in math courses requires completion of a placement exam.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e This course is recommended not required.
- f Choose from: HHP:1300, HHP:1350, HHP:3500, HHP:3550.
- g Choose from: ACB:3110, HHP:1100, HHP:1150, HHP:3105, HHP:3115.
- h If not previously completed.
- i Enrollment in chemistry courses requires completion of a placement exam.
- j Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

**Radiologic Technology Professional Program**

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
	Students apply to the Radiation Sciences B.S. program through a selective process. Acceptance is not guaranteed. <sup>a</sup>	
	Students must earn a grade of C or higher in all RS** courses.	
	The Radiologic Technology professional program is two years in duration.	
<b>Hours</b>		<b>0</b>

**First Year****Any Semester**

Recommended: health care experience (e.g. CNA), job shadowing in radiologic technology, computed tomography, magnetic resonance imaging, cardiovascular interventional, and breast imaging.

<b>Hours</b>	<b>0</b>
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**Fall**

RHET:1030	Rhetoric	4
HHP:1400 or BIOL:1140	Human Anatomy and Physiology <sup>b</sup> or Human Biology: Nonmajors	3 - 4
MATH:1440	Mathematics for the Biological Sciences <sup>c</sup>	4
RSP:1100	Introduction to the Radiation Sciences	1

GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
Elective course		2

<b>Hours</b>	<b>17-18</b>
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**Spring**

Human Physiology <sup>e</sup>		3 - 5
Human Anatomy <sup>f, g</sup>		3 - 5
PSY:1001	Elementary Psychology	3
CLSA:3750	Medical and Technical Terminology	2
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3

<b>Hours</b>	<b>14-18</b>
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**Second Year****Fall**

CHEM:1070	General Chemistry I <sup>h, i</sup>	3
PHYS:1400	Basic Physics <sup>h</sup>	3 - 4
BAIS:1500 or CS:1020	Business Computing Essentials <sup>h</sup> or Principles of Computing	2 - 3
Elective course		3 - 4
Elective course		3

Admission Application: begin preparing materials for Radiation Sciences application (due January 15)<sup>j</sup>

<b>Hours</b>	<b>14-17</b>
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**Spring**

STAT:1020 or STAT:3510 or STAT:4143	Elementary Statistics and Inference <sup>h</sup> or Biostatistics or Introduction to Statistical Methods	3
Elective course		3
Elective course		3
Elective course		3
Elective course		3

<b>Hours</b>	<b>15</b>
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**Third Year****Any Semester**

The curriculum shown in the third and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Radiologic Technology Professional Program.

<b>Hours</b>	<b>0</b>
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**Fall**

RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
RSP:1100	Introduction to the Radiation Sciences <sup>g</sup>	1

<b>Hours</b>	<b>13</b>
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**Spring**

RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSP:3210	Medical Ethics and Law	2

<b>Hours</b>	<b>13</b>
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**Summer**

RSRT:2325	Radiologic Technology Clinical Internship III	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3

<b>Hours</b>	<b>6</b>
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**Fourth Year****Fall**

RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
RSP:4110	Research Methodology for Radiation Sciences	3

<b>Hours</b>	<b>16</b>
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**Spring**

RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1

Exam: Upon completion of the program students are eligible to apply to take certification exams.

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>k</sup>

<b>Hours</b>	<b>12</b>
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<b>Total Hours</b>	<b>120-128</b>
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a The Academic Advising Center advises Radiation Sciences Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not

- necessarily for a four year plan. Prerequisites may take more than two years to complete.
- b BIOL:1140 or HHP:1400 is recommended not required. Most students will need to complete BIOL:1140 or HHP:1400 prior to Human Anatomy (based on academic strength).
- c Enrollment in math courses requires completion of a placement exam.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e Choose from: HHP:1300, HHP:1350, HHP:3500, HHP:3550.
- f Choose from: ACB:3110, HHP:1100, HHP:1150, HHP:3105, HHP:3115.
- g If not previously completed.
- h This course is recommended not required.
- i Enrollment in chemistry courses requires completion of a placement exam.
- j Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Radiologic Technology and Breast Imaging Professional Program

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Radiation Sciences B.S. program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
Students must earn a grade of C or higher in all RS** courses.		
The Radiologic Technology and Breast Imaging professional program is four years in duration.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Recommended: health care experience (e.g. CNA), job shadowing in radiologic technology, computed tomography, magnetic resonance imaging, cardiovascular interventional, and breast imaging.		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RHET:1030	Rhetoric	4
BIOL:1140 or HHP:1400	Human Biology: Nonmajors <sup>b</sup> or Human Anatomy and Physiology	3 - 4
MATH:1440	Mathematics for the Biological Sciences <sup>c</sup>	4
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
RSP:1100	Introduction to the Radiation Sciences <sup>e</sup>	1
Admission Application: begin preparing materials for Radiation Sciences application (due January 15) <sup>f</sup>		
<b>Hours</b>		<b>15-16</b>

### Spring

Human Physiology <sup>g</sup>		3 - 5
Human Anatomy <sup>h, i</sup>		3 - 5
PSY:1001	Elementary Psychology	3
CLSA:3750	Medical and Technical Terminology	2
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3

**Hours 14-18**

### Second Year

#### Any Semester

The curriculum shown in the second, third, and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Radiologic Technology Professional Program.

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
<b>Hours</b>		<b>12</b>

### Spring

RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSP:3210	Medical Ethics and Law	2
<b>Hours</b>		<b>13</b>

### Summer

RSRT:2325	Radiologic Technology Clinical Internship III	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
<b>Hours</b>		<b>6</b>

### Third Year

#### Fall

RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
<b>Hours</b>		<b>13</b>

#### Spring

RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSCI:4110	Vascular Anatomy	3
<b>Hours</b>		<b>12</b>

**Summer**

RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSBI:3310	Patient Care for Breast Imaging	3
RSBI:3315	Breast Imaging Clinical Internship I	2
<b>Hours</b>		<b>7</b>

**Fourth Year****Fall**

RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSP:4110	Research Methodology for Radiation Sciences	3
RSBI:4110	Breast Imaging Procedures and Analysis	3
RSBI:4120	Anatomy and Pathology for Breast Imaging	2
RSBI:4130	Breast Imaging Acquisitions and Principles	2
RSBI:4115	Breast Imaging Clinical Internship II	4
<b>Hours</b>		<b>15</b>

**Spring**

RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSBI:4210	Breast Imaging Advanced Procedures and Analysis	3
RSBI:4220	Quality Control in Breast Imaging	3
RSBI:4215	Breast Imaging Clinical Internship III	4
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1

Exam: Upon completion of the program students are eligible to apply to take certification exams.

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

<b>Hours</b>		<b>14</b>
<b>Total Hours</b>		<b>121-126</b>

a The Academic Advising Center advises Radiation Sciences Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than one year to complete.

b BIOL:1140 or HHP:1400 is recommended not required. Most students will need to complete BIOL:1140 or HHP:1400 prior to Human Anatomy (based on academic strength).

c Enrollment in math courses requires completion of a placement exam.

d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.

e This course is recommended not required.

f Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.

g Choose from: HHP:1300, HHP:1350, HHP:3500, HHP:3550.

h Choose from: ACB:3110, HHP:1100, HHP:1150, HHP:3105, HHP:3115.

i If not previously completed.

j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor. For more information visit <http://commencement.uiowa.edu/>

## Radiologic Technology and Cardiovascular Interventional Professional Program

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Radiation Sciences B.S. program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
Students must earn a grade of C or higher in all RS** courses.		
The Radiologic Technology and Cardiovascular Interventional professional program is three years in duration.		
<b>Hours</b>		<b>0</b>

**First Year****Any Semester**

Recommended: health care experience (e.g. CNA), job shadowing in radiologic technology, computed tomography, magnetic resonance imaging, cardiovascular interventional, and breast imaging.

<b>Hours</b>		<b>0</b>
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**Fall**

RHET:1030	Rhetoric	4
HHP:1400	Human Anatomy and Physiology <sup>b</sup>	3 - 4
	or BIOL:1140 or Human Biology: Nonmajors	
MATH:1440	Mathematics for the Biological Sciences <sup>c</sup>	4
GE:	General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>	3
RSP:1100	Introduction to the Radiation Sciences <sup>e</sup>	1

Admission Application: begin preparing materials for Radiation Sciences application (due January 15)<sup>f</sup>

<b>Hours</b>		<b>15-16</b>
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**Spring**

	Human Physiology <sup>g</sup>	3 - 5
	Human Anatomy <sup>h, i</sup>	3 - 5
PSY:1001	Elementary Psychology	3
CLSA:3750	Medical and Technical Terminology	2
GE:	General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>	3

<b>Hours</b>		<b>14-18</b>
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**Second Year****Any Semester**

The curriculum shown in the second, third, and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Radiologic Technology Professional Program.

<b>Hours</b>		<b>0</b>
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**Fall**

RSRT:2110	Radiographic Procedures and Analysis I	4
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RSRT:2120	Radiologic Technology Clinical Internship I	1
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSP:3210	Medical Ethics and Law	2
<b>Hours</b>		<b>13</b>
<b>Summer</b>		
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
<b>Hours</b>		<b>6</b>
<b>Third Year</b>		
<b>Fall</b>		
RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3230	Radiographic Physics and Imaging Equipment	4
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSCI:4110	Vascular Anatomy	3
<b>Hours</b>		<b>12</b>
<b>Summer</b>		
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSCI:4120	CVI Principles	4
RSCI:4190	CVI Clinical Internship I	2
<b>Hours</b>		<b>8</b>
<b>Fourth Year</b>		
<b>Fall</b>		
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSP:4110	Research Methodology for Radiation Sciences	3
RSCI:4140	CVI Peripheral Procedures and Pathology	3
RSCI:4150	CVI Neurology and Nonvascular Procedures and Pathology	3
RSCI:4180	CVI Clinical Internship II	4
<b>Hours</b>		<b>14</b>

<b>Spring</b>		
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSCI:4130	Electrocardiogram and Hemodynamics	3
RSCI:4160	CVI Cardiac Procedures and Pathology	4
RSCI:4170	CVI Clinical Internship III	4
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1
Exam: Upon completion of the program students are eligible to apply to take certification exams.		
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>j</sup>		
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>122-127</b>

- a The Academic Advising Center advises Radiation Sciences Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than one year to complete.
- b BIOL:1140 or HHP:1400 s recommended not required. Most students will need to complete BIOL:1140 or HHP:1400 prior to Human Anatomy (based on academic strength).
- c Enrollment in math courses requires completion of a placement exam.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e This course is recommended not required.
- f Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- g Choose from: HHP:1300, HHP:1350, HHP:3500, HHP:3550.  
h If not previously completed.
- i Choose from: ACB:3110, HHP:1100, HHP:1150, HHP:3105, HHP:3115.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Radiologic Technology and Computed Tomography Professional Program

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Radiation Sciences B.S. program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
Students must earn a grade of C or higher in all RS** courses.		
The Radiologic Technology and Computed Tomography professional program is three years in duration.		
<b>Hours</b>		<b>0</b>

**First Year****Any Semester**

Recommended: health care experience (e.g. CNA), job shadowing in radiologic technology, computed tomography, magnetic resonance imaging, cardiovascular interventional, and breast imaging.

		<b>Hours</b>	<b>0</b>
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**Fall**

RHET:1030	Rhetoric	4	
HHP:1400	Human Anatomy and Physiology <sup>b</sup>	3 - 4	
	or BIOL:1140 or Human Biology: Nonmajors		
MATH:1440	Mathematics for the Biological Sciences <sup>c</sup>	4	
GE:	General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>	3	
RSP:1100	Introduction to the Radiation Sciences <sup>e</sup>	1	

Admission Application: begin preparing materials for Radiation Sciences application (due January 15)<sup>f</sup>

		<b>Hours</b>	<b>15-16</b>
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**Spring**

	Human Physiology <sup>g</sup>	3 - 5	
	Human Anatomy <sup>h, i</sup>	3 - 5	
PSY:1001	Elementary Psychology	3	
CLSA:3750	Medical and Technical Terminology	2	
GE:	General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>	3	

		<b>Hours</b>	<b>14-18</b>
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**Second Year****Any Semester**

The curriculum shown in the second, third, and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Radiologic Technology Professional Program.

		<b>Hours</b>	<b>0</b>
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**Fall**

RSRT:2110	Radiographic Procedures and Analysis I	4	
RSRT:2120	Radiologic Technology Clinical Internship I	1	
RSP:2110	Pathology for Radiation Sciences	2	
RSP:2120	Patient Care for the Radiation Sciences	3	
RSP:3130	Radiation Safety and Radiobiology	2	

		<b>Hours</b>	<b>12</b>
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**Spring**

RSRT:2225	Radiologic Technology Clinical Internship II	3	
RSRT:2230	Radiographic Procedures II	3	
RSRT:2240	Radiographic Analysis II	3	
RSRT:2250	Radiographic Fluoroscopic Procedures	2	
RSP:3210	Medical Ethics and Law	2	

		<b>Hours</b>	<b>13</b>
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**Summer**

RSRT:2325	Radiologic Technology Clinical Internship III	3	
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RSCT:4100	Sectional Anatomy for Imaging Sciences	3	
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		<b>Hours</b>	<b>6</b>
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**Third Year****Fall**

RSRT:3115	Radiographic Procedures and Analysis III	4	
RSRT:3125	Radiologic Technology Clinical Internship IV	4	
RSRT:3140	Radiographic and Digital Imaging	5	

		<b>Hours</b>	<b>13</b>
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**Spring**

RSRT:3220	Emotional Intelligence for the Health Care Professional	2	
RSRT:3225	Radiologic Technology Clinical Internship V	3	
RSRT:3230	Radiographic Physics and Imaging Equipment	4	
RSCI:4130	Electrocardiogram and Hemodynamics	3	

		<b>Hours</b>	<b>12</b>
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**Summer**

RSRT:3325	Radiologic Technology Clinical Internship VI	2	
RSCT:4130	Computed Tomography Physical Principles and QC	4	
RSCT:4105	Computed Tomography Clinical Internship I	2	

		<b>Hours</b>	<b>8</b>
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**Fourth Year****Fall**

RSRT:4125	Radiologic Technology Clinical Internship VII	1	
RSCT:4115	Computed Tomography Clinical Internship II	4	
RSCT:4120	Computed Tomography Procedures I	4	
RSCI:4110	Vascular Anatomy	3	
RSP:4110	Research Methodology for Radiation Sciences	3	

		<b>Hours</b>	<b>15</b>
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**Spring**

RSRT:4225	Radiologic Technology Clinical Internship VIII	1	
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1	
RSCT:4125	Computed Tomography Procedures II	4	
RSCT:4215	Computed Tomography Clinical Internship III	4	
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2	

Exam: Upon completion of the program students are eligible to apply to take certification exams.

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall)<sup>j</sup>

		<b>Hours</b>	<b>12</b>
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		<b>Total Hours</b>	<b>120-125</b>
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- a The Academic Advising Center advises Radiation Sciences Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than one year to complete.
- b BIOL:1140 or HHP:1400 is recommended not required. Most students will need to complete BIOL:1140 or HHP:1400 prior to Human Anatomy (based on academic strength).
- c Enrollment in math courses requires completion of a placement exam.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e This course is recommended not required.
- f Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- g Choose from: HHP:1300, HHP:1350, HHP:3500, HHP:3550.
- h Choose from: ACB:3110, HHP:1100, HHP:1150, HHP:3105, HHP:3115.
- i If not previously completed.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Radiologic Technology and Magnetic Resonance Imaging Professional Program

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Radiation Sciences B.S. program through a selective process. Acceptance is not guaranteed. <sup>a</sup>		
Students must earn a grade of C or higher in all RS** courses.		
The Radiologic Technology and Magnetic Resonance Imaging professional program is three years in duration.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Recommended: health care experience (e.g. CNA), job shadowing in radiologic technology, computed tomography, magnetic resonance imaging, cardiovascular interventional, and breast imaging.		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RHET:1030	Rhetoric	4
BIOL:1140 or HHP:1400	Human Biology: Nonmajors <sup>b</sup> or Human Anatomy and Physiology	3 - 4
MATH:1440	Mathematics for the Biological Sciences <sup>c</sup>	4
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
RSP:1100	Introduction to the Radiation Sciences <sup>e</sup>	1

Admission Application: begin preparing materials for Radiation Sciences application (due January 15)<sup>f</sup>

<b>Hours</b>		<b>15-16</b>
<b>Spring</b>		
Human Physiology <sup>g</sup>		3 - 5
Human Anatomy <sup>h, i</sup>		3 - 5
PSY:1001	Elementary Psychology	3
CLSA:3750	Medical and Technical Terminology	2
GE: General Education course (DI, IGI, HP, LVPA, or VC) <sup>d</sup>		3
<b>Hours</b>		<b>14-18</b>
<b>Second Year</b>		
<b>Any Semester</b>		
The curriculum shown in the second, third, and fourth years on this plan begins upon acceptance into the Carver College of Medicine, Radiologic Technology Professional Program.		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
RSRT:2110	Radiographic Procedures and Analysis I	4
RSRT:2120	Radiologic Technology Clinical Internship I	1
RSP:2110	Pathology for Radiation Sciences	2
RSP:2120	Patient Care for the Radiation Sciences	3
RSP:3130	Radiation Safety and Radiobiology	2
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
RSRT:2225	Radiologic Technology Clinical Internship II	3
RSRT:2230	Radiographic Procedures II	3
RSRT:2240	Radiographic Analysis II	3
RSRT:2250	Radiographic Fluoroscopic Procedures	2
RSP:3210	Medical Ethics and Law	2
<b>Hours</b>		<b>13</b>
<b>Summer</b>		
RSRT:2325	Radiologic Technology Clinical Internship III	3
RSCT:4100	Sectional Anatomy for Imaging Sciences	3
<b>Hours</b>		<b>6</b>
<b>Third Year</b>		
<b>Fall</b>		
RSRT:3115	Radiographic Procedures and Analysis III	4
RSRT:3125	Radiologic Technology Clinical Internship IV	4
RSRT:3140	Radiographic and Digital Imaging	5
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
RSRT:3220	Emotional Intelligence for the Health Care Professional	2
RSRT:3225	Radiologic Technology Clinical Internship V	3
RSRT:3230	Radiographic Physics and Imaging Equipment	4

RSMR:4110	Fundamentals for the MRI Technologist	3
<b>Hours</b>		<b>12</b>
<b>Summer</b>		
RSRT:3325	Radiologic Technology Clinical Internship VI	2
RSCI:4110	Vascular Anatomy	3
RSMR:4160	MRI Clinical Internship I	2
<b>Hours</b>		<b>7</b>
<b>Fourth Year</b>		
<b>Fall</b>		
RSRT:4125	Radiologic Technology Clinical Internship VII	1
RSP:4110	Research Methodology for Radiation Sciences	3
RSMR:4120	MRI Procedures I	4
RSMR:4140	MRI Acquisition and Principles I	3
RSMR:4170	MRI Clinical Internship II	4
<b>Hours</b>		<b>15</b>
<b>Spring</b>		
RSRT:4225	Radiologic Technology Clinical Internship VIII	1
RSP:3220	Radiation Sciences Quality Management and Health Care Administration	2
RSMR:4130	MRI Procedures II	4
RSMR:4150	MRI Acquisition and Principles II	3
RSMR:4175	MRI Clinical Internship III	4
RSRT:4230	Radiologic Technology Capstone and Certification Exam Preparation	1
<b>Hours</b>		<b>15</b>
<b>Total Hours</b>		<b>122-127</b>

requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

- a The Academic Advising Center advises Radiation Sciences Interest students on prerequisite course planning. Students are advised for success, based on academic strength, not necessarily for a four year plan. Prerequisites may take more than one year to complete.
- b BIOL:1140 or HHP:1400 is recommended not required. Most students will need to complete BIOL:1140 or HHP:1400 prior to Human Anatomy (based on academic strength).
- c Enrollment in math courses requires completion of a placement exam.
- d Students must complete 6 s.h. by taking 3 s.h. courses from two of the following areas: Diversity and Inclusion, Historical Perspectives, International and Global Issues, Literary, Visual, and Performing Arts, or Values and Culture.
- e This course is recommended not required.
- f Please see the Radiation Sciences Programs' website and your academic advisor for detailed application instructions and deadlines.
- g Choose from: HHP:1300, HHP:1350, HHP:3500, HHP:3550.
- h If not previously completed.
- i Choose from: ACB:3110, HHP:1100, HHP:1150, HHP:3105, HHP:3115.
- j Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all

# Radiology

## Chair

- Colin P. Derdeyn

**Faculty:** <https://medicine.uiowa.edu/radiology/our-people>

**Website:** <https://medicine.uiowa.edu/radiology/>

The Department of Radiology has a three-fold mission of education, research, and patient care. It trains Doctor of Medicine students, residents, and fellows and offers programs for medical professionals. It is a leader in innovative research relating to diagnosis and treatment across the clinical subspecialties, including MRI, PET, breast imaging, cardiac and pulmonary imaging, and imaging informatics. Residents, fellows, medical students, and graduate students have opportunities to participate in research projects in the department. The radiology library provides varied resources and services for department faculty and staff.

The department also provides diagnostic and therapeutic radiology services for patients and families in Iowa and surrounding states through its clinical services at University of Iowa Hospitals & Clinics. Visit the Department of Radiology website to learn more about the department's activities and resources.

## Undergraduate Education

The Department of Radiology offers clinical education to students in the Nuclear Medicine Technology [p. 1909] and Radiation Sciences [p. 1949] Programs.

### M.D. Training

The Department of Radiology offers a clerkship for Doctor of Medicine students and provides additional courses, research experiences, and externships for students interested in learning more about radiology. Several of the department's programs are open to medical students from other institutions. See Medical Student Training and Externship Program on the Department of Radiology website.

### Residency

The department offers three residency programs in diagnostic radiology, interventional radiology, and nuclear medicine; see Education on the Department of Radiology website.

Fellowships are available in these specialties: body imaging, breast imaging, endovascular surgical neuroradiology, interventional radiology, musculoskeletal radiology, neuroradiology, pediatric radiology, molecular imaging, theranostics, and cardiothoracic imaging. Practicing radiologists have access to several departmental traineeships that provide category 1 continuing medical education credit through the Carver College of Medicine.

## Courses

### Radiology Courses

**RAD:8007 Medical Student Fellowships in Radiology (Externships)** **0 s.h.**

Students work directly with on-call radiology residents; respond to pages, communication with clinicians and consultants, facilitate communication with technologists; involves a large amount of medical thinking with emphasis on indications for diagnostic imaging, study protocols, and contrast utilization. Requirements: M.D. standing in radiology externship.

**RAD:8301 Clinical Radiology** **2 s.h.**

Two-week clerkship. Requirements: M.D. enrollment.

**RAD:8401 Advanced Clinical Radiology** **arr.**

Requirements: M.D. enrollment.

**RAD:8402 Vascular and Interventional Radiology** **arr.**

Requirements: M.D. enrollment.

**RAD:8497 Research in Radiology** **arr.**

Medical research, clinical or laboratory projects; individual study.

**RAD:8498 Radiology On Campus** **arr.**

Requirements: M.D. enrollment.

**RAD:8499 Radiology Off Campus** **arr.**

Requirements: M.D. enrollment.

# Stead Family Department of Pediatrics

## Chair

- Alexander G. Bassuk

**Faculty:** <https://medicine.uiowa.edu/pediatrics/people>

**Website:** <https://medicine.uiowa.edu/pediatrics/>

The Stead Family Department of Pediatrics provides a solid foundation for M.D. students and postgraduate trainees. It offers extensive opportunities for general pediatrics and subspecialties training.

Affiliated programs add depth to the educational program in community pediatrics and primary care. The department is affiliated with the child and material health programs of the Bureau of Family Health, Iowa Department of Public Health, University of Iowa Stead Family Children's Hospital, the Center for Disabilities and Development, the Blank Children's Hospital in Des Moines, and community sites.

## M.D. Training

Didactic lectures and physical examination of newborns, toddlers, and older children provide M.D. students with their initial pediatric patient contact. This experience includes taking a history, performing a physical examination, appraisal of growth and development, nutrition, and symptomatology of newborns, toddlers, and adolescents.

For core and advanced medical students, the inpatient service provides training in the complex problems of disease and critical illness. Students participate in daily rounds involving general pediatrics and all subspecialties. Challenging and interesting cases are presented for discussion of diagnosis and treatment.

Outpatient experience, available in the core clerkship and advanced electives, stresses principles and practices required for the maintenance of children's health, treatment of common general pediatric disorders, and the diagnosis and treatment of subspecialty ambulatory patients.

## Residency, Fellowships

The department offers an accredited three-year residency program designed to prepare trainees for professional careers in general pediatrics or for further fellowship training. The program meets the eligibility requirements of the American Board of Pediatrics (ABP) and is approved for 15 residents and one child neurology resident per year by the Accreditation Council for Graduate Medical Education (ACGME).

Fellowships are available in multiple pediatrics subspecialties. Fellowship programs encourage development of knowledge and skill through research and clinical experiences in the chosen discipline. Upon satisfactory completion of the program, fellows meet the ABP eligibility requirements in their subspecialty.

## Facilities

The Stead Family Department of Pediatrics has inpatient and outpatient facilities in the University of Iowa Stead Family Children's Hospital. Additional outpatient facilities are located at Iowa River Landing in Coralville, UI Health Care—North

Liberty, UI Health Care—Scott Boulevard, and Cedar Rapids Pediatrics.

The pediatric inpatient service has approximately 189 beds, and more than 60,000 patients are seen each year in the general, specialty, continuity care, and field clinics and in University of Iowa Hospitals & Clinics Emergency Medicine. The Center for Disabilities and Development provides resources for children with intellectual or developmental disabilities and cerebral palsy.

The department maintains a number of laboratories that perform both clinical and research studies.

## Courses

### Pediatrics (Stead Family Department of Pediatrics) Courses

**PEDS:6101 Primary Care: Infants, Children, and Adolescents II** 3 s.h.

Enhancement of clinical knowledge and skills for infant, child, adolescent care; development and refinement of knowledge and skills in primary health care delivery. Prerequisites: NURS:6100. Corequisites: NURS:6702. Same as NURS:6101.

**PEDS:7264 Clinical Applications of Applied Behavior Analysis** 1-3 s.h.

Experience behavioral observations, consultation, and/or conducting behavioral assessments (including preference assessments and functional analyses), matched treatments; interviews with care providers, collect behavioral data, conduct behavioral assessments, matched treatments; follow-up with care providers.

**PEDS:8301 Clinical Pediatrics** 6 s.h.

Principles, practices of health maintenance and treatment of acute and chronic illnesses in children; emphasis on diagnosis and evaluation, nutrition, behavior problems, disorders affecting children; patient care, daily rounds, ward work. Requirements: third-year M.D. enrollment.

**PEDS:8401 Advanced Inpatient Subinternship in Pediatric Care** arr.

Experience on pediatric inpatient team caring for patients ranging from infants through adolescents; evaluation, formulation of differential diagnoses, diagnostic workups, appropriate therapy programs. Requirements: fourth-year M.D. enrollment.

**PEDS:8402 Advanced Inpatient Subinternship in Pediatrics: Blank Children's Hospital, Des Moines** arr.

Experience in the care of general pediatric inpatients; daily rounds and teaching by senior residents and faculty members; daily didactic conferences. Requirements: fourth-year M.D. enrollment.

**PEDS:8403 Neonatology (NICU)** arr.

Experience caring for ill neonates, proficiency in using diagnostic tests and procedures; responsibility for care of several infants; reference and literature review, conferences, teaching, clinical rounds. Requirements: fourth-year M.D. enrollment.

- PEDS:8404 Critical Care (PICU)** 4 s.h.  
Direct care of critically ill children in a multidisciplinary medical/surgical/cardiac intensive care unit, under supervision of pediatric residents and staff; participation in educational activities and formal clinical rounds. Requirements: fourth-year M.D. enrollment.
- PEDS:8405 Emergency Room Blank Children's Hospital, Des Moines** arr.  
Pediatric emergencies and urgent care, proficiency in pediatric medicine procedures; expansion of basic knowledge. Requirements: fourth-year M.D. enrollment.
- PEDS:8406 Pediatric Pulmonary** 4 s.h.  
Extensive opportunity to learn clinical assessment of respiratory diseases and complaints including physical exam, history taking, and interpretation of ancillary study (e.g., lung functions, allergy testing, blood gases); diagnosis, management, and follow-up for common chronic respiratory conditions in pediatric population. Requirements: fourth-year M.D. enrollment.
- PEDS:8407 Pediatric Cardiology** arr.  
Participation in clinical activities; observation of cardiac catheterization; experience in cardiac auscultation, ECG, radiography; emphasis on physical diagnosis, approach to heart disease and murmurs in children. Requirements: fourth-year M.D. enrollment.
- PEDS:8408 Pediatric Gastroenterology** arr.  
Diagnosis, management, treatment of diseases of gastrointestinal tract, liver, pancreas in children; ward rounds, consultations, clinics, diagnostic procedures, conferences. Requirements: fourth-year M.D. enrollment.
- PEDS:8409 Pediatric Hematology/Oncology** arr.  
Basic concepts of clinical approach to hematologic and oncologic problems in children and adolescents; primarily outpatient experience. Requirements: fourth-year M.D. enrollment.
- PEDS:8410 Pediatric Neurology** arr.  
Participation in outpatient and inpatient activities, teaching, morning ward rounds. Requirements: fourth-year M.D. enrollment.
- PEDS:8412 Developmental and Behavioral Pediatrics** 2,4 s.h.  
Normal developmental sequence of gestation and early childhood, impact of environmental influences; antecedents of developmental disabilities; methods to detect cognitive and motor delays in preschool children; long-term consequences of developmental disabilities for children, their families; advantages of interdisciplinary teamwork. Requirements: fourth-year M.D. enrollment.
- PEDS:8415 Medical Genetics for the Senior Student** arr.  
Participation in diagnostic, therapeutic problems; techniques for evaluation, appropriate counseling in genetic cases; conferences. Requirements: fourth-year M.D. enrollment.
- PEDS:8416 Neonatal Intensive Care Unit, Blank Children's Hospital** 4 s.h.  
Experience equivalent to intern on neonatal intensive care unit teaching service at Blank Children's Hospital, Des Moines; four-week rotation.
- PEDS:8417 Community Pediatric Outpatient Elective** 2 s.h.  
Opportunity to participate as active members of a community-based general pediatric office; work directly with community-based faculty and non-physician team members; build on clinical skills developed in M3 pediatric clerkship. Requirements: M.D. enrollment.
- PEDS:8418 Pediatric Intensive Care Unit, Blank Children's Hospital** 4 s.h.  
Development of knowledge and clinical skills in recognition of critical illness in children; basic strategies of initial resuscitation and management.
- PEDS:8419 Pediatric Rheumatology, Allergy, and Immunology** 4 s.h.  
Introduction to fields of rheumatology and allergy/immunology; utilization of self-reflection to guide self-directed learning; identification of knowledge and performance gaps and address those gaps; demonstration of ability to use evidence-based medicine in production of an evidence-based project; understand how socioeconomic factors affect patient populations through observed patient interactions. Requirements: M.D. enrollment.
- PEDS:8420 Pediatric Palliative Care** 2,4 s.h.  
Palliative medicine as a specialty which enhances quality of life, reduces suffering for patients with serious illnesses, and provides education and support for their families; interdisciplinary consult teamwork with patient's primary medical providers for inpatient or outpatient management of symptoms, goal setting, and decision making; introduction to pediatric palliative care with option to be involved in adult palliative care and local hospice services. Requirements: M.D. enrollment.
- PEDS:8421 Pediatric Endocrinology** 2,4 s.h.  
Diagnosis, management, and treatment of pediatric endocrine diseases: growth disorders (short stature, tall stature, delayed puberty, precocious puberty), thyroid disorders (hypothyroidism, hyperthyroidism, thyroid nodules), diabetes mellitus, diabetes insipidus, dysgenetic syndromes, ambiguous genitalia, adrenal insufficiency or adrenal steroid excess, and hypopituitarism. Requirements: M.D. enrollment.
- PEDS:8431 Pediatric Nephrology** 2,4 s.h.  
Introduction to general pediatric nephrology cases and management. Requirements: M.D. enrollment.
- PEDS:8450 Continuity of Care in Outpatient General Pediatrics** 4 s.h.  
Work with experienced general pediatrician in a longitudinal clinical experience for the academic year; paired with faculty pediatrician to see patients in a weekly clinic, provide clinical care to a defined patient population; growth and development, health supervision, and management of common acute and chronic clinical problems. Requirements: fourth-year M.D. enrollment.
- PEDS:8495 Pediatric Intensive Care Off Campus** arr.  
Arranged by student and department. Requirements: fourth-year M.D. enrollment.
- PEDS:8497 Research in Pediatrics** arr.  
Medical research, clinical or laboratory projects; individual study.
- PEDS:8498 Pediatrics On Campus** arr.  
Requirements: fourth-year M.D. enrollment.
- PEDS:8499 Pediatrics Off Campus** arr.  
Requirements: fourth-year M.D. enrollment.

# Surgery

## Chair

- Ronald Weigel

**Faculty:** <https://medicine.uiowa.edu/surgery/profile?appointment=PRIMARY&category=&query=&page=1&size=10>

**Website:** <https://medicine.uiowa.edu/surgery/>

The Department of Surgery offers didactic instruction as well as clinical and other practical experiences for medical students. It also hosts a wide spectrum of clinical and scientific research.

The department also plays a primary instructional role in the University of Iowa Hospitals Clinics' Perfusion Technology Program,

## Faculty

The faculty's strengths center in pathophysiology and problems of severe burns, trauma, organ transplantation, surgical control of morbid obesity, surgical oncology, bowel disease, biliary tract disease, pediatric surgery, endocrine disease, plastic surgery, diseases of the esophagus, artificial organs, pediatric cardiac surgery, transplantation, and vascular surgery. Research also is under way in the sequence of mutations and in localization of genes predisposed to cancer.

## M.D. Training

Department of Surgery courses provide a unique combination of experience oriented toward patient care and understanding of surgery's place among a physician's skills. Surgery courses are open only to M.D. students and qualified students in associated health sciences.

Students develop an awareness of surgery's role in the treatment of disease. Emphasis is placed on general surgery, basic emergency surgery, trauma, oncology, burns, gastrointestinal and biliary tract disease, endocrine disease, pediatric surgery, transplantation, plastic and reconstructive surgery, and peripheral vascular surgery.

The majority of surgery courses involve patient-centered discussions and practical exercises interwoven with operating room experience. Lectures and conferences are scheduled regularly on specific topics.

The department offers independent study courses in selected surgery topics and clinical experiences; some are available to fourth-year M.D. students by arrangement with the faculty.

## Facilities

Abundant patient contact provides education in a wide variety of surgical diseases. The Department of Surgery provides training in the only burn unit in Iowa approved by the American College of Surgeons and in the Level I Trauma Center at University of Iowa Hospitals & Clinics.

Laboratories provide equipment, space, and technical expertise to support teaching and a wide spectrum of clinical and scientific research. Projects are available in gastrointestinal surgery, surgical microbiology, peripheral vascular surgery, transplantation, wound healing, organ preservation, vascular surgery, pediatric surgery, and surgical oncology.

The laboratories also are used for supervised teaching exercises in surgical technique for medical students and junior residents, and for refinement of technique for senior residents and faculty members.

## Courses

### Surgery Courses

**SURG:8301 Clinical Surgery** **6 s.h.**  
Experience as active member of surgical team; work on inpatient units, in clinics and operating room; assist in elective and emergency patient care.

**SURG:8401 Advanced General Surgery** **4 s.h.**  
Opportunity to strengthen clinical skills through experiences in the operating rooms, clinics, wards, and intensive care units of University of Iowa Hospitals & Clinics.

**SURG:8402 Advanced Inpatient Subinternship in General Surgery** **4 s.h.**  
Responsibility for management of selected surgical inpatients, on a surgical service. Prerequisites: SURG:8301.

**SURG:8406 General Surgery, Des Moines, IA** **4 s.h.**  
Care of general surgery patients in private hospital setting. Prerequisites: SURG:8301.

**SURG:8407 Intensive Care Unit - Trauma, Iowa Methodist** **4 s.h.**  
Subinternship on trauma service team; evaluation and management of critically ill patients in the emergency room, operating room, intensive care unit. Prerequisites: SURG:8301. Requirements: fourth-year M.D. enrollment.

**SURG:8409 General Surgery, Davenport, IA** **4 s.h.**  
Participation in diagnosis and management of general surgical patients under supervision of attending surgeons from Davenport Surgical Group, Genesis Medical Center. Prerequisites: SURG:8301. Requirements: fourth-year M.D. enrollment.

**SURG:8411 Multidisciplinary Breast Elective** **2,4 s.h.**  
Evaluation and management of benign and malignant breast diseases; focus on multidisciplinary nature of treatment of breast disease; for students who plan to pursue residency in general surgery, obstetrics and gynecology, family practice, or other field with focus on women's health. Requirements: M.D. enrollment.

**SURG:8419 Advanced Inpatient Subinternship in Plastic Surgery** **4 s.h.**  
Exposure to a wide range of educational opportunities and to the complexity and diversity of health care in the plastic surgery setting related to policies, environment, cultural, socioeconomic, and financial considerations; provides experience in all areas of plastic surgery; for students with an interest in plastic and reconstructive surgery. Requirements: M.D. enrollment.

**SURG:8460 Surgical Residency Preparation** **4 s.h.**  
Preparation for surgical residency; focus on application of knowledge and skills accumulated through medical school to surgical patient care; development of an advanced understanding of preoperative, intraoperative, and postoperative care of patients, critical care knowledge, communication skills, and technical skills necessary for surgical specialties. Requirements: M.D. enrollment.

**SURG:8497 Research in Surgery** **arr.**  
Medical research, clinical or laboratory projects; individual study.

**SURG:8498 Surgery On Campus****arr.**

Surgery on campus; individually arranged. Prerequisites:  
SURG:8301.

**SURG:8499 Surgery Off Campus****arr.**

Prerequisites: SURG:8301.

# Urology

## Chair

- Karl Kreder

**Faculty:** <https://medicine.uiowa.edu/urology/profile/>

**Website:** <https://medicine.uiowa.edu/urology/>

Urology encompasses the subspecialty areas of urologic nephrology, oncology, and endocrinology; male reproductive physiology; erectile dysfunction; neurourology; pediatric urology; urinary tract stone and infection, including endourology; laparoscopic and robotic urology; trauma and reconstructive urology; urodynamics and female urology; diagnostic urology; and urinary tract obstruction.

The Department of Urology offers instruction in all of these areas to M.D. and graduate students and provides continuing education for the delivery of urologic care.

## Continuing Education

The department offers continuing education activities throughout the year for urologic and family practitioners. These activities are conducted by the faculty, whose interests include pediatric urology, reproductive physiology and male infertility, urologic oncology, urinary tract stone (including endourology/laparoscopy), robotic surgical procedures, trauma and reconstructive urology, female urology, and prostatic diseases.

## Research

The department has earned international recognition for its studies of prostatic diseases. The urological laboratories conduct research and offer instruction in experimental oncology, cellular immunology, and infertility.

## M.D. Training

The Department of Urology cooperates with several University of Iowa basic science departments to educate first-year M.D. students in the relationship between urology and the basic sciences. It collaborates with the Department of Microbiology and Immunology [p. 1890] in teaching and research concerning immunology of genitourinary cancers and renal transplantation.

In the first-year M.D. course, MED:8134 Mechanisms of Health and Disease III, and the second-year courses, MED:8221 Clinical and Professional Skills III and MED:8224 Mechanisms of Health and Disease Keystone, the department presents illustrative lectures and demonstrations related to diagnosis and treatment of genitourinary tract diseases.

Second-, third-, and fourth-year M.D. students take Department of Urology courses that provide experience in all areas of urology. The department's selective two-week clerkship covers the fundamentals of these areas through experience in outpatient clinics, surgical settings, and inpatient units at University of Iowa Hospitals & Clinics, the Iowa River Landing, and the VA Iowa City Health Care. M.D. students can take advanced elective courses of intensive study in any of the urologic subspecialties after completion of URO:8301 Clinical Urology.

## Courses

### Urology Courses

<b>URO:8301 Clinical Urology</b>	<b>2 s.h.</b>
Work in urology unit, clinic; responsibility for patient care, working with residents.	
<b>URO:8401 Advanced Urology</b>	<b>4 s.h.</b>
Experience as integral member of urological staff, junior resident level. Requirements: M.D. enrollment.	
<b>URO:8402 Pediatric Urology</b>	<b>2,4 s.h.</b>
In-depth study of pediatric urology topics. Requirements: M.D. enrollment.	
<b>URO:8403 Urologic Oncology</b>	<b>2,4 s.h.</b>
Multispecialty exposure to diagnosis and treatment of patients with current and newly diagnosed urologic malignancies. Requirements: M.D. enrollment.	
<b>URO:8404 Female Pelvic Floor Dysfunction</b>	<b>2,4 s.h.</b>
Requirements: M.D. enrollment.	
<b>URO:8497 Research in Urology</b>	<b>arr.</b>
Medical research, clinical or laboratory projects; individual study.	
<b>URO:8498 Urology On Campus</b>	<b>arr.</b>
Clinical clerkship; individually arranged by student with departmental approval.	
<b>URO:8499 Urology Off Campus</b>	<b>arr.</b>
Individually arranged by students with department approval.	



# College of Nursing

## Dean

- Julie Zerwic

## Executive Associate Dean

- Sandra Daack-Hirsch

## Associate Dean for Faculty

- Keela Herr

## Associate Dean for Research

- Barbara Rakel

## Associate Dean for Undergraduate Programs

- Anita Nicholson

## Assistant Dean for Graduate Practice Programs

- Mary Dirks

## Director, Ph.D. Program

- Stephanie Gilbertson-White

**Undergraduate degree:** B.S.N.

**Graduate degrees:** M.S.N.; D.N.P.; Ph.D. in nursing

**Graduate certificates:** adult gerontology acute care nurse practitioner; adult gerontology primary care nurse practitioner; family nurse practitioner; health systems; pediatric nurse practitioner-acute care; pediatric nurse practitioner-primary care; psychiatric/mental health nurse practitioner

**Faculty:** <https://nursing.uiowa.edu/faculty-staff/faculty-directory>

**Website:** <https://nursing.uiowa.edu/>

The College of Nursing is an integral part of the University of Iowa health science campus, sharing in and contributing to teaching, research, and patient care resources that have earned international recognition. The University provides a robust setting for nursing preparation because the educational and clinical resources vital to educating nurses are evidence based, diverse, and available on or near the campus. Faculty and students participate fully in University life and contribute their time, interests, and abilities to the many general and special activities of a major research university.

The college's Bachelor of Science in Nursing (B.S.N.), the Clinical Nurse Leader (CNL) and Nursing Systems Administration (NSA) subprograms for the Master of Science in Nursing (M.S.N.) as well as the M.S.N. Entry into Practice subprogram (effective spring 2023), and the Doctor of Nursing Practice (D.N.P.) programs are accredited by the Commission on Collegiate Nursing Education (CCNE), an autonomous accrediting arm of the American Association of Colleges of Nursing (AACN). They also are approved by the Iowa Board of Nursing. The anesthesia nursing program (in the Doctor of Nursing Practice) is accredited by the Council on Accreditation of Nurse Anesthesia Educational Programs.

Graduates of the prelicensure B.S.N. qualify to take the National Council Licensure Examination (NCLEX) required for practice as registered nurses (RN). Graduates of advanced practice majors in the graduate program are eligible to take

certification examinations and apply for Advanced Registered Nurse Practitioner (ARNP) licensure.

## Related Minor and Certificates

### Aging and Longevity Studies

College of Nursing students may participate in the Aging and Longevity Studies Program, which provides undergraduate students with a multidisciplinary approach to gerontology. The program offers a certificate and a minor. Students plan their course of study with their academic advisor in close cooperation with the Aging and Longevity Studies Program coordinator. The Aging and Longevity Studies Program is administered by the School of Social Work (College of Liberal Arts and Sciences). For more information, see Aging and Longevity Studies [p. 44] in the Catalog (College of Liberal Arts and Sciences).

### Informatics (Health Informatics Subprogram)

The Graduate College offers the Certificate in Informatics with a health informatics subprogram. The subprogram emphasizes the organization, management, and use of health care information; health care research, education, and practice; and information technology developments in the socioeconomic context of health care.

College of Nursing students working toward the certificate complete IGPI:5200 Health Informatics, which explores decision-making processes and technological tools to support health care administration, management, and practice; and EPID:5200 Principles of Public Health Informatics, which focuses on systematic applications of information science, computer science, and technology to public health practice, research, and learning; methods of disease surveillance, data collection, analysis, and reporting with health informatics.

Students earn additional credit in foundational informatics coursework, including one elective chosen in consultation with their major program advisor and their certificate advisor. Students who earn credit for a thesis, project, or independent study in their major program of study may apply the credit as an elective if the certificate advisor determines that the subject matter is pertinent.

To learn more, see the Certificate in Informatics [p. 1756] (Graduate College) in the Catalog. For additional information, see Health Informatics on the Graduate College website.

## Professional Improvement

Registered nurses who wish to take University of Iowa coursework to fulfill professional or personal improvement objectives may request admission in the professional improvement (PI) category. This admission status allows students to take some graduate courses at the University without committing to a degree objective.

Admission as a nursing professional improvement student requires a formal application, including submission of three current written recommendations and all academic transcripts. Graduate Record Examination (GRE) General Test scores, required by the University, must be submitted before the end of first semester registration.

Application deadlines are July 15 for fall semester admission, December 1 for spring semester admission, and May 1 for summer session admission.

Since acceptance as a PI student does not influence acceptance to the college's graduate degree programs, PI students interested in earning a graduate degree in nursing must apply for admission to the degree program (see Programs [p. 1986] and then "Admission" under each graduate program of study in this section of the Catalog). Students may count a maximum of 6 s.h. or two required nursing core courses that they complete as PI students toward M.S.N. requirements. Professional improvement students may not enroll in Ph.D. courses.

## Continuing Education

The college offers nonacademic, short-term continuing education programs for nurses. Contact hours are awarded for these programs. The College of Nursing is an Iowa Board of Nursing approved provider of continuing education (Provider Number 1).

## Student Organizations

All College of Nursing B.S.N. prelicensure students are members of the National Student Nurses Association and its local chapter, the Iowa Association of Nursing Students (IANS). The Student Nurse Association at the University of Iowa (SNAUI) provides opportunities for professional growth and development in nursing. SNAUI representatives are members of the Undergraduate Student Government (USG).

The University of Iowa Multicultural Nursing Association (UI MNA) provides support, network opportunities for leadership and professional growth, and development for underrepresented students who are undergraduate nursing interest and nursing majors, graduate nursing students, and underrepresented nursing professionals in the region.

University of Iowa Men in Nursing (UI MiN) provides opportunities for nurses to meet, to recruit, to talk, and to influence the environment for men in nursing. It is open to all nursing students.

The college's Association of Graduate Nursing Students (AGNS) provides opportunities for professional growth, sharing of research, and representation on varied college and University committees.

See Nursing Student Organizations on the College of Nursing website.

## Programs

### Undergraduate Program of Study Major

- Bachelor of Science in Nursing [p. 1998]

### Graduate Programs of Study Majors

- Master of Science in Nursing [p. 2004]
- Doctor of Nursing Practice [p. 2008]
- Doctor of Philosophy in Nursing [p. 2022]

### Certificates

- Adult Gerontology Acute Care Nurse Practitioner [p. 2024]
- Adult Gerontology Primary Care Nurse Practitioner [p. 2025]
- Family Nurse Practitioner [p. 2026]

- Health Systems [p. 2027]
- Pediatric Nurse Practitioner-Acute Care [p. 2028]
- Pediatric Nurse Practitioner-Primary Care [p. 2029]
- Psychiatric/Mental Health Nurse Practitioner [p. 2030]

## Facilities

The College of Nursing Building is centrally located on the University's main campus, in close proximity to the Carver College of Medicine, the College of Dentistry, the College of Pharmacy, the College of Public Health, University of Iowa Hospitals & Clinics, and the Hardin Library for the Health Sciences.

The renovated College of Nursing Building boasts collaborative spaces, flexible learning spaces, and state-of-art classroom technology. The renovated spaces include two 84-seat flexible classrooms, two 42-seat flexible classrooms, and an Instructional Technology Services (ITS) computer lab on the ground floor; collaboration rooms for quiet study and group learning, student commons, and graduate student space are on the first floor; five seminar seating classrooms on the third floor; and flexible conference room and office space on the fourth floor.

The Nursing Clinical Education Center (NCEC), located at University of Iowa Hospitals & Clinics (UIHC), provides hands-on simulation and laboratory experiences for both undergraduate and graduate nursing students. The center also is a training hub for the University's Department of Nursing Services and Patient Care. The NCEC houses state of the art health care simulation technology. It has multiple classrooms, a resource library, a lobby with ample seating, and gathering spaces for private meetings. The center is codirected by the College of Nursing and the UIHC Department of Nursing Services and Patient Care.

## Courses

### College of Nursing Courses

**NURS:1020 First-Year Seminar** **1 s.h.**  
Introduces first-year undergraduate students to the intellectual life of the University of Iowa; provides an opportunity to work closely with a faculty member or senior administrator; seminars help students make the transition to college-level learning through active participation in their own learning.

**NURS:1030 Human Development and Behavior** **3 s.h.**  
Normal developmental transitions experienced by individuals and family systems throughout the lifespan, including physical, cognitive, and social-emotional development. Requirements: nursing or nursing-interest major.

**NURS:1800 Aging Matters: Introduction to Gerontology** **3 s.h.**  
Overview of the field of gerontology from a bio-psycho-social framework; how the human body and brain age, effects of these biological changes on physical and cognitive functions, and interaction of these individual factors with societal contexts; broad perspective to give students a foundation in gerontology, paving the way for more advanced courses in biology of aging, psychology of aging, and global aging; for students from a wide range of disciplines and levels, no prior knowledge of aging required. GE: Social Sciences. Same as ASP:1800, CSD:1800, SSW:1800, TR:1800.

- NURS:3099 Leadership U** 1-3 s.h.  
Development of leadership in nursing; application of leadership theory in practice by participating in activities such as attending professional organization meetings, acting as a delegate, writing legislation, holding a board position, or being part of a multidisciplinary or international team to organize events for community involvement. Requirements: nursing major.
- NURS:3110 Healthcare Finance** 3 s.h.  
Basic structure of U.S. health care system and how it is funded; tools for making decisions about available financial resources.
- NURS:3111 Diversity, Equity, and Inclusion for Health Professions** 3 s.h.  
Introduction to basic concepts of diversity, equity, inclusion, and social justice related to the health of marginalized populations; topics include bias along many lines of difference, discrimination in health care and structural racism from a historical context, systemic inequities in health care delivery and outcomes, and social determinants of health; exploration of strategies to advance health equity and improve health for all.
- NURS:3128 Health Assessment and Communication Across the Lifespan** 3 s.h.  
Assessment and communication skills; development and application of cognitive skills to perform systematic, holistic, and culturally competent health assessments; emphasis on application of clinical reasoning involving assessment, nursing diagnoses, interventions, and outcomes. Corequisites: NURS:3138 and NURS:3160 and NURS:3518. Requirements: admission to the College of Nursing.
- NURS:3138 Nursing and Pharmacological Interventions I** 5 s.h.  
First of a two-part series focusing on basic biophysical concepts that inform nursing and pharmacological interventions, including sleep, immobility, skin care, wound healing, infection, and human response to illness; selected disorders and/or diseases, including GI disease, disorders of bowel and urine elimination, diabetes, and cancer; introduction to health literacy and principles of health education. Prerequisites: CHEM:1070 and MATH:1440 and BIOL:1141 and ACB:3110 and MICR:3164 and (HHP:1300 or HHP:3500) and CHEM:1080. Corequisites: NURS:3128 and NURS:3160 and NURS:3518. Requirements: 64 s.h. of undergraduate coursework, including successful completion of required science courses and general education liberal arts and sciences requirements and electives.
- NURS:3151 Introduction to Clinical Concepts for Nursing** 2 s.h.  
Introduction to aspects of nursing care including physical exam, health assessment, and psychomotor nursing interventions; students practice strategies to promote safe care of patients, including calculation of medications prior to administration; emphasis on effective patient communication, education, and integration of medical terminology; application of nursing interventions, psychomotor skills, and medication dosages and calculation; health, physical, and psychosocial assessment; first of a three-part laboratory and simulation series. Corequisites: NURS:3128 and NURS:3138 and NURS:3160 and NURS:3518. Requirements: admission to College of Nursing.
- NURS:3160 Professional Role I: Professionalism and Patient Safety** 3 s.h.  
Introduction to inherent nursing values, history, theories, and scope of professional nursing; concepts of safety, risk identification, and clinical decision making; information technologies that promote quality and safety. Requirements: admission to the College of Nursing.
- NURS:3198 Distance Education: Independent Study** 1-3 s.h.  
Supervised study designed for individual undergraduate students.
- NURS:3199 Independent Study** 1-3 s.h.  
Supervised study designed for individual undergraduate students.
- NURS:3438 Nursing and Pharmacological Interventions II** 5 s.h.  
Second of a two-part series focusing on complex biophysical concepts that inform nursing and pharmacological interventions, including fluids and electrolytes, shock, and perioperative care; focus on selected disorders and/or diseases, including neurological, immune, musculoskeletal, cardiovascular, respiratory, renal, and endocrine disorders. Prerequisites: NURS:3518 and NURS:3138 and NURS:3128 and NURS:3160. Corequisites: NURS:3460 and NURS:3620 and NURS:3625.
- NURS:3451 Basic Clinical Concepts for Nursing** 1 s.h.  
Caring for the adult patient with diverse disease processes through experiential learning; emphasis on complex physical and psychosocial assessment, clinical reasoning, team building, interprofessional education and communication, and application of the nursing process to provide safe and effective nursing care; second of a three-part laboratory and simulation series. Prerequisites: NURS:3128 and NURS:3138 and NURS:3151 and NURS:3160 and NURS:3518. Corequisites: NURS:3438 and NURS:3460 and NURS:3615 and NURS:3620 and NURS:3625.
- NURS:3460 Professional Role II: Research** 3 s.h.  
Introduction to concepts and process of research in nursing; primary focus on understanding research and its foundation for nursing practice. Requirements: basic statistics. Recommendations: upper-level statistics.
- NURS:3518 Pathology** 3 s.h.  
Introduction to abnormal functioning of cells, tissues, organs, and systems over the human lifespan; focus on hematological, immune, neurological, musculoskeletal, cardiovascular, respiratory, renal, gastrointestinal, endocrine, and reproductive system; alterations in metabolic processes and alterations in homeostatic mechanisms impacting the internal milieu; emphasis on critical thinking. Prerequisites: (CHEM:1080 and ACB:3110 and BIOL:1141 and MICR:3164 and CHEM:1070 and (HHP:1300 or HHP:3500)) or NURS:3734. Requirements: admission to the College of Nursing.
- NURS:3595 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financial aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as ENTR:3595, MGMT:3500, MUSM:3500, RELS:3700, SSW:3500.

**NURS:3600 Nonprofit Organizational Effectiveness II** **3 s.h.**

Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Same as MGMT:3600, RELS:3701, SSW:3600.

**NURS:3615 Adult Medical/Surgical Nursing Practicum** **3 s.h.**

In-depth clinical experience; application of basic and complex concepts of nursing care for adults of all ages in a variety of settings, focus on older adults; development and application of critical thinking skills necessary to understand disease process, associated signs and symptoms; emphasis on interventions and outcomes. Prerequisites: NURS:3128 and NURS:3138 and NURS:3160 and NURS:3518. Corequisites: NURS:3438 and NURS:3460 and NURS:3620 and NURS:3625.

**NURS:3620 Gerontological Nursing** **3 s.h.**

Nurse's role in promoting, maintaining, and restoring the health of aging adults; internal and external influences on older adults, application of nursing science to the care of older adults in diverse settings. Prerequisites: NURS:3128 and NURS:3138 and NURS:3518 and NURS:3160. Corequisites: NURS:3438 and NURS:3460 and NURS:3625.

**NURS:3625 Gerontological Nursing Practicum** **2 s.h.**

In-depth clinical experience designed to apply basic and complex concepts of nursing care for adults of all ages in a variety of settings; focus on older adults; development and application of critical thinking skills necessary to understand disease process and the associated signs and symptoms, interventions, and outcomes. Prerequisites: NURS:3160 and NURS:3138 and NURS:3128 and NURS:3518. Corequisites: NURS:3438 and NURS:3460 and NURS:3615 and NURS:3620.

**NURS:3631 Nursing Care of Children and Families** **2 s.h.**

Promoting, maintaining, and restoring the health of parents, infants, children, and adolescents in childbearing families; examination of nursing care of newborns, well children, and children with acute and chronic illness within the context of family and community. Prerequisites: NURS:3438 and NURS:3451 and NURS:3460 and NURS:3615 and NURS:3620 and NURS:3625. Corequisites: NURS:3632 and NURS:3635 and NURS:3640 and NURS:3645 and NURS:3651 and NURS:3660.

**NURS:3632 Nursing Care of Childbearing Families** **2 s.h.**

Promoting, maintaining, and restoring health for women of reproductive age, childbearing families, and newborns; examination of nursing care for family planning, preconception health, prenatal care, childbirth, newborn care, and maternal and neonatal complications within the context of family and community. Prerequisites: NURS:3438 and NURS:3451 and NURS:3460 and NURS:3615 and NURS:3620 and NURS:3625. Corequisites: NURS:3631 and NURS:3635 and NURS:3640 and NURS:3645 and NURS:3651 and NURS:3660.

**NURS:3635 Parent Child Nursing Practicum** **2 s.h.**

Application of nursing knowledge to promote, maintain, and restore health; vulnerable populations of interest including persons with mental health disorders, infants, children, adolescents, their families; processes of childbearing and childrearing within context of families. Prerequisites: NURS:3625 and NURS:3620 and NURS:3438 and NURS:3615 and NURS:3460. Corequisites: NURS:3640 and NURS:3645 and NURS:3660. Requirements: successful completion of two semesters in B.S.N. curriculum.

**NURS:3640 Psychiatric/Mental Health Nursing** **3 s.h.**

General principles and practices of psychiatric/mental health nursing; psychiatric disorders, populations at risk, continuity of care, and problems in daily living; unique needs of diverse populations. Prerequisites: NURS:3438 and NURS:3620 and NURS:3615 and NURS:3625 and NURS:3460. Corequisites: NURS:3645 and NURS:3660.

**NURS:3645 Mental Health Nursing Practicum** **2 s.h.**

Application of nursing knowledge to promote, maintain, and restore health; vulnerable populations of interest including persons with mental health disorders, infants, children, adolescents, their families; processes of childbearing and childrearing within context of families. Prerequisites: NURS:3625 and NURS:3438 and NURS:3620 and NURS:3615 and NURS:3460. Corequisites: NURS:3635 and NURS:3640 and NURS:3660. Requirements: successful completion of two semesters in B.S.N. curriculum.

**NURS:3650 Community and Public Health Nursing** **3 s.h.**

Role of nursing in the relationship between community conditions and public health; emphasis on principles of public health combined with nursing knowledge and skills to address health needs of individuals, families, communities, and populations. Prerequisites: (NURS:3660 and NURS:3640 and NURS:3635 and NURS:3645) or NURS:3460. Corequisites: NURS:3655. Requirements: for pre-licensure B.S.N. student—successful completion of NURS:3620, NURS:3625, NURS:3640, and NURS:3645, and concurrent enrollment in NURS:4155 and NURS:4160; for post-licensure RN-B.S.N. student—successful completion of NURS:4160, 6 s.h. of required nursing elective courses, and completion of general education electives.

**NURS:3651 Advanced Clinical Concepts for Nursing** **1 s.h.**

Advanced and specialty nursing skills; focus on pediatric and obstetric simulation as well as advanced, medical-surgical skills; opportunity for ongoing development of essential clinical skills including team communication, clinical reasoning, patient safety, evidence-based practice, incorporation of the nursing process, patient education, and nursing care across the lifespan; third of a three-part laboratory and simulation series. Prerequisites: NURS:3438 and NURS:3451 and NURS:3460 and NURS:3615 and NURS:3620 and NURS:3625. Corequisites: NURS:3631 and NURS:3632 and NURS:3635 and NURS:3640 and NURS:3645 and NURS:3660.

**NURS:3655 Community and Public Health Nursing Practicum** **2 s.h.**

Learning opportunities to apply principles of public health with nursing knowledge and skills to address health promotion, disease and injury prevention, and nursing management of infectious disease and chronic health conditions; nursing activities focus on improvement of health outcomes at individual, family, community, and global levels within the context of population-focused practice. Prerequisites: (NURS:3645 and NURS:3635 and NURS:3640 and NURS:3660) or NURS:3460. Corequisites: NURS:3650. Requirements: for pre-licensure B.S.N. student—successful completion of NURS:3625 and NURS:3645, and concurrent enrollment in NURS:4155 and NURS:4160; for post-licensure RN-B.S.N. student—successful completion of NURS:3110 and NURS:3160 and NURS:3460 and NURS:3518 and NURS:3660 and NURS:3734 and NURS:4160, 6 s.h. of required nursing electives, completion of general education electives, RN licensure in state of practicum, and concurrent enrollment in NURS:3734, if not taken as a prerequisite.

**NURS:3660 Professional Role III: Improving Health Systems** 2-3 s.h.

Legal and regulatory processes that impact health care, how disparities influence health care, and evidence-based approaches for improving quality of care; strategies for working effectively in intra and interdisciplinary teams; integration of a culture of safety. Prerequisites: (NURS:3615 and NURS:3625 and NURS:3620 and NURS:3460 and NURS:3438) or (NURS:3160 and NURS:3460).

**NURS:3712 Human Sexuality, Diversity, and Society** 1-3 s.h.

Introduction to human sexuality from a biopsychosocial, sex-positive perspective; sexuality as a normal and essential component of human existence and expression throughout the life span; influence of gender, class, religion, race, ethnicity, sexual orientation, ability status, age, and culture on sexuality interwoven and highlighted; diversity of perspectives and experiences shared through active participation and respectful dialogue. Same as SSW:3712.

**NURS:3731 Healthier Living for Well-Being** 1 s.h.

Strategies to reduce stress and promote healthy resilience; overall well-being and academic performance support; evidence-based, skills-building assignments focus on cognitive behavioral and coping techniques. Requirements: nursing interest or admission to the College of Nursing.

**NURS:3732 Global Health Nursing** 3 s.h.

Complexity of health and nursing in a global context; overview of biological, social, epigenetic, and environmental contributors to health and diseases in populations around the world and nursing's role in improving health; includes case studies of various global organizational and educational structures and systems relative to population health, selected infectious diseases, nutritional deficiencies, and health effects of environmental change. Same as GHS:3732.

**NURS:3734 Introduction to Human Genetics** 3 s.h.

Introduction to organization of the human genome and basic principles of inheritance in humans; cells and development, chromosome structure and function, gene structure and function, genes in pedigrees and populations, implications of genetic variation on health.

**NURS:3736 Legal Issues for Health Care Providers** 3 s.h.

Legal issues faced by health care providers, counselors, and social services providers; administrative and regulatory requirements, civil lawsuits, issues that affect students as providers, advocates, and individuals.

**NURS:3737 Care of the Patient in Pain** 3 s.h.

Foundational and advanced content in the area of pain management across populations, the lifespan, and settings of care; content and learning focus on core competencies for pain management recommended of all health care professionals; emphasis on development of interdisciplinary team, including nurses, as an advocate for quality and safe pain management; content areas include type of pain, pain therapies, assessment and measurement, treatment, self-management, evaluation/monitoring, disparities, and bioethics; no clinical component. Requirements: upper-division standing. Recommendations: pharmacology and pathophysiology.

**NURS:3739 Women and Their Bodies in Health and Illness** 3 s.h.

Basic facts about structure and functioning of female body; particular attention to adjustments the body makes during normal physiological events (menstruation, sexuality, reproduction, menopause) and during illness processes; women's mental and physical health issues in relation to women's lives and roles in society; relationship of women as consumers, practitioners, and activists to health system; achievements and limitations of women's health movements; anti-oppression, intersectionalities, and cross-cultural perspectives. Same as GWSS:3177.

**NURS:3740 End-of-Life Care for Adults and Families** 3 s.h.

End-of-life issues in care of adults, older adults, and their families. Same as ASP:3740, MED:3740.

**NURS:3741 Nurse Residency Role Transition Seminar** 3 s.h.

New graduate nurses entering practice are enrolled in transition-to-practice programs focused on integration of knowledge, skills, and professional behaviors necessary to provide safe, quality care; associate degree nurses evaluate how they achieved mastery of core knowledge and competencies and discuss Commission on Collegiate Nursing Education (CCNE) Entry-to-Practice Competencies; students examine transition-to-practice experience and document ways in which knowledge, skills, and attitudes are impacted and improved; engage in group discussion and reflective writing assignments to evaluate professional growth during transition-to-practice. Requirements: associate degree nurse graduate currently enrolled in or recent completion of a nurse residency program accredited by Commission on Collegiate Nursing Education (CCNE) or UI online nurse residency program (nurse residency program completed within two years or current enrollment with completion in a minimum of five months).

**NURS:3742 Selected Topics in Nursing** 1-2 s.h.

In-depth study of topics in professional nursing practice and health care; workshop format.

**NURS:3743 Perioperative Nursing** 3 s.h.

Patient assessments, nursing interventions, and patient responses for individuals undergoing surgical procedures; emphasis on phases of perioperative care including preoperative assessment, patient education, intraoperative care, and post-anesthesia care. Prerequisites: NURS:3615. Requirements: prerequisite course or RN licensure.

**NURS:3744 Critical Care Nursing** 3 s.h.

Provides nursing students with the knowledge required to safely and competently care for critically ill or injured patients; builds upon foundational courses in medical/surgical acute care. Prerequisites: NURS:3615. Requirements: prerequisite course or RN licensure.

**NURS:4096 Distance Education: Honors Independent Study** 3 s.h.

Building on honors seminar, students implement the project they designed in the seminar with guidance from the student's contracted honors faculty mentor; honors project is expected to apply current professional evidence and result in a rigorous scholarly product; the specific type of product is negotiated with honors faculty mentor; while a minimum of 90 hours is required for honors project, honors faculty mentor and student work together to determine the specific schedule commitments. Prerequisites: NURS:4098.

- NURS:4098 Honors Seminar** 1 s.h.  
Crafting a meaningful honors project; structured steps for development of a project idea, measurable learning objectives, GANTT chart timeline, beginning literature review related to the independent study subject; identification/completion of organizational requirements such as approval processes, access to electronic systems, and training.
- NURS:4099 Honors Independent Study** 3 s.h.  
Building on honors seminar, students implement the project they designed in the seminar with guidance from the student's contracted honors faculty mentor; honors project is expected to apply current professional evidence and result in a rigorous scholarly product; specific type of product negotiated with honors faculty mentor; while a minimum of 90 hours is required for honors project, honors faculty mentor and student work together to determine specific schedule commitments. Prerequisites: NURS:4098.
- NURS:4155 Senior Nursing Internship** 5 s.h.  
Immersion capstone experience to engage in practice under direct supervision of a professional registered nurse mentor; design, provide, coordinate, and evaluate care; work with teams to deliver evidence-based care; improve quality, patient safety, and outcomes. Prerequisites: NURS:3640 and NURS:3660 and NURS:3635 and NURS:3645. Corequisites: NURS:3650 and NURS:3655 and NURS:4160.
- NURS:4160 Professional Role IV: Leadership and Professional Engagement** 3,5 s.h.  
Concepts of leadership, followership, management, informatics, and professional engagement; quality improvement strategies and skills; professional development, career trajectory, and role transitions. Prerequisites: (NURS:3660 and NURS:3645 and NURS:3635 and NURS:3640) or (NURS:3460 and NURS:3160 and NURS:3660). Corequisites: NURS:3660, if not taken as a prerequisite.
- NURS:4170 Baccalaureate Seminar** 1 s.h.  
Examination of didactic and clinical learning experiences; documentation of changes in knowledge, skills, and attitudes to demonstrate achievement of relevant competencies; group discussion and reflective writing assignments to evaluate professional growth that has occurred during the B.S.N. program.
- NURS:5002 Leadership and Management Essentials** 3 s.h.  
Roles and strategies for leading and managing others in health care environments to influence health care delivery and provide a healthy, innovative working environment; focus on selected leadership and organizational concepts essential to leaders in health care.
- NURS:5007 Applied Epidemiology** 3 s.h.  
Introduction to basic principles and methods of epidemiology and demonstration of applicability in field of nursing and nursing research; topics include historical perspectives of epidemiology, epidemiological models of health and disease, measures of disease occurrence and association, disease screening, causal inference, study design and application of epidemiological approaches to clinical practice, program planning and evaluation.
- NURS:5009 Evaluating Evidence for Practice** 3 s.h.  
Opportunity for clinicians to develop proficiency in use of research- and evidence-based practice; essentials of the research process, qualitative and quantitative research, components of evidence-based practice; acquisition of knowledge and skills necessary for research (knowledge) utilization initiatives and application of evidence-based practice principles in clinical settings; identification of appropriate research questions, synthesis of knowledge base for evidence-based practice, revision of clinical practice guidelines, and evaluation of research utilization and evidence-based practice initiatives.
- NURS:5010 Clinical Data Management and Evaluation** 3 s.h.  
Clinical data management essential for evaluating evidence-based practice/performance improvement projects; a high caliber data management plan will provide key stakeholders with information necessary to make decisions and includes components of identified processes and outcomes linked to variables and data sources, adequate statistical power, data cleaning and manipulation techniques, statistical methods, and a meaningful presentation of variables that addresses the concerns and questions of key stakeholders; knowledge and skills necessary to develop and execute data management plan for final project. Prerequisites: NURS:5009. Requirements: master's or doctoral standing.
- NURS:5015 Health Systems, Finance, and Economics** 3 s.h.  
Global, economic, organizational, legal, political, and technological contexts in advanced nursing practice; knowledge and skills necessary for understanding the evolution of health services organizations, financing of health care, and relationships among socioeconomic systems influencing health care and nursing practice; impact of macrosystems on distribution, acquisition, and use of financial and economic principles in delivery of health care services. Prerequisites: NURS:5002.
- NURS:5016 Health Care Infrastructure and Informatics** 3 s.h.  
Health care infrastructure with a focus on the United States; role of information and technology in its development and implementation; role of data sets, information technology, and emerging technologies in supporting providers in managing patient care and population health of vulnerable groups. Prerequisites: NURS:5002 and NURS:5015.
- NURS:5017 Quality and Safety** 3 s.h.  
Foundation for understanding concepts of safety and quality across health care settings; focus on providing a safe environment, elevating staff performance and clinical outcomes related to safety and quality, and methods for continuous improvement.
- NURS:5018 Clinical Education in the Care Environment** 3 s.h.  
Preparation to assume role of educator with individuals, groups, and communities, including staff and students; teaching/learning process for providing client education; knowledge and skills needed to effectively fill role of preceptor/mentor.

**NURS:5019 Role Development: Educator in a Practice Discipline** 3 s.h.

Becoming an educator in a practice discipline; unique knowledge, skills, approaches to didactic and clinical teaching; overview of curriculum development process that affects revision/development; faculty role in curriculum development and evaluation; knowledge and skills to create a learner-centered environment for professional students; key facilitation and evaluation strategies; application of concepts during field experience working directly with experienced faculty.

**NURS:5020 Application of Educator Role Competencies** 1-3 s.h.

Individually designed activities to strengthen performance as an educator in a practice discipline; meet with experienced instructor to develop specific objectives and related activities to be completed during a 45-hour field experience. Prerequisites: NURS:5019.

**NURS:5021 Physiology, Pathophysiology, and Pharmacology I for the Clinical Nurse Leader** 3 s.h.

Basic scientific concepts required for B.S.N. and clinical nursing experience; matches physiology and pathophysiology with pharmacological treatments as combined core elements; focus on regulation of cellular, organ, and system functions; regulation of internal milieu; functional interrelationships among body systems; cellular and body-wide defense mechanisms; synthesis of information related to pathophysiological phenomena; pharmacokinetic and pharmacodynamics principles essential for general practice; specific drug classes used in management of clinical conditions. Two semesters.

**NURS:5022 Physiology, Pathophysiology, and Pharmacology II for the Clinical Nurse Leader** 3 s.h.

Basic scientific concepts required for B.S.N. and clinical nursing experience; matches physiology and pathophysiology with pharmacological treatments as combined core elements; focus on regulation of cellular, organ, and system functions; regulation of internal milieu; functional interrelationships among body systems; cellular and body-wide defense mechanisms; synthesis of information related to pathophysiological phenomena; pharmacokinetic and pharmacodynamics principles essential for general practice; specific drug classes used in management of clinical conditions. Two semesters. Prerequisites: NURS:5021.

**NURS:5023 Pathophysiology for Advanced Clinical Practice** 4 s.h.

In-depth study of pathophysiologic processes across the lifespan; emphasis on dysregulation of cellular, organ, and system functions; clinical manifestations of common disease states; resultant physiological responses to internal milieu; interrelationships among body system; cellular and body-wide defense mechanisms; synthesis of evidence-based information from a variety of sources related to selected pathophysiological phenomena. Requirements: graduate-level physiology course.

**NURS:5031 Health Promotion and Assessment for Advanced Clinical Practice** 3-4 s.h.

Emphasis on health promotion and advanced health assessment; didactic and clinical laboratory instruction allows students to develop and demonstrate mastery of advanced knowledge and skills in health assessment; content related to promotion of health and prevention of disease; focus on application of content with individuals within the student's respective population-based scope of practice. Requirements: admission to post-B.S.N. D.N.P. program.

**NURS:5032 Mental Disorders in Advanced Practice** 3 s.h.

Foundation for advanced practice nurse to provide care for common mental health disorders; presentation of neurophysiological, genomic, environmental/social, and developmental theories to understand etiology and presentation of common mental health conditions; psychopharmacological and nonpharmacological principles and modalities for treatment of common mental health problems.

**NURS:5033 Pharmacotherapeutics for Advanced Practice Nursing** 3 s.h.

Examination of pharmacotherapeutic principles essential for advanced clinical practice nursing and prescribing; specific drug classes frequently used in management of clinical conditions experienced by various patient populations; legal considerations related to prescriptive authority and prescribing patterns. Prerequisites: NURS:5023.

**NURS:5035 Graduate Pharmacology Specialty** 3 s.h.

Principles of pharmacology learned in NURS:5033; principles and practices necessary for safe prescribing and medication management of a specialty population (e.g., pediatrics, geriatrics, acute care, mental health). Prerequisites: NURS:5033.

**NURS:5036 Psychopharmacology for Advanced Clinical Practice** 3 s.h.

Scientific knowledge of psychopharmacology and its application to treatment of clients with psychiatric disorders across the lifespan; advanced concepts in neuroscience, neurobiology of mental disorders, pharmacokinetics and pharmacodynamics of psychotherapeutic medications in the management of targeted symptoms of psychiatric disorders in clients across the lifespan. Prerequisites: NURS:5023 and NURS:5033.

**NURS:5037 Health Promotion and Assessment for Clinical Nurse Leaders** 3-4 s.h.

Emphasis on health promotion and advanced health assessment; didactic and clinical laboratory instruction allows students to develop and demonstrate mastery of advanced knowledge and skills in health assessment; content related to promotion of health and prevention of disease; focus on application of course content with individuals across the lifespan. Requirements: admission to M.S.N.-CNL program.

**NURS:5038 Advanced Diagnostic and Therapeutic Procedures for Acute Care** 1 s.h.

Introduction to use of advanced diagnostic and therapeutic techniques commonly encountered in acute and critical care; students are provided opportunities to interpret and incorporate technologically derived data; discussion of practices to protect patients, such as informed consent, risk benefit analysis, infection control, and pain management; laboratory experiences allow students to practice techniques used to perform invasive procedures. Prerequisites: NURS:5023 and NURS:5031 and NURS:5033. Requirements: graduate-level physiology course.

**NURS:5039 Advanced Diagnostic and Therapeutic Procedures for Primary Care 1 s.h.**

Introduction to use of advanced diagnostic and therapeutic techniques commonly encountered in primary care; selected laboratory experiences designed to enhance familiarity with use of technologies and interpretation of technologically derived data; discussion of practices used to protect patients (e.g., informed consent, risk benefit analysis, infection control, pain management). Prerequisites: NURS:5023 and NURS:5031 and NURS:5033. Requirements: graduate-level physiology course.

**NURS:5040 Genetics/Genomics for Advanced Nursing Practice 2 s.h.**

Essential content for understanding the role genetics/genomics plays in health and disease; focus on the core competencies of American Nurses Association (ANA), which provides a framework for advanced nursing practice preparation to incorporate genetics/genomics knowledge for development of prevention, diagnosis, and treatment options in order to optimize health outcomes relevant to clinical role and specialty. Requirements: master's or doctoral standing.

**NURS:5041 Psychotherapeutics for Advanced Practice Nursing Across the Lifespan I 2 s.h.**

Scientific knowledge of psychotherapies and its application to treatment of clients with psychiatric disorders across the lifespan; focus on advanced concepts of effective communication and utilizing evidenced-based psychotherapy theories in the management of targeted symptoms of psychiatric disorders in clients across the lifespan.

**NURS:5042 Psychotherapeutics for Advanced Practice Nursing Across the Lifespan II 1 s.h.**

Scientific knowledge of psychotherapies and its application to treatment of clients with psychiatric disorders across the lifespan from NURS:5041; students identify two forms of evidenced-based psychotherapy theories and prepare a pathway to certification in each form of psychotherapy. Prerequisites: NURS:5041.

**NURS:5210 Foundations of Professional Nursing 1 s.h.**

Introduction to professional nursing practice and exploration of nursing discipline, history, and interprofessional partnerships; examination of nursing theories and professional identity of the nurse. Requirements: admission to M.S.N. Entry into Practice program.

**NURS:5215 Medical Surgical Care of Chronically Ill Adults 3 s.h.**

Chronic disease management and reinforcement of clinical judgment, prioritization, psychomotor skills, and professional behavior with diverse patient populations in a variety of health care settings; application of evidence-based nursing practice and safe person-centered practice in the nursing process to adult patients with chronic health care needs; clinical focus includes activities of daily living, positioning, mobility, nutrition, therapeutic communication, asepsis, medication administration, elimination management, interprofessional collaboration, and transition of care. Prerequisites: NURS:3645. Corequisites: NURS:3138.

**NURS:5220 Medical Surgical Care of Acutely Ill Adults 3 s.h.**

Acute disease management and reinforcement of clinical judgment, prioritization, psychomotor skills, and professional behavior with diverse patient populations in a variety of health care settings; application of evidence-based nursing practice and safe person-centered practice in the nursing process to adult patients with acute health care needs; emphasis on building leadership skills, independent decision making, interprofessional collaboration, person-centered education, and prioritization with adult patients who have acute health care needs. Prerequisites: NURS:5215. Corequisites: NURS:3438.

**NURS:5225 Community Health Across the Lifespan Practicum 4 s.h.**

Integration of specialty populations knowledge in providing care to individuals and communities of diverse backgrounds; experiences take place in community, pediatric/mother/baby/family, and geriatric settings; students use nursing process to deliver person-centered care within spheres of disease prevention/promotion of health and well-being, and hospice/palliative and supportive care in a variety of population settings; focus on improvement of health outcomes at individual, family, and community level within context of population-focused practice. Prerequisites: NURS:5220. Corequisites: NURS:3620 and NURS:3631 and NURS:3632.

**NURS:5401 The Care of the Frail Elderly 3 s.h.**

Clinical management of the elderly; emphasis on economic considerations, principles of gerontological care, common syndromes, ethical issues; clinical application experience in a long-term care setting. Prerequisites: NURS:5035. Corequisites: NURS:6200 and NURS:6701. Same as ASP:5401.

**NURS:5636 Clinical Nurse Leader Seminar 2-3 s.h.**

Evolution of clinical nurse leader (CNL) role, eight core role functions, and the process of integration of CNL role into health care system. Requirements: admission to M.S.N.-CNL program.

**NURS:5666 Leadership in the Microsystem 3 s.h.**

Assessment of the microsystem of practice, clinical nurse leader role as leader embedded in a microsystem, and identification of opportunities to enhance care delivery in the microsystem.

**NURS:5696 Clinical Nurse Leader Capstone Clinical Immersion 6 s.h.**

Intensive immersion in role and practice expectations of the clinical nurse leader (CNL); experienced leaders within the microsystem, who are experts in the provision of clinical services at the point of care/services, serve as mentors. Requirements: enrollment in final semester of M.S.N.-CNL program.

**NURS:5697 Specialty Practice in Nursing Systems 4 s.h.**

Practice in nursing and health care leadership; interventions that influence health care outcomes for individuals, populations, or systems; final capstone concepts and experiences prepare students to deliver and manage safe, effective, and quality care to diverse populations in a variety of settings and roles, and master nursing and health care leadership principles; 165-hour guided capstone program implementation and practicum is the centerpiece of learning experience.

**NURS:5800 Independent Study arr.**

Supervised study and/or clinical practice adjusted to needs of master's degree students.



- NURS:5801 Master's Project** 2-3 s.h.  
Opportunity for in-depth analysis and synthesis of a chosen topic that contributes to some aspect of nursing practice.
- NURS:5802 Master's Portfolio** 0 s.h.  
Opportunity for clear and cohesive synthesis of clinical or professional experiences and competencies, including those gained in graduate study, that portray students' clinical or professional strengths and career goals.
- NURS:5803 Distance Education: Master's Independent Study** arr.  
Supervised study and/or clinical practice adjusted to needs of master's degree students.
- NURS:5804 Distance Education: Master's Portfolio** 0 s.h.  
Clear and cohesive synthesis of clinical or professional experiences and competencies, including those gained in graduate study; students' clinical or professional strengths and career goals.
- NURS:5806 Distance Education: Master's Project** 2-3 s.h.  
In-depth analysis and synthesis of a chosen topic that contributes to some aspect of nursing practice.
- NURS:6000 Human Anatomy for Advanced Practice** 4 s.h.  
Integrated study of interrelationships between anatomic structure and physiological function in health and disease at various points in the lifespan; mechanisms governing and supporting cellular, organ, and system function; internal milieu; relationship of study to clinical assessment of functional integrity of individual organ systems utilizing pertinent objective and subjective data; implications of pathophysiology for anesthesia and implications of anesthesia for pathophysiology; foundation for clinical practicums and courses in nurse anesthesia. Requirements: completion of an undergraduate human anatomy and physiology course and admission to anesthesia nursing program. Same as ACB:6000.
- NURS:6004 Scientific Principles for Anesthesia Practice** 4 s.h.  
Applicable chemical and physical properties of molecules important in anesthesia; technological principles and equipment used to safely deliver those molecules to patients and monitor patients during anesthesia; topics include basic chemical and physical calculations, properties of substances in solution, measurement, behavior of gases and other fluids, effects of heat transfer, and the specific chemistry of inhaled and intravenous anesthetics and adjuvant drugs. Corequisites: NURS:6006. Same as ANES:6004.
- NURS:6006 Pharmacology of Anesthesia Practice** 3 s.h.  
Builds on content from foundational graduate pharmacology course; focus on safe prescribing, administration, and management of medications used to provide general, regional, or local anesthesia and analgesia for all patient populations across lifespan undergoing varied surgical, obstetrical, or other procedures in any health care setting. Prerequisites: PCOL:6204 with a minimum grade of B-. Requirements: enrollment in anesthesia nursing program. Same as ANES:6006.
- NURS:6007 Basic Principles of Anesthesia Practice** 5 s.h.  
Overview and integration of anesthetic agents and techniques; patient assessment, preoperative airway evaluation, anesthetic planning, principles of fluid management, and arterial blood gas interpretation; principles of general and regional anesthesia and techniques as they pertain to each surgical specialty; Occupational, Safety and Health Administration (OSHA), The Joint Commission (TJC), and institutional regulations and requirements pertinent to anesthesia practice. Prerequisites: NURS:6004 with a minimum grade of B- and NURS:6006 with a minimum grade of B-. Same as ANES:6007.
- NURS:6010 Advanced Principles of Anesthesia Practice I** 4 s.h.  
Special needs and intraoperative anesthetic management of complex patient populations and those with advanced pathologic states; anesthetic techniques for specific surgical subspecialties including pediatrics, obstetrics, neurosurgery, cardiac, vascular, thoracic, transplant, trauma, EENT, dental, and aesthetic or reconstructive procedures; pertinent pathophysiology and anesthetic monitoring and management techniques; clinical case conferences provide opportunities to discuss perianesthetic complications and challenges. Prerequisites: NURS:6007 with a minimum grade of B- or ANES:6007 with a minimum grade of B-. Same as ANES:6010.
- NURS:6012 Advanced Principles of Anesthesia Practice II** 1 s.h.  
Acute and chronic pain treatment modalities for all patients presenting for a variety of medical or surgical procedures across the lifespan. Prerequisites: NURS:6007 with a minimum grade of B- or ANES:6007 with a minimum grade of B-. Same as ANES:6012.
- NURS:6050 Introductory Clinical Anesthesia** 2 s.h.  
Initial mentorship in clinical anesthesia; development of basic clinical skills needed for a career as nurse anesthetist; application and integration of theoretical knowledge in clinical setting. Prerequisites: NURS:6004 and NURS:6006. Corequisites: NURS:6007. Same as ANES:6050.
- NURS:6051 Clinical Anesthesia I** 2 s.h.  
Mentored clinical anesthesia experience; advancement and enhancement of clinical skills in providing anesthesia for various surgical subspecialties including general, orthopedic, pediatric, geriatric, gynecologic, urologic, dental, EENT, ambulatory surgery, and invasive diagnostic procedures. Prerequisites: NURS:6050 or ANES:6050. Corequisites: NURS:6010. Same as ANES:6051.
- NURS:6052 Clinical Anesthesia II** 2 s.h.  
Additional mentored clinical anesthesia experience; advancement and enhancement of clinical skills in providing anesthesia for various surgical subspecialties including general, orthopedic, pediatric, geriatric, gynecologic, urologic, dental, EENT, ambulatory surgery, and invasive diagnostic procedures. Prerequisites: NURS:6051 or ANES:6051. Same as ANES:6052.
- NURS:6053 Advanced Clinical Anesthesia** 2 s.h.  
Mentored clinical anesthesia at selected sites; development of advanced clinical skills and critical thinking by providing anesthesia for all surgical specialties and invasive diagnostic procedures in all anesthetizing locations; providing anesthesia for all patients in all settings, including on call emergency surgeries. Prerequisites: NURS:6052. Same as ANES:6053.

- NURS:6054 Obstetrical Anesthesia** 2 s.h.  
Experience delivering analgesia and anesthesia for parturients during labor and delivery process. Prerequisites: NURS:6052. Same as ANES:6054.
- NURS:6055 Rural Anesthesia** 2 s.h.  
Opportunity to develop experience providing anesthesia and associated health care services at UI-affiliated clinical sites in rural settings. Prerequisites: NURS:6052. Same as ANES:6055.
- NURS:6100 Primary Care: Infants, Children, and Adolescents I** 3 s.h.  
Enhancement of clinical knowledge and skills for infant, child, adolescent care. Prerequisites: NURS:5035. Corequisites: NURS:6701.
- NURS:6101 Primary Care: Infants, Children, and Adolescents II** 3 s.h.  
Enhancement of clinical knowledge and skills for infant, child, adolescent care; development and refinement of knowledge and skills in primary health care delivery. Prerequisites: NURS:6100. Corequisites: NURS:6702. Same as PEDS:6101.
- NURS:6104 Essentials of Pediatric Primary Care: Infants, Children, and Adolescents** 3 s.h.  
Builds on prior graduate coursework to enhance foundational knowledge and skills in infant, child, and adolescent population; application of essential concepts of pediatric primary care to identify, diagnose, and manage health issues; emphasis on concepts (e.g., growth and development, anticipatory guidance, common pediatric health concerns) managed in ambulatory health care systems. Prerequisites: NURS:5031. Corequisites: NURS:5035.
- NURS:6200 Primary Care: Adults and Older Individuals I** 3 s.h.  
Pathophysiologic alterations and clinical management of associated health care problems in adults, the elderly. Prerequisites: NURS:5035. Corequisites: NURS:6701.
- NURS:6201 Primary Care: Adults and Older Individuals II** 3 s.h.  
Continuation of NURS:6200. Prerequisites: NURS:6200. Corequisites: NURS:6702.
- NURS:6400 Pediatric Acute Care I** 3 s.h.  
First of two courses exploring management of complex acute, critical, and chronically ill patients with urgent and emergent conditions; focus on alterations in pathophysiology, advanced assessment, diagnosis, and collaborative management of infants, children and adolescents with selected episodic/chronic health problems in acute/critical care. Prerequisites: NURS:5035. Corequisites: NURS:6701.
- NURS:6401 Pediatric Acute Care II** 3 s.h.  
Second of two courses exploring management of complex acute, critical, and chronically ill patients with urgent and emergent conditions; focus on alterations in pathophysiology, advanced assessment, diagnosis, and collaborative management of infants, children and adolescents with selected episodic/chronic health problems in acute/critical care. Prerequisites: NURS:6400. Corequisites: NURS:6702.
- NURS:6410 Adult-Gerontology Acute Care I** 3 s.h.  
First of two courses exploring management of complex acute, critical, and chronically ill patients with urgent and emergent conditions; focus on alterations in pathophysiology, advanced assessment, diagnosis, and collaborative management of adults and older adults with selected episodic/chronic health problems in acute/critical care. Prerequisites: NURS:5035. Corequisites: NURS:6701.
- NURS:6411 Adult-Gerontology Acute Care II** 3 s.h.  
Second of two courses building on prior acute care content and focusing on critical, complex, and end of life care; emphasis on evidence-based strategies to stabilize patient's condition, assessment of risk for and prevention of complications, restoration and maintenance of optimal health and functioning, and/or provision of palliative care in context of patient's physical and psychosocial environment. Prerequisites: NURS:6410. Corequisites: NURS:6702.
- NURS:6500 Psychiatric/Mental Health Nursing for Advanced Practice Didactic I** 3 s.h.  
Introduction to psychological principles and theories as they relate to mental health across the lifespan, intersections between physical and mental health, and role of advanced practice nurse in psychiatric/mental health care; examination of psychological theory within a life span developmental framework from infancy to older adult; introduction to role of cultural diversity in mental health; emphasis on assessment, diagnosis, and management of mental disorders that are common in adults. Prerequisites: NURS:5032 and NURS:5036. Corequisites: NURS:6701.
- NURS:6501 Psychiatric/Mental Health Nursing for Advanced Practice Didactic II** 3 s.h.  
Builds on prior lifespan content with specific focus on selected populations, families, and groups; students further define and expand their practice of psychiatric/mental health nursing based on the integration of theory, standardized languages, and research; exploration of a variety of approaches and issues of service delivery; emphasis on methods and skills for completing a comprehensive mental health assessment and managing common psychiatric illness in childhood/adolescence and late life. Prerequisites: NURS:6500. Corequisites: NURS:6702.
- NURS:6550 Advanced Leadership and Management** 3-4 s.h.  
Leadership and management concepts and theories; application to roles unique to executive nurse leader in health care organizations in institutional and community settings; emphasis on advanced leadership roles for facilitating, integrating, and coordinating complex structures, processes, and outcomes in health care systems.
- NURS:6551 Financial Management** 3-4 s.h.  
Preparation for nurse leaders and practitioners to use techniques for financial analysis and decision making for patient care programs across the health care continuum; focus on efficient and effective management of resources for delivery of quality health care services.
- NURS:6552 Executive Management in the Organization** 3-4 s.h.  
Manage operations of patient care services across health care continuum within the framework of an established health care organization; focus on efficient and effective management of the structure, governance, patient care delivery system of care, and outcomes of care.
- NURS:6553 Seminar on Innovations** 4 s.h.  
Strategizing about taking meaningful action, disrupting stable processes, diffusing innovation, and sustaining change; emerging innovations in nursing and health care systems that impact the functions and responsibilities of nurse leaders.
- NURS:6554 Seminar on Healthy Work Environments** 3 s.h.  
Application of leadership and management knowledge specific to creating and sustaining healthy work environments in health care; current and emerging issues focused on health care work environments.

**NURS:6555 Care Coordination Across Professional and Organizational Boundaries 3-4 s.h.**

Structures, processes, concepts, tools and experience that leads to effective coordination of patient care, case and population health management as well as information, management and financial systems supporting care coordination; knowledge and skills for understanding structures, processes, challenges, solutions and innovations in coordinating patient care across professional disciplines and organizational boundaries; impacts of care coordination issues on patient experience, care quality and costs; evaluate interventions for informed and effective care processes in field experience.

**NURS:6556 Marketing and Communications for Health Care Leaders 3 s.h.**

Preparation to strategically plan, establish, and manage a customer-centric marketing strategy; focus on marketing frameworks and theories, and development of a strategic marketing approach with appropriate leadership strategy and positioning to ensure customer value; health care leaders' role in the marketing mix, mobilization of partners, crisis management, and crisis communication planning and response skills.

**NURS:6557 Clinical Practice Management and Leadership for Advanced Practice Providers 3-4 s.h.**

Overview of key aspects for health care provider leadership in clinical practice management and health care enterprise; advanced practice providers are expected to deliver health care services, lead to deliver value, achieve maximum reimbursement, and meet the Institute for Healthcare Improvement's quadruple aims; focus on value management, revenue cycle management, professional leadership, provider leadership, and clinical practice management; students read, discuss, explore, critique, and practice skills related to course topics.

**NURS:6701 Advanced Practice Clinical Practicum I 3-4 s.h.**

Application of advanced physical assessment, pathophysiology, and diagnostic reasoning in a clinical setting appropriate to a specific population. Prerequisites: NURS:5035 or NURS:5036. Corequisites: NURS:6100 or NURS:6400 or NURS:6410 or NURS:6500 or (NURS:5401 and NURS:6200) or (NURS:6100 and NURS:6200).

**NURS:6702 Advanced Practice Clinical Practicum II 3-4 s.h.**

Continuation of NURS:6701; emphasis on diagnostic reasoning and formulation of treatment plans. Prerequisites: NURS:6701. Corequisites: NURS:6101 or NURS:6201 or NURS:6401 or NURS:6411 or NURS:6501 or (NURS:6101 and NURS:6201).

**NURS:6703 Advanced Practice Clinical Practicum III 3-4 s.h.**

Synthesis of role expectations for advanced practice with focus on clinical competencies appropriate to the specialization. Prerequisites: NURS:6702.

**NURS:6704 Practicum in Executive Leadership and Management 4 s.h.**

Immersion experience in application of principles and methods of leadership, management, and evaluation to facilitate health care operations in various settings; student collaboration with a preceptor for mentored in-depth immersion in systems practice.

**NURS:6802 Health Policy, Law, and Advocacy 3 s.h.**

Issues that shape health care economics and policy development; framework for understanding work of legislators and other policy makers; emphasis on state and national level; health issues in developing countries; health care system, its economics, financing, role of government, not-for-profit entities, and nongovernmental organizations.

**NURS:6808 Population Health for Advanced Practice 3 s.h.**

Coordination and integration of care delivery for population health and clinical effectiveness across the continuum of care; management of optimized outcomes; emphasis on informatics infrastructure and translation of evidence-based practice to managing care provision and achieving desired outcomes as a result of care provision.

**NURS:6809 Advanced Practice Role I: Introduction 2-3 s.h.**

Introduction to competencies necessary for advanced nursing practice at the doctoral level; introduction to topics related to knowledge, skills, and abilities that enable doctorate of nursing practice graduates to function as leaders in a health care and nursing practice; topics may include advanced nursing practice role development, communication, collaboration, leadership, ethics, finance, organizational structure, and scope of practice and regulatory issues; first in a two-course sequence. Requirements: doctoral standing.

**NURS:6810 Advanced Practice Role II: Integration 2-3 s.h.**

Focus on transition to leadership roles that nurses prepared with a Doctor of Nursing Practice degree are expected to fill in practice; students are called upon to demonstrate synthesis of content from previous D.N.P. program courses; discussion of topics pertinent to advanced roles in nursing practice including challenges and opportunities, leadership in health systems and the profession, interprofessional communication and collaboration, conflict management, dissemination of evidence and expertise to improve health care, advocacy and ethical decision making. Prerequisites: NURS:6809.

**NURS:6811 Social Determinants of Health and Health System Inequities 3 s.h.**

Social determinants of health outcomes and inequities; social and economic forces that shape them using various perspectives and lenses; conceptualization and measurement of variables representing risk and inequities that serve as the organizing framework for course discussions, including individual and social factors; critical analysis of research studies for social bias.

**NURS:6826 Doctor of Nursing Practice Project I 2 s.h.**

Identification and analysis of a practice, system, or policy problem related to advanced nursing practice; development of an evidence-based proposal to improve outcomes for a group, population, or community; project will reflect student's independent scholarship and includes 370 minimum cumulative hours in the Doctor of Nursing Practice project series; first in a four-course sequence. Requirements: doctoral standing.

**NURS:6827 Doctor of Nursing Practice Project II 1-2 s.h.**

Students finalize their proposal, obtain project site approvals, complete human subjects review, begin implementation once approved, and prepare for project evaluation; project reflects student's independent scholarship; Doctor of Nursing Practice project series; second in a four-course sequence. Prerequisites: NURS:6826. Requirements: doctoral standing.

**NURS:6828 Doctor of Nursing Practice Project III****1-2 s.h.**

Students continue implementation, begin to evaluate outcomes of their chosen project, and prepare a rough draft of documents for defense of the project; project will reflect the student's independent scholarship; Doctor of Nursing Practice project series; third in a four-course sequence. Prerequisites: NURS:6827. Requirements: doctoral standing.

**NURS:6829 Doctor of Nursing Practice Project IV****1-2 s.h.**

Students finish evaluation; prepare and defend their project to faculty, peers, and the community; and give a final report to the project site; project will reflect student's independent scholarship; Doctor of Nursing Practice project series; fourth in a four-course sequence. Prerequisites: NURS:6828. Requirements: doctoral standing.

**NURS:6900 Computational Intelligence****3 s.h.**

Concepts, models, algorithms, and tools for development of intelligent systems; data mining, expert systems, neural networks for engineering, medical and systems applications. Same as ISE:6350.

**NURS:7000 Philosophy and Sociology of Nursing Science****3 s.h.**

Introduction to philosophical, historical, and sociological underpinnings of contemporary science and traces history of nursing as scientific and applied discipline; exploration of the nature of knowledge, different ways of knowing, history of science, various philosophical approaches, goals of knowledge generation; analysis of sociology of science to identify the norms, cultural and political influences, differences among scientific disciplines; emphasis on interdisciplinary science; identification of concepts and conceptual definitions, especially as these differ across disciplines. Requirements: Ph.D. standing.

**NURS:7001 Qualitative Research****4 s.h.**

Provides a foundation in the design of qualitative and mixed methods research and analysis of qualitative and mixed methods data; emphasis on interactions among research purpose, question, aims, and interaction of that triad with sampling, setting, data collection, and analysis; using interpretive description as an exemplar, students design and conduct a small qualitative study relevant to their own interests; College of Nursing faculty present overviews of methods in which they have expertise, such as feminist research, ethnography, and narrative. Prerequisites: NURS:7000 and NURS:7002 and NURS:7006. Requirements: Ph.D. standing.

**NURS:7002 Designing Research****3 s.h.**

Introduction to designing research studies; identifying a problem and determining overall goal of the study; research goal subsequently leading to purpose, specific aims, and choice of a specific design; focus on issues related to maintaining continuity throughout the design of a study. Prerequisites: NURS:7000 and NURS:7006. Requirements: Ph.D. standing.

**NURS:7003 Quantitative Research****4 s.h.**

Refinement of student's understanding of the application of scientific logic; discussion of various quantitative methods; sampling theory and approaches to sample selection, recruitment, and methods to avoid bias; issues related to study validity, intervention development and evaluation, instrument selection, management of large data sets, and maintenance of data integrity; lab is designed as a workshop using guided exercises, peer sharing, and collaborative work groups to provide experiences integrated with content covered in didactic section of the course. Prerequisites: NURS:7002 and NURS:7006.

**NURS:7006 Theory and Model Development****3 s.h.**

Critical role of theories in science and the importance of continuous refinement of theory throughout a program of research; focus on theory construction and model building; examination of relationships linking concepts; analysis of structure, scope, and forms of theories/models; construction of micro- or mid-range theories/models using positivistic and inductive approaches; emphasis on critical analysis of literature. Prerequisites: NURS:7000. Requirements: Ph.D. standing.

**NURS:7310 Measurement in Health Research****3 s.h.**

How to develop and employ measures that are operationalized within the context of theories and conceptual models; sound measurement principles and practices, as well as adequate testing for reliability and validity using appropriate methods and procedures. Prerequisites: NURS:7006.

**NURS:7404 Biological Markers in Health Research****3 s.h.**

Use of biomarkers as surrogate clinical endpoints, measure of behavior, and measures of exposures; judicious integration of biomarkers into an overall program of health research in light of pertinent considerations, including validity and reliability, feasibility and cost. Prerequisites: NURS:6811 and NURS:7002 and NURS:7003.

**NURS:7509 Research Residency****1-3 s.h.**

Participation in a research project based on an individualized plan of study, under guidance of an experienced researcher; students register with the respective faculty member for a residency that takes place at the University of Iowa, or register with their advisor for a residency that takes place outside the University of Iowa. Requirements: admission to the Ph.D. in nursing.

**NURS:7800 Independent Study****arr.**

Supervised study adjusted to needs of doctoral degree students. Requirements: doctoral enrollment.

**NURS:7801 Seminar: Research Scholarship Role Development****3 s.h.**

Preparation for successful completion of doctoral coursework, comprehensive examination, and dissertation; faculty-guided structure provides opportunities for students to assimilate knowledge and behavior of a scholar and activities that facilitate and optimize socialization and success as nurse scientists and academic faculty. Requirements: Ph.D. standing.

**NURS:7803 Research Practicum I****2 s.h.**

First of two practicums that serve as a system of apprenticeship by which students are mentored through selected aspects of scientific processes, methodologies, analysis, and dissemination of results; projects relevant to student's area of study. Requirements: Ph.D. standing.

**NURS:7804 Research Practicum II** **2 s.h.**

Second of two practicums that serve as a system of apprenticeship by which students are mentored through selected aspects of scientific processes, methodologies, analysis, and dissemination of results; project relevant to student's area of study. Requirements: Ph.D. standing.

**NURS:7805 Dissertation Research** **arr.**

# Bachelor of Science in Nursing, B.S.N.

The College of Nursing offers two paths to the Bachelor of Science in Nursing (B.S.N.): a prelicensure program for students who do not hold a nursing license (see the Bachelor of Science in Nursing [p. 1998] in this section of the Catalog) and a program for registered nurses (see Nursing-RN [p. 2000] in this section of the Catalog).

The B.S.N. programs prepare students for careers caring for patients in hospitals and in community agencies such as public health services, schools, homes, and industries. They also provide a base for graduate study in nursing.

In addition to combining general education with specialized career preparation, the University of Iowa programs in nursing offer the advantages of full participation in the social, cultural, and recreational activities of a highly diverse campus community. A university education enables students to prepare for a career as well as a life of thought and action informed by knowledge, introspection, and contemplation.

The B.S.N. programs provide a basis for nurses' roles in wellness and health promotion, in acute care, and in long-term care for chronic illness. The professional nurse may provide care to individuals, families, groups, and communities along a continuum of health, illness, and disability in any sector of the health care system.

In addition to providing care, the nurse serves as a coordinator of health care by organizing and facilitating the delivery of comprehensive, efficient, and appropriate service to individuals, families, groups, and communities. The nurse demonstrates the ability to conceptualize the total continuing health needs of the patient, including legal and ethical aspects of care. The University of Iowa programs' goal is to produce graduates who are competent, committed, creative, and compassionate.

## Expenses and Insurance

Students pay University of Iowa student fees throughout the B.S.N. program. They must purchase uniforms, shoes, a stethoscope, and a watch with a full-sweep second hand, and they must pay the cost of computer testing, supplies, and materials for required nursing courses. All nursing students arrange and pay for their own health screening requirements, health insurance, and transportation once they are enrolled in clinical nursing courses. They also pay fees that cover the cost of criminal background checks, laboratory equipment, professional liability insurance, and simulation.

## Mandatory Health Insurance

B.S.N. prelicensure students upon admission to the College of Nursing and each August afterward must provide verification that they have obtained and currently hold health insurance that satisfies the following minimal standards of coverage (or an equivalent alternative health care plan):

- \$250,000 lifetime benefit;
- coverage for hospitalization, including coverage for room and board, physician visits, surgeon services, X-ray, and lab services;
- inpatient deductible under an individual policy not exceeding \$500 per admission and a 20 percent copayment/coinsurance requirement; and

- coverage for medically necessary care, including physician services, X-ray, and lab services for treatment of emergencies, illness, accident, and injury.

## Professional Liability Insurance

All students in the College of Nursing are required to carry professional liability insurance throughout the duration of their program. Agencies that provide clinical practicums for College of Nursing programs require that students have insurance coverage. B.S.N. prelicensure students and nursing-RN students are covered by a group policy supported by student fees.

## Learning Outcomes

Graduates of the Bachelor of Science in Nursing (B.S.N.) will be able to:

- ensure delivery of safe quality nursing care to diverse individuals, families, groups, communities, and populations throughout the lifespan and across systems of care;
- integrate theoretical and scientific knowledge gained from natural and social sciences and culture, society, and the liberal arts into nursing;
- demonstrate leadership and teamwork skills across systems of care to promote quality health outcomes;
- use the best evidence from multiple ways of knowing to inform practice to make clinical judgements, solve problems, and address systems improvements;
- use effective interprofessional communication and collaboration strategies to promote quality health outcomes;
- apply health promotion and disease prevention strategies to diverse individuals, families, groups, communities, and populations to promote quality health outcomes; and
- demonstrate professional values fundamental to the discipline of nursing.

## Bachelor of Science in Nursing

The Bachelor of Science in Nursing prelicensure program of study requires a minimum of 128 s.h., including 64 s.h. in the nursing major and 64 s.h. in supporting coursework that is prerequisite to the nursing major. The program is intended for students beginning their education in nursing. A B.S.N. program for registered nurses is described under Nursing-RN [p. 2000] in this section of the Catalog. All students must earn a g.p.a. of at least 2.00 to earn the degree.

B.S.N. students may complete their entire program at Iowa, enrolling in the College of Liberal Arts and Sciences to complete courses that are prerequisite to the nursing major, or they may transfer from an institution that offers comparable prerequisite courses that are approved by the University of Iowa and the College of Nursing. They must earn standard admission to the College of Nursing once they have completed the prerequisite coursework. Highly qualified applicants may be admitted to the College of Nursing directly from high school under the B.S.N. direct admission program; see Admission [p. 2001] in this section of the Catalog.

Students who are part of the B.S.N. direct admission program spend their first four semesters (two years) on prerequisite coursework and complete the requirements for the nursing major during the next four semesters (their third and fourth years), earning the B.S.N. in a total of four academic years. Students who earn standard admission to the College of

Nursing have five semesters to complete prerequisite coursework. They begin work for the nursing major in spring of their third year and complete the major in four semesters, earning the B.S.N. degree.

University of Iowa students who have declared an interest in the prelicensure nursing program are advised at the University's Academic Advising Center until they are admitted to the College of Nursing. After admission to the college, each student is assigned a professional advisor in the college's Felton Student Success Center.

Nursing courses are based on concepts of health, deviations from health, and nursing intervention. Coursework progresses in complexity across the curriculum. The curriculum reflects the current trend in health care delivery toward emphasis on nursing as a service provided both inside and outside hospitals. Students have access to clinical experiences selected from a multitude of agencies in Iowa and around the country.

The following coursework is required for B.S.N. students.

Code	Title	Hours
<b>Prerequisite Courses</b>		
	General Education Prerequisites	13
	Natural Science Prerequisites	23
	Social Science Prerequisites	9-10
	Other Prerequisites	19
<b>Courses Required for the Major</b>		<b>64</b>
<b>Total Hours</b>		<b>128-129</b>

The B.S.N. prelicensure program requires the following coursework. Students must complete the prerequisite coursework before beginning work required for the major in nursing.

## Prerequisite Courses

All of the following prerequisites must be completed prior to enrolling in the nursing major courses. Any high school deficiencies must be completed or satisfied with collegiate coursework. Students work with their academic advisor to ensure these requirements are complete.

### General Education Prerequisites

Code	Title	Hours
All of these:		
RHET:1030	Rhetoric	4
	International and Global Issues course	3
	Literary, Visual, and Performing Arts course	3
	Values and Culture or Diversity and Inclusion course	3

### Natural Science Prerequisites

Code	Title	Hours
All of these:		
ACB:3110	Principles of Human Anatomy	3
BIOL:1141	Human Biology: Health Professions	4
CHEM:1070	General Chemistry I	3
CHEM:1080	General Chemistry II	3
HHP:1300	Fundamentals of Human Physiology	3
HHP:2310	Nutrition and Health	3

MICR:3164	Microbiology and Human Health	4
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## Social Science Prerequisites

Code	Title	Hours
Both of these:		
NURS:1030	Human Development and Behavior	3
PSY:1001	Elementary Psychology	3
And one of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:1030	Contemporary Social Problems	3-4

## Other Prerequisites

Code	Title	Hours
One of these:		
NURS:3110	Healthcare Finance	3
NURS:3111	Diversity, Equity, and Inclusion for Health Professions	3
All of these:		
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3
Electives		13

## Courses Required for the Major

Direct and standard admission students complete the following courses for the major in nursing.

Code	Title	Hours
All of these:		
NURS:3128	Health Assessment and Communication Across the Lifespan	3
NURS:3138	Nursing and Pharmacological Interventions I	5
NURS:3151	Introduction to Clinical Concepts for Nursing	2
NURS:3160	Professional Role I: Professionalism and Patient Safety	3
NURS:3438	Nursing and Pharmacological Interventions II	5
NURS:3451	Basic Clinical Concepts for Nursing	1
NURS:3460	Professional Role II: Research	3
NURS:3518	Pathology	3
NURS:3615	Adult Medical/Surgical Nursing Practicum	3
NURS:3620	Gerontological Nursing	3
NURS:3625	Gerontological Nursing Practicum	2
NURS:3631	Nursing Care of Children and Families	2
NURS:3632	Nursing Care of Childbearing Families	2

NURS:3635	Parent Child Nursing Practicum	2
NURS:3640	Psychiatric/Mental Health Nursing	3
NURS:3645	Mental Health Nursing Practicum	2
NURS:3650	Community and Public Health Nursing	3
NURS:3651	Advanced Clinical Concepts for Nursing	1
NURS:3655	Community and Public Health Nursing Practicum	2
NURS:3660	Professional Role III: Improving Health Systems	3
NURS:4155	Senior Nursing Internship	5
NURS:4160	Professional Role IV: Leadership and Professional Engagement	3
Electives		3
<b>Total Hours</b>		<b>64</b>

See B.S.N. Plans of Study on the College of Nursing website for semester-by-semester study plans for direct and standard admission students.

## Honors in Nursing

The College of Nursing Honors Program provides seminars and independent study experience for qualified students. In order to pursue honors studies in nursing, students must maintain a University of Iowa g.p.a. and a nursing major g.p.a. of at least 3.50.

The honors program in nursing enables students to explore subject matter based on individual interests, needs, and goals. It provides opportunities for self-initiative, research experience, scholarly writing, intellectual and personal development, and challenges students to grow and excel. Students who fulfill the requirements of the program graduate with honors in nursing.

In addition to honors in their majors, prelicensure B.S.N. students have a variety of opportunities for honors study and activities through membership in the University of Iowa Honors Program; visit Honors at Iowa to learn about the University's honors program.

## Nursing-RN

The nursing-RN program of study requires 32 s.h. of credit. Students must hold a valid Iowa nursing license (RN) and an Associate Degree in Nursing or Diploma in Nursing. They must earn a g.p.a. of at least 2.00 to earn the degree.

The program is designed to offer registered nurses the opportunity to build on their nursing knowledge and experience by earning a Bachelor of Science in Nursing. Students take courses that focus on professionalism and patient safety, research, improvement of health systems, leadership, professional engagement, and community and public health.

Students may transfer coursework completed at other colleges and universities to satisfy the prerequisites, general education requirements, and electives for admission to the College of Nursing (see "Admission to the Nursing-RN Program" under Admission [p. 2001] in this section of the Catalog). Once a student is admitted to the program, the

student has the option of completing the required 32 s.h. in three semesters, four semesters, or in five semesters.

The program is delivered online, with limited face-to-face meetings for the community health practicum experience and leadership project. Students must complete a practicum experience in Iowa or an immersion experience in Eswatini, Africa, and may be required to drive up to 100 miles to a regional practicum setting.

The College of Nursing participates as a receiving institution in the Iowa Statewide Articulation Plan for Nursing Education: RN to Baccalaureate.

The nursing-RN program requires the following College of Nursing coursework.

## Courses Required for the Major

Code	Title	Hours
NURS:3110	Healthcare Finance	3
NURS:3160	Professional Role I: Professionalism and Patient Safety	3
NURS:3460	Professional Role II: Research	3
NURS:3518	Pathology	3
NURS:3650	Community and Public Health Nursing	3
NURS:3655	Community and Public Health Nursing Practicum	2
NURS:3660	Professional Role III: Improving Health Systems	3
NURS:3734	Introduction to Human Genetics	3
NURS:4160	Professional Role IV: Leadership and Professional Engagement	5
NURS:4170	Baccalaureate Seminar	1
Nursing electives		3
<b>Total Hours</b>		<b>32</b>

See RN-B.S.N. Plans of Study on the College of Nursing website for semester-by-semester views of required coursework for full-time (three semesters) and part-time (four or five semesters) study for fall and spring entry.

## Honors in Nursing

The College of Nursing Honors Program provides seminars and independent study experience for qualified students. In order to pursue honors studies in nursing, students must maintain a University of Iowa g.p.a. and a nursing major g.p.a. of at least 3.50.

The honors program in nursing enables students to explore subject matter based on individual interests, needs, and goals. It provides opportunities for self-initiative, research experience, scholarly writing, intellectual and personal development, and challenges students to grow and excel. Students who fulfill the requirements of the program graduate with honors in nursing.



## Nursing-RN/3+1 Agreements

### Agreements with Area Community Colleges in Iowa

The nursing-RN program at the College of Nursing has RN to B.S.N. 3+1 agreements with area community colleges in Iowa for qualifying nursing graduates to seamlessly transfer to the UI College of Nursing to finish their Bachelor of Science in Nursing (B.S.N.) degree in one year. Under the 3+1 structure, nursing students stay in their three-year program at a community college and then complete the B.S.N. degree in one year (three semesters).

The nursing-RN program at the College of Nursing provides access to baccalaureate education for nurses throughout the state. The 3+1 partnership provides enhanced opportunities for unparalleled leadership experience while allowing students to continue working in their communities as they complete their degree.

See RN to B.S.N. 3+1 on the College of Nursing website for the agreements with multiple higher education institutions around the state of Iowa.

## Combined Programs

### Nursing-RN/D.N.P.

Students who are interested in earning a Doctor of Nursing Practice degree with an adult gerontology primary care nurse practitioner, health systems, or pediatric nurse practitioner—primary care subprogram may apply to the combined program offered by the College of Nursing. For information about the D.N.P. degree, see the Doctor of Nursing Practice, D.N.P. [p. 2008] in the Catalog.

See RN-B.S.N. Plans of Study on the College of Nursing website for semester-by-semester views of required coursework for undergraduate to graduate (U2G) Nursing-RN/D.N.P. study for fall and spring entry.

## Admission

Students entering the University who are not licensed registered nurses (RN) apply to the B.S.N. prelicensure program. Registered nurses apply to the RN-B.S.N. program.

All entering first-year and undergraduate transfer students who have earned fewer than 24 s.h. when they apply for admission to the University of Iowa must complete the American College Test (ACT) or the Scholastic Aptitude Test (SAT). For information about the American College Test, visit the ACT website; for information about the Scholastic Aptitude Test, visit the College Board website.

Applicants to the B.S.N. and RN-B.S.N. programs whose first language is not English must score at least 100 (internet-based) on the Test of English as a Foreign Language (TOEFL). Registered nurses educated outside the United States are required to present verification of having passed the Commission on Graduates of Foreign Nursing Schools (CGFNS) examination and specified Excelsior baccalaureate nursing examinations.

Applicants admitted to the College of Nursing are expected to be able to meet the curriculum's performance standards; see "Technical Standards" below.

A criminal background check is conducted for all prelicensure and undergraduate students before they begin the nursing

major. Admission to all programs is conditional pending successful review of criminal background and abuse registry.

## Admission to the B.S.N. Prelicensure Program

All applicants to the B.S.N. prelicensure program (direct and standard admission applicants) must have satisfied the following minimum high school course requirements.

- English: four years.
- Mathematics: three years, including algebra I, algebra II, and geometry.
- Science: one year of biology, one year of chemistry, and one year of physics.
- Social science: three years.
- World languages: four years (fourth-level proficiency) of the same world language; or two years (second-level proficiency) in two different world languages; or two years of the same world language plus one 3 s.h. course from the GE CLAS Core [p. 20] International and Global Issues, Values and Culture, or Diversity and Inclusion.

## B.S.N. Direct Admission

A select group of highly qualified students are admitted to the College of Nursing directly from high school through the B.S.N. Direct Admission Program. To be considered for the direct admission, students must meet the following requirements:

- an ACT composite score of at least 28 or SAT combined score of at least 1300,
- a g.p.a. of at least 3.80, and
- completion of all the minimum high school course requirements listed under "Admission to the B.S.N. Prelicensure Program" above.

Students who lack one of the requirements can submit an application for the early admission program. High school requirements must be satisfied prior to enrollment at the University of Iowa.

Students admitted through the Direct Admission Program must maintain a cumulative g.p.a. of at least 3.00 and have clean criminal and student life records during their first four semesters in the program. Students who fail to meet these requirements may be subject to probation or dismissal from the College of Nursing.

## B.S.N. Standard Admission

In order to apply for standard admission to the College of Nursing, students must:

- have a cumulative g.p.a. of at least 3.00;
- have a minimum of 48 s.h. of college credit;
- have completed the minimum high school course requirements listed under "Admission to the B.S.N. Prelicensure Program" above, with any deficiencies satisfied through college coursework;
- have completed all B.S.N. prerequisite coursework listed under the Bachelor of Science in Nursing [p. 1998] (a maximum of two natural science prerequisites and two social science prerequisites may be in progress or planned at the time of application); and
- must have a grade of C (2.00) or higher on all prerequisite coursework.

In order to enter the College of Nursing, successful competitive admission applicants must:

- maintain a cumulative g.p.a. of at least 3.00;
- have a minimum of 64 s.h. of college credit; and
- have completed any remaining prerequisite coursework listed under the Bachelor of Science in Nursing [p. 1998], including any remaining natural science and/or social science prerequisites.

Successful competitive admission students must complete any remaining natural science prerequisite no more than 10 years before they enter the College of Nursing and enroll in coursework for the nursing major.

## Admission to the Nursing-RN Program

Applicants to the program must hold an RN license and an Associate Degree in Nursing or Diploma in Nursing. They must have a cumulative g.p.a. of at least 3.00. Admission is highly competitive, with emphasis on the natural sciences (anatomy, biology, chemistry, microbiology, physiology), writing (composition I and II), and mathematics (statistics). World language is not an admission requirement.

## Technical Standards

Applicants to the College of Nursing are expected to be capable of completing the entire nursing curriculum and of earning a B.S.N. degree. Nursing is a practice discipline with cognitive, sensory, affective, and psychomotor performance requirements. The college's technical standards provide an objective measure on which to base informed decisions about whether individual students will be able to participate in the nursing program. Technical standards also help students determine whether they will need accommodations or modifications in order to participate.

The technical standards are provided to all students before matriculation and are available online in the Bachelor of Science in Nursing Handbook; see Section VIII: Clinical Course and Health Science Student Requirements. Students with disabilities who believe that they may need assistance in meeting the core performance standards should contact Student Disability Services.

## Selection

The college's admission committee recommends to the dean the applicants who appear to be best qualified. Fulfillment of minimum admission requirements does not guarantee admission to the College of Nursing. The committee may require personal interviews. A physical examination report and specific health screening requirements must be on file at University of Iowa Student Health 10 days before the class opens for the first clinical nursing course.

## Application Deadlines

- B.S.N. prelicensure direct admission: November 1 for early action; February 1 for regular decision.
- B.S.N. prelicensure standard admission: April 1 for spring entry.
- Nursing-RN (RN to B.S.N.) program: March 1 for fall entry; September 1 for spring entry.

## Financial Support

In addition to general assistance available to University students, there are assistance programs specifically for

nursing students. Information about financial aid is available from the University's Office of Student Financial Aid.

## Career Advancement

The University of Iowa's B.S.N. program provides broad preparation in clinical, scientific, community health, and patient education skills, and promises outstanding career options. With a B.S.N. degree, students are eligible to work as a staff nurse; flight nurse; a nurse on medical, oncology, surgical, pediatric, emergency, or intensive care units; a nurse in outpatient or neighborhood clinics; or a home health care nurse.

The U.S. Bureau of Labor Statistics projects that employment for registered nurses to be among the top occupations in terms of job growth through 2029.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Nursing, B.S.N.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Meeting the minimum requirements for admission does not guarantee admission. Direct Admission is available only for high school students who meet the published criteria. All other students pursue Standard Admission. <sup>a</sup>		
All courses (except electives) <sup>b</sup> must be completed with a grade of C or higher.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
RHET:1030	Rhetoric	4
CHEM:1070	General Chemistry I	3
PSY:1001	Elementary Psychology	3
STAT:1020	Elementary Statistics and Inference	3
NURS:1020	First-Year Seminar	1
Elective course		1
CSI:1600	Success at Iowa	2
<b>Hours</b>		<b>17</b>
<b>Spring</b>		
CHEM:1080	General Chemistry II	3
BIOL:1141	Human Biology: Health Professions	4
NURS:1030	Human Development and Behavior <sup>c</sup>	3
SOC:1030 or SOC:1010	Contemporary Social Problems or Introduction to Sociology	3
GE: International and Global Issues <sup>d</sup>		3
Elective course		1
3.0 minimum cumulative GPA required		
<b>Hours</b>		<b>17</b>

**Second Year****Fall**

ACB:3110	Principles of Human Anatomy	3
HHP:2310	Nutrition and Health	3
GE: Literary, Visual, and Performing Arts <sup>d</sup>		3
GE: Values and Culture or Diversity and Inclusion <sup>d, e</sup>		3
Elective course		3
Elective course		1
3.0 minimum cumulative GPA required		

**Hours 16****Spring**

NURS:3111 or NURS:3110	Diversity, Equity, and Inclusion for Health Professions <sup>c, f</sup> or Healthcare Finance	3
MICR:3164	Microbiology and Human Health <sup>c</sup>	4
HHP:1300	Fundamentals of Human Physiology	3
Major: elective course (preferred upper level statistics) <sup>g</sup>		3
Elective course		3
Elective course		1
3.0 minimum cumulative GPA required		
Minimum 64 s.h. credit earned toward degree at end of second year (67 s.h. preferred) with a minimum 3.0 cumulative GPA.		

**Hours 17****Third Year****Fall**

NURS:3138	Nursing and Pharmacological Interventions I	5
NURS:3128	Health Assessment and Communication Across the Lifespan	3
NURS:3518	Pathology <sup>f</sup>	3
NURS:3160	Professional Role I: Professionalism and Patient Safety <sup>f</sup>	3
NURS:3151	Introduction to Clinical Concepts for Nursing	2

**Hours 16****Spring**

NURS:3438	Nursing and Pharmacological Interventions II	5
NURS:3615	Adult Medical/Surgical Nursing Practicum	3
NURS:3620	Gerontological Nursing	3
NURS:3625	Gerontological Nursing Practicum	2
NURS:3460	Professional Role II: Research <sup>f</sup>	3
NURS:3451	Basic Clinical Concepts for Nursing	1

**Hours 17****Fourth Year****Fall**

NURS:3631	Nursing Care of Children and Families	2
NURS:3632	Nursing Care of Childbearing Families	2
NURS:3635	Parent Child Nursing Practicum	2
NURS:3640	Psychiatric/Mental Health Nursing	3
NURS:3645	Mental Health Nursing Practicum	2

NURS:3660	Professional Role III: Improving Health Systems <sup>f</sup>	3
NURS:3651	Advanced Clinical Concepts for Nursing	1

**Hours 15****Spring**

NURS:3650	Community and Public Health Nursing <sup>f</sup>	3
NURS:3655	Community and Public Health Nursing Practicum <sup>f</sup>	2
NURS:4155	Senior Nursing Internship	5
NURS:4160	Professional Role IV: Leadership and Professional Engagement <sup>f</sup>	3

Degree Application: apply on MyUI before deadline  
(typically in February for spring, September for fall)  
<sup>h</sup>

Exam: NCLEX (upon completion of the program  
students are eligible to sit for this board exam)

**Hours 13****Total Hours 128**

a See the College of Nursing website for further details and application instructions.

b A grade of C or higher is required. A grade of C-minus is not considered a passing grade for the College of Nursing.

c Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Choose either a course that fulfills the Diversity and Inclusion GE or a course that fulfills the Values and Culture GE.

f Register for on-campus section.

g Recommended. If considering graduate studies please contact your desired school to learn about the statistics requirements.

h Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Master of Science in Nursing, M.S.N.

The College of Nursing offers the Master of Science in Nursing (M.S.N.) with three subprogram focus areas: entry into practice (effective spring 2023), clinical nurse leader (CNL), and nursing systems administration (NSA).

## Learning Outcomes

### Clinical Nurse Leader and Nursing Systems Administration

Graduates will be able to:

- lead change to improve quality outcomes;
- advance a culture of excellence through lifelong learning;
- build and lead collaborative interprofessional care teams;
- navigate and integrate care services across the health care system;
- design innovative nursing practices; and
- translate evidence into practice.

### Entry into Practice

(Subprogram effective spring 2023)

Graduates will be able to:

- ensure delivery of safe quality nursing care to diverse individuals, families, groups, communities, and populations throughout the lifespan and across systems of care;
- integrate theoretical and scientific knowledge gained from natural and social sciences and culture, society, and the liberal arts into nursing;
- use leadership skills across systems of care to promote equitable, safe, and quality health care outcomes;
- use the best evidence from multiple ways of knowing to inform practice to make clinical judgments, solve problems, and address systems improvements;
- analyze how health care policy, regulation, technology, and economics impact nursing practice and the delivery of care;
- use effective interprofessional communication and collaboration strategies to promote quality health outcomes;
- apply health promotion and disease prevention strategies to diverse individuals, families, groups, communities, and populations to promote quality health outcomes;
- demonstrate professional values fundamental to the discipline of nursing; and
- apply evidence-based, person-centered care services across the health care continuum.

## Requirements

The Master of Science in Nursing (M.S.N.) requires 33, 39, or 66 s.h., depending on the subprogram students choose to complete. Students maintain a g.p.a. of at least 2.75 in coursework for the M.S.N. degree.

Graduate students in the College of Nursing must adhere to all Graduate College policies regarding academic standing, probation, and dismissal. Transfer credit applicable to the M.S.N. is limited and must be approved by the College of

Nursing executive associate dean for academic affairs. Coursework taken 10 years or more before the M.S.N. final examination must be updated according to University policy.

## M.S.N. Subprograms

- Clinical Nurse Leader (CNL) [p. 2004]
- Entry into Practice [p. 2005]
- Nursing Systems Administration (NSA) [p. 2005]

### Clinical Nurse Leader (CNL)

The Master of Science in Nursing with a clinical nurse leader subprogram requires 39 s.h. of credit, including a core component of 21 s.h., which students take with College of Nursing doctoral students, and a specialization component of 18 s.h. that centers on the clinical nurse leader role. The clinical nurse leader subprogram focuses on improving the quality of patient care and helping professional nurses to thrive in the health care system. The clinical nurse leader role has demonstrated effectiveness in improving outcomes, elevating current evidence-based practice, enhancing quality, and providing continuous leadership in the microsystem.

Students must successfully complete a capstone project.

### Two-Year Plan

The M.S.N. with a clinical nurse leader subprogram requires the following coursework for a two-year plan.

#### First Year

Code	Title	Hours
NURS:5009	Evaluating Evidence for Practice	3
NURS:5017	Quality and Safety	3
NURS:5018	Clinical Education in the Care Environment	3
NURS:5021	Physiology, Pathophysiology, and Pharmacology I for the Clinical Nurse Leader	3
NURS:5022	Physiology, Pathophysiology, and Pharmacology II for the Clinical Nurse Leader	3
NURS:5636	Clinical Nurse Leader Seminar	3
NURS:5666	Leadership in the Microsystem	3

**Total Hours** 21

#### Second Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5016	Health Care Infrastructure and Informatics	3
NURS:5037	Health Promotion and Assessment for Clinical Nurse Leaders	3
NURS:5696	Clinical Nurse Leader Capstone Clinical Immersion	6

**Total Hours** 18

## Three-Year Plan

The M.S.N. with a clinical nurse leader subprogram requires the following coursework for a three-year plan.

### First Year

Code	Title	Hours
NURS:5009	Evaluating Evidence for Practice	3
NURS:5018	Clinical Education in the Care Environment	3
NURS:5021	Physiology, Pathophysiology, and Pharmacology I for the Clinical Nurse Leader	3
NURS:5022	Physiology, Pathophysiology, and Pharmacology II for the Clinical Nurse Leader	3
NURS:5636	Clinical Nurse Leader Seminar	3
<b>Total Hours</b>		<b>15</b>

### Second Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5017	Quality and Safety	3
NURS:5037	Health Promotion and Assessment for Clinical Nurse Leaders	3
NURS:5666	Leadership in the Microsystem	3
<b>Total Hours</b>		<b>12</b>

### Third Year

Code	Title	Hours
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5016	Health Care Infrastructure and Informatics	3
NURS:5696	Clinical Nurse Leader Capstone Clinical Immersion	6
<b>Total Hours</b>		<b>12</b>

See the M.S.N. course plan on the College of Nursing website for a semester-by-semester course schedule.

## Entry into Practice

*This subprogram is effective spring 2023.*

The Master of Science in Nursing with an entry into practice subprogram requires 66 s.h. of credit. The subprogram is an innovative program located on the Iowa City campus. It can be completed on a one-and-one-half year plan (five semesters). The entry into practice subprogram leads to a M.S.N. degree that prepares students who do not currently have a nursing degree an opportunity to enter the health care workforce quickly. Class sizes are small and offer unparalleled educational excellence and clinical practice.

The M.S.N. with an entry into practice subprogram requires the following coursework.

## First Year

Code	Title	Hours
NURS:3128	Health Assessment and Communication Across the Lifespan	3
NURS:3138	Nursing and Pharmacological Interventions I	5
NURS:3151	Introduction to Clinical Concepts for Nursing	2
NURS:3438	Nursing and Pharmacological Interventions II	5
NURS:3451	Basic Clinical Concepts for Nursing	1
NURS:3640	Psychiatric/Mental Health Nursing	3
NURS:3645	Mental Health Nursing Practicum	2
NURS:3650	Community and Public Health Nursing	3
NURS:3651	Advanced Clinical Concepts for Nursing	1
NURS:5017	Quality and Safety	3
NURS:5210	Foundations of Professional Nursing	1
NURS:5215	Medical Surgical Care of Chronically Ill Adults	3
NURS:5220	Medical Surgical Care of Acutely Ill Adults	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
<b>Total Hours</b>		<b>41</b>

## Second Year

Code	Title	Hours
NURS:3620	Gerontological Nursing	3
NURS:3631	Nursing Care of Children and Families	2
NURS:3632	Nursing Care of Childbearing Families	2
NURS:4155	Senior Nursing Internship	5
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5225	Community Health Across the Lifespan Practicum	4
<b>Total Hours</b>		<b>25</b>

See the M.S.N. course plan on the College of Nursing website for a semester-by-semester course schedule.

## Nursing Systems Administration (NSA)

The Master of Science in Nursing with a nursing systems administration subprogram requires 33 s.h. of credit. It can be completed on a two-and-a-half year plan (five semesters).

The subprogram focuses on preparing nurse leaders to serve in a variety of managerial and leadership capacities in all practice environments. The program focuses on graduate-level practice in nursing and health care leadership and the interventions that influence health care outcomes for individuals, populations, or systems.

Students must successfully complete a graduate-level guided capstone program implementation project.

The M.S.N. with a nursing systems administration subprogram requires the following coursework.

### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:6550	Advanced Leadership and Management	3
NURS:6553	Seminar on Innovations	4
<b>Total Hours</b>		<b>13</b>

### Second Year

Code	Title	Hours
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:6551	Financial Management	4
NURS:6808	Population Health for Advanced Practice	3
<b>Total Hours</b>		<b>13</b>

### Third Year

Code	Title	Hours
NURS:5016	Health Care Infrastructure and Informatics	3
NURS:5697	Specialty Practice in Nursing Systems	4
<b>Total Hours</b>		<b>7</b>

See the M.S.N. course plan on the College of Nursing website for a semester-by-semester course schedule.

## Admission

Applicants to College of Nursing graduate programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must have a g.p.a. of at least 3.00. A criminal background check is required for all students upon admission. The College of Nursing has additional application requirements, as follows.

## Admission to the M.S.N. Program

Application requirements specific to the M.S.N. program are:

- transcripts from institutions for all undergraduate and graduate coursework; and
- completion of an upper-level statistics course within five years of the application deadline (acceptable University of Iowa courses include BIOS:4120 Introduction to Biostatistics, PSQF:4143 Introduction to Statistical

Methods, STAT:3510 Biostatistics, and STAT:4143 Introduction to Statistical Methods).

Applications are reviewed once a year. To be reviewed, the application must be complete with all materials submitted.

Due to the level of web-based coursework required, international students in the M.S.N. subprograms are not eligible for F-1 or J-1 student immigration status. Questions regarding visas and immigration documentation should be directed to International Student and Scholar Services (ISSS).

## Additional Application Requirements

- Admission to the Clinical Nurse Leader Subprogram [p. 2006]
- Admission to the Entry into Nursing Practice Subprogram [p. 2006]
- Admission to the Nursing Systems Administration Subprogram [p. 2007]

## Admission to the Clinical Nurse Leader Subprogram

Additional application requirements specific to the M.S.N. with a clinical nurse leader subprogram are:

- a bachelor's or advanced degree with a major in nursing from an accredited program;
- approximately one year of experience;
- satisfaction of the legal requirements for the practice of nursing;
- current written recommendations from three persons knowledgeable about the applicant's competence in the practice of nursing and potential for leadership and scholarship (forms required); and
- a current résumé, goal statement (statement of purpose), statement of disclosure, and supplemental/information form.

Applicant interviews are required, and in some cases, virtual interviews may be arranged.

## Admission to the Entry into Nursing Practice Subprogram

*This subprogram is effective spring 2023.*

Additional application requirements specific to the M.S.N. with an entry into practice subprogram are:

- a bachelor's or advanced degree in a discipline other than nursing from an accredited college or university;
- completion of natural sciences courses within ten years and/or a combination of related experience and training which provides the knowledge and abilities necessary to meet objectives of the courses;
- completion of prerequisite coursework at time of application (statistics coursework, six of eight natural sciences courses, and two of three social sciences courses);
- successful background and abuse checks;
- current written recommendations from three persons knowledgeable about the applicant's potential for the practice of nursing and leadership and scholarship (forms required); and

- a current résumé, goal statement (statement of purpose), statement of disclosure, and supplemental/information form.

Applicant interviews are required, and in some cases, virtual interviews may be arranged.

Applicants to the M.S.N. entry into practice subprogram whose first language is not English and do not meet the requirements for a waiver are required to submit English proficiency scores. For a complete list of accepted English proficiency exams, score requirements, and waiver eligibility, please refer to Graduate College English Proficiency Requirements on the Graduate Admissions website.

## Prerequisites for Natural and Social Sciences

To be considered for admission, a maximum of two natural sciences courses and one social science course can be incomplete at application deadline; all must be completed prior to enrollment in the M.S.N. entry into practice subprogram.

### Natural Science Prerequisites

Code	Title	Hours
These are the courses that are considered prerequisites; applicants need equivalent coursework to these UI courses:		
BIOL:1141	Human Biology: Health Professions	4
CHEM:1070	General Chemistry I	3
CHEM:1080	General Chemistry II	3
HHP:1300	Fundamentals of Human Physiology	3
HHP:2310	Nutrition and Health	3
MICR:3164	Microbiology and Human Health	4
NURS:3518	Pathology	3
And one of these:		
ACB:3110	Principles of Human Anatomy	3
HHP:1100	Human Anatomy	3

### Social Science Prerequisites

Code	Title	Hours
These are the courses that are considered prerequisites; applicants need equivalent coursework to these UI courses:		
ANTH:1101	Cultural Anthropology	3
NURS:1030	Human Development and Behavior	3
PSY:1001	Elementary Psychology	3
And one of these:		
SOC:1010	Introduction to Sociology	3-4
SOC:1030	Contemporary Social Problems	3-4

## Admission to the Nursing Systems Administration Subprogram

Additional application requirements specific to the M.S.N. with a nursing systems administration subprogram are:

- a bachelor's or advanced degree with a major in nursing from an accredited program;

- approximately one year of experience;
- satisfaction of the legal requirements for the practice of nursing;
- current written recommendations from three persons knowledgeable about the applicant's competence in the practice of nursing and potential for leadership and scholarship (forms required); and
- a current résumé, goal statement (statement of purpose), statement of disclosure, and supplemental/information form.

Applicant interviews are required, and in some cases, virtual interviews may be arranged.

## Application Deadlines

Application deadlines to the M.S.N. subprograms are:

- M.S.N. with clinical nurse leader subprogram: February 1 for fall entry.
- M.S.N. with entry into practice subprogram: March 15 for spring entry (subprogram effective spring 2023).
- M.S.N. with nursing systems administration subprogram: February 1 for fall entry.

## Career Advancement

The M.S.N. clinical nurse leader and nursing systems administration subprograms prepares nurses to be equipped with knowledge and skills to lead change, promote health, and elevate care in various roles and settings. Graduates of these subprograms are prepared for critical action with complex, changing systems, including health, educational, and organizational systems.

The M.S.N. entry into practice subprogram prepares non-nurse college graduates of all academic backgrounds to become practicing nurses. Upon graduation, students will be prepared to take the NCLEX-RN nursing licensure exam to be licensed as a registered nurse. *The entry into practice subprogram is effective spring 2023.*

# Doctor of Nursing Practice, D.N.P.

The Doctor of Nursing Practice (D.N.P.) program is designed to prepare clinicians with the knowledge and skills to provide the highest standard of care for individuals, families, and communities and navigate today's complex health care systems. Nurse managers and administrators will gain the knowledge and skills necessary to develop, implement, and monitor programs of care and policies in complex organizations.

## Learning Outcomes

Graduates will be able to:

- utilize scientific underpinnings for nursing practice;
- demonstrate organizational and systems leadership;
- evaluate clinical scholarship and analytical methods for evidence-based practice;
- evaluate information systems and patient care technology for the improvement and transformation of health care;
- influence health care policy for advocacy in health care;
- collaborate interprofessionally to improve patient and population health outcomes;
- design clinical prevention and population health interventions; and
- demonstrate expertise in advanced nursing practice.

## Requirements

The Doctor of Nursing Practice (D.N.P.) requires a minimum of 73 s.h. of graduate credit. Students may complete the program in three to five years, depending on their focus area. Students must maintain a cumulative g.p.a. of at least 3.00.

Those who enter the program with a master's degree must complete a minimum of 72 s.h., although some coursework from the master's degree program may count toward the D.N.P. degree. Students who enter with a non-nursing master's degree who are interested in pursuing a focus in health administration can complete D.N.P. degree requirements in health systems. Individuals who have been granted an M.S.N./APRN may complete the D.N.P. with a minimum of 29 s.h. of graduate credit earned at the University of Iowa after D.N.P. program admission and with a minimum of 43 s.h. of transfer credit previously earned from the UI or elsewhere.

A dual certification program is available that allows students to combine two of the nurse practitioner specialties, except for anesthesia nursing or health systems. In addition, a combined program is available for B.S.N. students with the nursing-RN subprogram who are interested in earning the D.N.P. degree with an adult gerontology primary care nurse practitioner, health systems, or pediatric nurse practitioner—primary care subprogram.

Students choose from a number of specialties, including adult gerontology acute care nurse practitioner, adult gerontology primary care nurse practitioner, anesthesia nursing, family nurse practitioner, pediatric nurse practitioner—acute care, pediatric nurse practitioner—primary care, psychiatric/mental health nurse practitioner; and health systems. For yearly plans that detail coursework in these specialty areas, see "Plans of Study" below. Visit D.N.P. Plans of Study on the College of

Nursing website for a semester-by-semester view of required coursework for each D.N.P. specialty.

D.N.P. students complete basic graduate core courses, specialty courses, advanced core courses, and practicums. In didactic coursework, they explore clinical leadership, public policy and advocacy, specialty systems, change theory, finance and business, and entrepreneurial tools.

Students must complete a minimum of 1,000 practice experience hours. Individuals who enter the program having completed an M.S.N. may transfer approved clinical hours from their M.S.N. program to the D.N.P. program. The clinical hours requirement is evaluated for each student who has completed an M.S.N. with a specialty program. Students who completed more than 1,000 practice experience hours in an M.S.N. advanced practice program still must complete the number of D.N.P. practicum and project hours determined in consultation with their advisor and the D.N.P. program director.

Transfer credit applicable to the D.N.P. is limited and must be approved by the College of Nursing assistant dean for graduate practice programs. Transcripts for individuals who have completed an M.S.N. are evaluated individually.

Students must adhere to all Graduate College policies regarding academic standing, probation, and dismissal. Coursework taken 10 or more years before a student plans to graduate from the D.N.P. program must be updated according to University policy.

## Plans of Study

- Adult Gerontology Acute Care Nurse Practitioner Subprogram [p. 2008]
- Adult Gerontology Primary Care Nurse Practitioner Subprogram [p. 2010]
- Anesthesia Nursing Subprogram [p. 2011]
- Family Nurse Practitioner Subprogram [p. 2011]
- Pediatric Nurse Practitioner—Acute Care Subprogram [p. 2013]
- Pediatric Nurse Practitioner—Primary Care Subprogram [p. 2014]
- Psychiatric/Mental Health Nurse Practitioner Subprogram [p. 2015]
- Health Systems Subprogram [p. 2017]
- For M.S.N. and Advanced Practice Registered Nurses (APRN) Subprogram [p. 2019]

## Adult Gerontology Acute Care Nurse Practitioner Subprogram

### Three-Year Plan

The following coursework (75 s.h.) is required for a three-year plan.

#### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3



NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3
MPB:5201	Advanced Physiology Online	3

**Total Hours** **26**

### Second Year

Code	Title	Hours
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **26**

### Third Year

Code	Title	Hours
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6410	Adult-Gerontology Acute Care I	3
NURS:6411	Adult-Gerontology Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours** **23**

### Four-Year Plan

The following coursework (75 s.h.) is required for a four-year plan.

### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3

**Total Hours** **20**

### Second Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5017	Quality and Safety	3
MPB:5201	Advanced Physiology Online	3

**Total Hours** **15**

### Third Year

Code	Title	Hours
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **17**

### Fourth Year

Code	Title	Hours
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6410	Adult-Gerontology Acute Care I	3
NURS:6411	Adult-Gerontology Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4

NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
<b>Total Hours</b>		<b>23</b>

## Adult Gerontology Primary Care Nurse Practitioner Subprogram

### Three-Year Plan

The following coursework (79 s.h.) is required for a three-year plan.

#### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
MPB:5201	Advanced Physiology Online	3
<b>Total Hours</b>		<b>29</b>

#### Second Year

Code	Title	Hours
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2

NURS:6827	Doctor of Nursing Practice Project II	1
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**Total Hours** **27**

### Third Year

Code	Title	Hours
NURS:5401	The Care of the Frail Elderly	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours** **23**

### Four-Year Plan

The following coursework (79 s.h.) is required for a four-year plan.

#### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3

**Total Hours** **20**

#### Second Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
MPB:5201	Advanced Physiology Online	3

**Total Hours** **18**

**Third Year**

Code	Title	Hours
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **18**

**Fourth Year**

Code	Title	Hours
NURS:5401	The Care of the Frail Elderly	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours** **23**

**Anesthesia Nursing Subprogram****Three-Year Plan**

The following coursework (81 s.h.) is required for a three-year plan.

**First Year**

Code	Title	Hours
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2

NURS:6000	Human Anatomy for Advanced Practice	4
NURS:6004	Scientific Principles for Anesthesia Practice	4
NURS:6006	Pharmacology of Anesthesia Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
MPB:5200	Medical Physiology Online	5
PCOL:6204	Pharmacology for Health Sciences: Nurse Anesthetist	5

**Total Hours** **42**

**Second Year**

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:6007	Basic Principles of Anesthesia Practice	5
NURS:6010	Advanced Principles of Anesthesia Practice I	4
NURS:6012	Advanced Principles of Anesthesia Practice II	1
NURS:6050	Introductory Clinical Anesthesia	2
NURS:6051	Clinical Anesthesia I	2
NURS:6052	Clinical Anesthesia II	2
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **22**

**Third Year**

Code	Title	Hours
NURS:5015	Health Systems, Finance, and Economics	3
NURS:6053	Advanced Clinical Anesthesia	2
NURS:6054	Obstetrical Anesthesia	2
NURS:6055	Rural Anesthesia	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours** **17**

**Family Nurse Practitioner Subprogram****Three-Year Plan**

The following coursework (83 s.h.) is required for a three-year plan.

**First Year**

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3

NURS:5009	Evaluating Evidence for Practice	3
NURS:5017	Quality and Safety	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
MPB:5201	Advanced Physiology Online	3

**Total Hours** **29**

### Second Year

Code	Title	Hours
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **27**

### Third Year

Code	Title	Hours
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
NURS:6703	Advanced Practice Clinical Practicum III	4
NURS:6810	Advanced Practice Role II: Integration	3

NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours** **27**

### Four-Year Plan

The following coursework (83 s.h.) is required for a four-year plan.

#### First Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3

**Total Hours** **20**

#### Second Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
MPB:5201	Advanced Physiology Online	3

**Total Hours** **15**

#### Third Year

Code	Title	Hours
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **21**

**Fourth Year**

Code	Title	Hours
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3
NURS:6703	Advanced Practice Clinical Practicum III	4
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
<b>Total Hours</b>		<b>27</b>

**Pediatric Nurse Practitioner—Acute Care Subprogram****Three-Year Plan**

The following coursework (78 s.h.) is required for a three-year plan.

**First Year**

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
MPB:5201	Advanced Physiology Online	3
<b>Total Hours</b>		<b>26</b>

**Second Year**

Code	Title	Hours
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3

NURS:5035	Graduate Pharmacology Specialty	3
NURS:6104	Essentials of Pediatric Primary Care: Infants, Children, and Adolescents	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **29**

**Third Year**

Code	Title	Hours
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6400	Pediatric Acute Care I	3
NURS:6401	Pediatric Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours** **23**

**Four-Year Plan**

The following coursework (78 s.h.) is required for a four-year plan.

**First Year**

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3

**Total Hours** **20**

**Second Year**

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:6802	Health Policy, Law, and Advocacy	3
MPB:5201	Advanced Physiology Online	3
<b>Total Hours</b>		<b>15</b>

**Third Year**

Code	Title	Hours
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:6104	Essentials of Pediatric Primary Care: Infants, Children, and Adolescents	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
<b>Total Hours</b>		<b>20</b>

**Fourth Year**

Code	Title	Hours
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6400	Pediatric Acute Care I	3
NURS:6401	Pediatric Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
<b>Total Hours</b>		<b>23</b>

**Pediatric Nurse Practitioner—Primary Care Subprogram****Three-Year Plan**

The following coursework (77 s.h.) is required for a three-year plan.

**First Year**

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
MPB:5201	Advanced Physiology Online	3
<b>Total Hours</b>		<b>29</b>

**Second Year**

Code	Title	Hours
NURS:5017	Quality and Safety	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
<b>Total Hours</b>		<b>24</b>

**Third Year**

Code	Title	Hours
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6802	Health Policy, Law, and Advocacy	3

NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours** 24

### Four-Year Plan

The following coursework (77 s.h.) is required for a four-year plan.

#### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3

**Total Hours** 20

#### Second Year

Code	Title	Hours
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:5032	Mental Disorders in Advanced Practice	3
NURS:6808	Population Health for Advanced Practice	3
MPB:5201	Advanced Physiology Online	3

**Total Hours** 15

#### Third Year

Code	Title	Hours
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6826	Doctor of Nursing Practice Project I	2

NURS:6827	Doctor of Nursing Practice Project II	1
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**Total Hours** 21

#### Fourth Year

Code	Title	Hours
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours** 21

## Psychiatric/Mental Health Nurse Practitioner Subprogram

### Three-Year Plan

The following coursework (76 s.h.) is required for a three-year plan.

#### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5017	Quality and Safety	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
MPB:5201	Advanced Physiology Online	3

**Total Hours** 29

#### Second Year

Code	Title	Hours
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4

NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5036	Psychopharmacology for Advanced Clinical Practice	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
<b>Total Hours</b>		<b>20</b>

### Third Year

Code	Title	Hours
NURS:5041	Psychotherapeutics for Advanced Practice Nursing Across the Lifespan I	2
NURS:5042	Psychotherapeutics for Advanced Practice Nursing Across the Lifespan II	1
NURS:6500	Psychiatric/Mental Health Nursing for Advanced Practice Didactic I	3
NURS:6501	Psychiatric/Mental Health Nursing for Advanced Practice Didactic II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
<b>Total Hours</b>		<b>27</b>

### Four-Year Plan

The following coursework (76 s.h.) is required for a four-year plan.

#### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5040	Genetics/Genomics for Advanced Nursing Practice	2
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
<b>Total Hours</b>		<b>20</b>

### Second Year

Code	Title	Hours
NURS:5017	Quality and Safety	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6808	Population Health for Advanced Practice	3
MPB:5201	Advanced Physiology Online	3
<b>Total Hours</b>		<b>12</b>

### Third Year

Code	Title	Hours
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5023	Pathophysiology for Advanced Clinical Practice	4
NURS:5031	Health Promotion and Assessment for Advanced Clinical Practice	4
NURS:5033	Pharmacotherapeutics for Advanced Practice Nursing	3
NURS:5036	Psychopharmacology for Advanced Clinical Practice	3
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1
<b>Total Hours</b>		<b>20</b>

### Fourth Year

Code	Title	Hours
NURS:5041	Psychotherapeutics for Advanced Practice Nursing Across the Lifespan I	2
NURS:5042	Psychotherapeutics for Advanced Practice Nursing Across the Lifespan II	1
NURS:6500	Psychiatric/Mental Health Nursing for Advanced Practice Didactic I	3
NURS:6501	Psychiatric/Mental Health Nursing for Advanced Practice Didactic II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4
NURS:6703	Advanced Practice Clinical Practicum III	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
<b>Total Hours</b>		<b>24</b>



## Health Systems Subprogram

### Four-Year Plan

The following coursework (73 s.h.) is required for a four-year plan.

#### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5016	Health Care Infrastructure and Informatics	3
NURS:5017	Quality and Safety	3
NURS:6808	Population Health for Advanced Practice	3
NURS:6809	Advanced Practice Role I: Introduction	3
NURS:6811	Social Determinants of Health and Health System Inequities	3

**Total Hours** **24**

#### Second Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:6550	Advanced Leadership and Management	4
NURS:6551	Financial Management	4
NURS:6552	Executive Management in the Organization	4
NURS:6554	Seminar on Healthy Work Environments	3
NURS:6802	Health Policy, Law, and Advocacy	3

**Total Hours** **24**

#### Third Year

Code	Title	Hours
NURS:5019	Role Development: Educator in a Practice Discipline	3
NURS:6553	Seminar on Innovations	4
NURS:6704	Practicum in Executive Leadership and Management	4
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **14**

#### Fourth Year

Code	Title	Hours
NURS:6556	Marketing and Communications for Health Care Leaders	3

NURS:6810	Advanced Practice Role II: Integration	3
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NURS:6828	Doctor of Nursing Practice Project III	1
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NURS:6829	Doctor of Nursing Practice Project IV	1
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One of these elective courses: **3**

NURS:3595	Nonprofit Organizational Effectiveness I
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NURS:3600	Nonprofit Organizational Effectiveness II
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NURS:5018	Clinical Education in the Care Environment
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NURS:5020	Application of Educator Role Competencies
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NURS:5032	Mental Disorders in Advanced Practice
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NURS:5040	Genetics/Genomics for Advanced Nursing Practice (plus an additional 1 s.h. elective course; consult advisor)
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NURS:6555	Care Coordination Across Professional and Organizational Boundaries
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NURS:6557	Clinical Practice Management and Leadership for Advanced Practice Providers
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**Total Hours** **11**

### Five-Year Plan

The following coursework (73 s.h.) is required for a five-year plan.

#### First Year

Code	Title	Hours
NURS:5002	Leadership and Management Essentials	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5017	Quality and Safety	3
NURS:6550	Advanced Leadership and Management	4
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3

**Total Hours** **19**

#### Second Year

Code	Title	Hours
NURS:5015	Health Systems, Finance, and Economics	3
NURS:5016	Health Care Infrastructure and Informatics	3
NURS:6551	Financial Management	4
NURS:6552	Executive Management in the Organization	4

NURS:6808	Population Health for Advanced Practice	3
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**Total Hours 17**

### Third Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5019	Role Development: Educator in a Practice Discipline	3
NURS:6554	Seminar on Healthy Work Environments	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
One of these elective courses:		3
NURS:3595	Nonprofit Organizational Effectiveness I	
NURS:3600	Nonprofit Organizational Effectiveness II	
NURS:5018	Clinical Education in the Care Environment	
NURS:5020	Application of Educator Role Competencies	
NURS:5032	Mental Disorders in Advanced Practice	
NURS:5040	Genetics/Genomics for Advanced Nursing Practice (plus an additional 1 s.h. elective course; consult advisor)	
NURS:6555	Care Coordination Across Professional and Organizational Boundaries	
NURS:6557	Clinical Practice Management and Leadership for Advanced Practice Providers	

**Total Hours 18**

### Fourth Year

Code	Title	Hours
NURS:6553	Seminar on Innovations	4
NURS:6704	Practicum in Executive Leadership and Management	4
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours 11**

### Fifth Year

Code	Title	Hours
NURS:6556	Marketing and Communications for Health Care Leaders	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1

NURS:6829	Doctor of Nursing Practice Project IV	1
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**Total Hours 8**

Students with a master's degree, such as an M.A., M.S., M.B.A., or M.P.H. with an interest in pursuing a focus in health administration may complete the following coursework to fulfill the D.N.P. degree requirements in health systems.

### Three-Year Plan

The following coursework (45 s.h.) is required for a three-year plan for students with a master's degree in an administration field.

#### First Year

Code	Title	Hours
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:6550	Advanced Leadership and Management	3
NURS:6551	Financial Management	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3

**Total Hours 21**

#### Second Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:6556	Marketing and Communications for Health Care Leaders	3
NURS:6704	Practicum in Executive Leadership and Management	4
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

One of these elective courses: 3

NURS:3595	Nonprofit Organizational Effectiveness I	
NURS:3600	Nonprofit Organizational Effectiveness II	
NURS:5018	Clinical Education in the Care Environment	
NURS:5019	Role Development: Educator in a Practice Discipline	
NURS:5020	Application of Educator Role Competencies	
NURS:5032	Mental Disorders in Advanced Practice	
NURS:5040	Genetics/Genomics for Advanced Nursing Practice (plus an additional 1 s.h. elective course; consult advisor)	

NURS:6555 Care Coordination  
Across Professional and  
Organizational Boundaries

NURS:6557 Clinical Practice  
Management and  
Leadership for Advanced  
Practice Providers

**Total Hours 16**

### Third Year

Code	Title	Hours
NURS:6808	Population Health for Advanced Practice	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours 8**

### Four-Year Plan

The following coursework (55 s.h.) is required for a four-year plan for students with a master's degree in a non-administration field.

#### First Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3

**Total Hours 18**

#### Second Year

Code	Title	Hours
NURS:6550	Advanced Leadership and Management	4
NURS:6551	Financial Management	4
NURS:6552	Executive Management in the Organization	4

One of these elective courses: 3

NURS:3595 Nonprofit Organizational  
Effectiveness I

NURS:3600 Nonprofit Organizational  
Effectiveness II

NURS:5018 Clinical Education in the  
Care Environment

NURS:5019 Role Development: Educator  
in a Practice Discipline

NURS:5020 Application of Educator Role  
Competencies

NURS:5032 Mental Disorders in  
Advanced Practice

NURS:5040 Genetics/Genomics for  
Advanced Nursing Practice  
(plus an additional 1 s.h.  
elective course; consult  
advisor)

NURS:6555 Care Coordination  
Across Professional and  
Organizational Boundaries

NURS:6557 Clinical Practice  
Management and  
Leadership for Advanced  
Practice Providers

**Total Hours 15**

### Third Year

Code	Title	Hours
NURS:6553	Seminar on Innovations	4
NURS:6554	Seminar on Healthy Work Environments	3
NURS:6704	Practicum in Executive Leadership and Management	4
NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours 14**

### Fourth Year

Code	Title	Hours
NURS:6808	Population Health for Advanced Practice	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1

**Total Hours 8**

## For M.S.N. and Advanced Practice Registered Nurses (APRN) Subprogram

Students in the For M.S.N. and APRN subprogram complete the following requirements in addition to transferring a minimum of 43 s.h. of credit previously earned at the UI or elsewhere.

### Two-Year Plan

The following coursework (29 s.h.) is required for a two-year plan.

#### First Year

Code	Title	Hours
NURS:5009	Evaluating Evidence for Practice	3
NURS:5010	Clinical Data Management and Evaluation	3
NURS:5017	Quality and Safety	3
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6809	Advanced Practice Role I: Introduction	3

NURS:6826	Doctor of Nursing Practice Project I	2
NURS:6827	Doctor of Nursing Practice Project II	1

**Total Hours** **18**

### Second Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
One of these elective courses:		3

NURS:5018 Clinical Education in the Care Environment

NURS:5019 Role Development: Educator in a Practice Discipline

NURS:5020 Application of Educator Role Competencies

NURS:5040 Genetics/Genomics for Advanced Nursing Practice (plus an additional 1 s.h. elective course; consult advisor)

NURS:6554 Seminar on Healthy Work Environments

NURS:6555 Care Coordination Across Professional and Organizational Boundaries

NURS:6556 Marketing and Communications for Health Care Leaders

NURS:6557 Clinical Practice Management and Leadership for Advanced Practice Providers

NURS:6808 Population Health for Advanced Practice

**Total Hours** **11**

### Three-Year Plan

The following coursework (29 s.h.) is required for a three-year plan.

#### First Year

Code	Title	Hours
NURS:5007	Applied Epidemiology	3
NURS:5009	Evaluating Evidence for Practice	3
NURS:5017	Quality and Safety	3
NURS:6809	Advanced Practice Role I: Introduction	3

**Total Hours** **12**

#### Second Year

Code	Title	Hours
NURS:5010	Clinical Data Management and Evaluation	3

NURS:6802 Health Policy, Law, and Advocacy 3

NURS:6826 Doctor of Nursing Practice Project I 2

NURS:6827 Doctor of Nursing Practice Project II 1

**Total Hours** **9**

### Third Year

Code	Title	Hours
NURS:6810	Advanced Practice Role II: Integration	3
NURS:6828	Doctor of Nursing Practice Project III	1
NURS:6829	Doctor of Nursing Practice Project IV	1
One of these elective courses:		3

NURS:5018 Clinical Education in the Care Environment

NURS:5019 Role Development: Educator in a Practice Discipline

NURS:5020 Application of Educator Role Competencies

NURS:5040 Genetics/Genomics for Advanced Nursing Practice (plus an additional 1 s.h. elective course; consult advisor)

NURS:6554 Seminar on Healthy Work Environments

NURS:6555 Care Coordination Across Professional and Organizational Boundaries

NURS:6556 Marketing and Communications for Health Care Leaders

NURS:6557 Clinical Practice Management and Leadership for Advanced Practice Providers

NURS:6808 Population Health for Advanced Practice

**Total Hours** **8**

## Admission

Applicants to College of Nursing graduate programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Applicants must have a g.p.a. of at least 3.00; applicants for the dual certification programs must have a minimum g.p.a. of at least 3.50. A criminal background check is required for all students upon admission. The College of Nursing has additional application requirements, as follows.

## Admission to the D.N.P. Program

Application requirements specific to the D.N.P. program are:

- a bachelor's or advanced degree with a major in nursing from a Commission on Collegiate Nursing Education (CCNE) or National League for Nursing Accrediting Commission (NLNAC) accredited nursing program;

- satisfaction of the legal requirements for the practice of nursing;
- current written recommendations from three persons knowledgeable about the applicant's competence in the practice of nursing and potential for leadership and scholarship (forms required);
- a current résumé, goal statement (statement of purpose), statement of disclosure, and supplemental/information form;
- transcripts from all undergraduate and graduate coursework;
- D.N.P. applicants to the direct care programs with master's degrees in nursing from other schools must provide verification of completed clinical hours from their institution's graduate director or must submit appropriate course syllabi;
- additional application requirements for post-APRN M.S.N. to D.N.P. applicants include providing verification of an M.S.N. in a recognized ARNP specialty and proof of certification; and
- an upper-level statistics course (undergraduate course at junior/senior level) completed within five years of application deadline except for post-APRN M.S.N. to D.N.P. applicants; acceptable University of Iowa courses are STAT:3510 Biostatistics, PSQF:4143 Introduction to Statistical Methods, STAT:4143 Introduction to Statistical Methods, or BIOS:4120 Introduction to Biostatistics (equivalent courses from other colleges also are accepted; see below for additional details), and the upper-level statistics course must have a letter grade of C-minus or higher.

For statistics courses taken at another institution, refer to that institution's catalog or registrar's office to verify course numbering scheme. Community college courses are considered to be at a lower level (first-year/sophomore) and are not acceptable as an admission prerequisite statistics course. For further questions, regarding the admission upper-level statistics course requirement contact the graduate programs office.

Additional application requirements for post-graduate certificate applicants includes providing proof of APRN certification.

Application deadline for the D.N.P. program is February 1 for all specialties except anesthesia nursing, which has a June 1 application deadline.

Applications are reviewed once a year. In order to be reviewed, the application must be complete, with all materials submitted.

Applicant interviews are required for the D.N.P. program; in some cases, virtual interviews such as through Zoom may be arranged.

Due to the level of web-based coursework required, international students in the D.N.P. program of study are not eligible for F-1 or J-1 student immigration status. Questions regarding visas and immigration documentation should be directed to International Student and Scholar Services (ISSS).

provide the highest standard of care for individuals, families, and communities.

## Career Advancement

The D.N.P. program prepares nurses for leadership and advanced practice roles within today's complex health care system. Graduates acquire the knowledge and skills to

# Nursing, Ph.D.

## Learning Outcomes

The Doctor of Philosophy (Ph.D.) program prepares scholars to advance nursing science and contribute to transdisciplinary efforts to improve health outcomes. Graduates of the program are prepared to be leaders who engage in the three roles highlighted by the American Association of Colleges of Nursing (AACN): develop the science, steward the discipline, and educate the next generation of nurses.

Graduates will:

- master in-depth knowledge in a substantive area of nursing;
- conduct original research that generates new knowledge;
- disseminate research results and articulate implications for policy, practice, and the profession; and
- assimilate evolving roles and responsibilities of a nurse scholar.

## Requirements

The Doctor of Philosophy program in nursing requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00.

The program prepares students to advance nursing science and contribute to the body of nursing knowledge. It emphasizes student participation with faculty members on research teams; focused coursework; presentation and publication of research-based knowledge; and interdisciplinary learning experiences.

Graduate students in the College of Nursing must adhere to all Graduate College policies regarding academic standing, probation, and dismissal. Coursework taken 10 or more years before a student plans to graduate from the Ph.D. program must be updated according to University policy.

The Ph.D. with a major in nursing requires the following work.

## Required Courses

Code	Title	Hours
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:6811	Social Determinants of Health and Health System Inequities	3
NURS:7000	Philosophy and Sociology of Nursing Science	3
NURS:7001	Qualitative Research	4
NURS:7002	Designing Research	3
NURS:7003	Quantitative Research	4
NURS:7006	Theory and Model Development	3
NURS:7310	Measurement in Health Research	3
NURS:7404	Biological Markers in Health Research	3
NURS:7801	Seminar: Research Scholarship Role Development	3
NURS:7803	Research Practicum I	2
NURS:7804	Research Practicum II	2

CPH:7270	Principles of Scholarly Integrity: Public Health	0, 1
Specialization courses (B.S.N.-Ph.D. only)		6
Intermediate statistics		3
Advanced statistics		3-4

## Cognate Area

Code	Title	Hours
Cognate courses (B.S.N.-Ph.D. only)		6

## Comprehensive Exam and Dissertation

Students must complete a written and oral comprehensive examination before they begin work on the dissertation. They must write the dissertation and defend it orally.

### Dissertation

Code	Title	Hours
This course (minimum of 11 s.h.):		
NURS:7805	Dissertation Research	arr.

## Admission

Applicants to College of Nursing graduate programs must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

The program is open to individuals who have earned a bachelor's degree in nursing, an associate's degree in nursing with a bachelor's or advanced degree in any field, an advanced degree in nursing, or an advanced degree in a health-related field.

A criminal background check is required for all students upon admission. The College of Nursing has additional application requirements, as follows.

## Admission to the Ph.D. Program

Ph.D. applicants who have completed an accredited basic nursing program must hold a current license to practice nursing.

Applicants must have a g.p.a. of at least 3.00. They also must have successfully completed an upper-level statistics course within five years prior to the application deadline.

Applicants must submit along with their application:

- a two-to-three-page statement describing their educational objectives, career goals, and an area of research for their doctoral study;
- three recommendations from nursing professionals that speak to the applicant's potential as a scholar;
- a current résumé or curriculum vitae; and
- a complete transcript of all college programs and courses.

Applicants whose first language is not English must score at least 81 (internet-based) on the Test of English as a Foreign Language (TOEFL); at least 7.0 on the International English Language Testing System (IELTS), with no subscore less than 6; or at least 105 on the Duolingo English Test (DET).

Application deadline for the Ph.D. program is January 15. In order to be reviewed, the applicant's file must be complete, with all materials submitted.

## Career Advancement

The Ph.D. program prepares scholars to move nursing and health science forward. Graduates are prepared for careers as faculty members in college and university settings as well as researchers, consultants, and leaders in military, academic or industry venues, and in other nonacademic settings.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Nursing, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
See General Catalog and website for specific requirements; must include 3 s.h. of intermediate statistics, 3 s.h. of advanced statistics, 6 s.h. of other coursework, and at least 11 s.h. of dissertation credit. Work with faculty advisor to determine courses and sequence.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CITI Training <sup>b</sup>		
NURS:7000	Philosophy and Sociology of Nursing Science	3
NURS:7801	Seminar: Research Scholarship Role Development	3
BIOS:4120	Introduction to Biostatistics <sup>c</sup>	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
NURS:6811	Social Determinants of Health and Health System Inequities	3
NURS:7006	Theory and Model Development	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
NURS:7002	Designing Research	3
NURS:7310	Measurement in Health Research	3
BIOS:5130	Applied Categorical Data Analysis	3
CPH:7270	Principles of Scholarly Integrity: Public Health	0
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
NURS:7003	Quantitative Research	4
NURS:7803	Research Practicum I	2

CPH:7270	Principles of Scholarly Integrity: Public Health	1
<b>Hours</b>		<b>7</b>
<b>Third Year</b>		
<b>Fall</b>		
Comprehensive Exam <sup>d</sup>		
NURS:6802	Health Policy, Law, and Advocacy	3
NURS:7001	Qualitative Research	4
NURS:7804	Research Practicum II	2
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
NURS:7404	Biological Markers in Health Research	3
NURS:7509	Research Residency <sup>e</sup>	3
<b>Hours</b>		<b>6</b>
<b>Fourth Year</b>		
<b>Fall</b>		
NURS:7805	Dissertation Research <sup>f</sup>	2
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
NURS:7805	Dissertation Research <sup>f</sup>	3
<b>Hours</b>		<b>3</b>
<b>Fifth Year</b>		
<b>Fall</b>		
NURS:7805	Dissertation Research <sup>f</sup>	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
NURS:7805	Dissertation Research <sup>f</sup>	3
Final Oral Exam (Dissertation Defense)		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>60</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Online training modules to be completed during first semester.

c Other coursework includes the following: electives, additional methods courses, Research Practicum, or Research Residency. Work with faculty advisor to determine courses and sequence.

d For students admitted fall 2017 or later, the Comprehensive Exam must be completed no later than the end of the fall semester of year three.

e Or take an advanced/specific methods course, third statistics course, or an elective.

f Minimum of 11 s.h. of Dissertation Research required, generally distributed over multiple semesters until degree completion.

# Adult Gerontology Acute Care Nurse Practitioner, Graduate Certificate

## Learning Outcomes

Graduates will be able to:

- demonstrate high quality, evidence-based clinical competence in the advanced practice care of a new patient population focus;
- utilize scientific underpinnings for the advanced practice care of a new patient population focus; and
- incorporate principles of inclusive, compassionate, person-centered care into the delivery of health care.

## Requirements

The graduate Certificate in Adult Gerontology Acute Care Nurse Practitioner requires 21 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in coursework for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Coursework and clinical hours are determined by a gap analysis.

The Certificate in Adult Gerontology Acute Care Nurse Practitioner requires the following work.

## Coursework

### First Year

Code	Title	Hours
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6410	Adult-Gerontology Acute Care I	3
NURS:6411	Adult-Gerontology Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4

### Second Year

Code	Title	Hours
NURS:6703	Advanced Practice Clinical Practicum III	3

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.



# Adult Gerontology Primary Care Nurse Practitioner, Graduate Certificate

## Learning Outcomes

Graduates will be able to:

- demonstrate high quality, evidence-based clinical competence in the advanced practice care of a new patient population focus;
- utilize scientific underpinnings for the advanced practice care of a new patient population focus; and
- incorporate principles of inclusive, compassionate, person-centered care into the delivery of health care.

## Requirements

The graduate Certificate in Adult Gerontology Primary Care Nurse Practitioner requires 22 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in coursework for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Coursework and clinical hours are determined by a gap analysis.

The Certificate in Adult Gerontology Primary Care Nurse Practitioner requires the following work.

## Coursework

### First Year

Code	Title	Hours
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:5401	The Care of the Frail Elderly	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3

### Second Year

Code	Title	Hours
NURS:6703	Advanced Practice Clinical Practicum III	3

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

# Family Nurse Practitioner, Graduate Certificate

## Learning Outcomes

Graduates will be able to:

- demonstrate high quality, evidence-based clinical competence in the advanced practice care of a new patient population focus;
- utilize scientific underpinnings for the advanced practice care of a new patient population focus; and
- incorporate principles of inclusive, compassionate, person-centered care into the delivery of health care.

## Requirements

The graduate Certificate in Family Nurse Practitioner requires 26 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in coursework for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Coursework and clinical hours are determined by a gap analysis.

The Certificate in Family Nurse Practitioner requires the following work.

## Coursework

### First Year

Code	Title	Hours
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6200	Primary Care: Adults and Older Individuals I	3
NURS:6201	Primary Care: Adults and Older Individuals II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	3

### Second Year

Code	Title	Hours
NURS:6703	Advanced Practice Clinical Practicum III	4

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

# Health Systems, Graduate Certificate

## Learning Outcomes

### Focus in Administration and in Administration with Practice Management

Graduates will be able to:

- demonstrate organizational and systems leadership to innovate, influence, and transform health care delivery and health equity;
- foster interprofessional partnerships to impact inclusive, person-centered care for sustainable outcomes at the individual, community, or population level; and
- design advanced leadership opportunities to collaborate with health care leaders that impact professional growth for self, the workforce, and health outcomes.

## Requirements

The graduate Certificate in Health Systems is built on the foundational courses from the Doctor of Nursing Practice (D.N.P.) with a health systems subprogram. The certificate requires 19 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in coursework for the certificate. The certificate is available to post-master's degree students seeking additional preparation in the area of health systems with a focus in administration or health systems and in administration with practice management.

The Certificate in Health Systems requires the following work.

### Focus in Administration Coursework

Students who want to complete the certificate with a focus in administration complete the following.

#### First Year

Code	Title	Hours
NURS:6550	Advanced Leadership and Management	4
NURS:6551	Financial Management	4
NURS:6554	Seminar on Healthy Work Environments	3

#### Second Year

Code	Title	Hours
NURS:6552	Executive Management in the Organization	4
NURS:6553	Seminar on Innovations	4

### Focus in Administration with Practice Management Coursework

Students who want to complete the certificate with a focus in administration with practice management complete the following.

#### First Year

Code	Title	Hours
NURS:6550	Advanced Leadership and Management	4
NURS:6551	Financial Management	4
NURS:6554	Seminar on Healthy Work Environments	3

#### Second Year

Code	Title	Hours
NURS:6553	Seminar on Innovations	4
NURS:6557	Clinical Practice Management and Leadership for Advanced Practice Providers	4

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for a semester-by-semester view of required coursework.

# Pediatric Nurse Practitioner—Acute Care, Graduate Certificate

## Learning Outcomes

Graduates will be able to:

- demonstrate high quality, evidence-based clinical competence in the advanced practice care of a new patient population focus;
- utilize scientific underpinnings for the advanced practice care of a new patient population focus; and
- incorporate principles of inclusive, compassionate, person-centered care into the delivery of health care.

## Requirements

The graduate Certificate in Pediatric Nurse Practitioner—Acute Care requires 21 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in coursework for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Coursework and clinical hours are determined by a gap analysis.

The Certificate in Pediatric Nurse Practitioner—Acute Care requires the following work.

## Coursework

### First Year

Code	Title	Hours
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5038	Advanced Diagnostic and Therapeutic Procedures for Acute Care	1
NURS:6400	Pediatric Acute Care I	3
NURS:6401	Pediatric Acute Care II	3
NURS:6701	Advanced Practice Clinical Practicum I	4
NURS:6702	Advanced Practice Clinical Practicum II	4

### Second Year

Code	Title	Hours
NURS:6703	Advanced Practice Clinical Practicum III	3

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

# Pediatric Nurse Practitioner—Primary Care, Graduate Certificate

## Learning Outcomes

Graduates will be able to:

- demonstrate high quality, evidence-based clinical competence in the advanced practice care of a new patient population focus;
- utilize scientific underpinnings for the advanced practice care of a new patient population focus; and
- incorporate principles of inclusive, compassionate, person-centered care into the delivery of health care.

## Requirements

The graduate Pediatric Nurse Practitioner—Primary Care requires 20 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in coursework for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Coursework and clinical hours are determined by a gap analysis.

The Certificate in Pediatric Nurse Practitioner—Primary Care requires the following work.

## Coursework

### First Year

Code	Title	Hours
NURS:5035	Graduate Pharmacology Specialty	3
NURS:5039	Advanced Diagnostic and Therapeutic Procedures for Primary Care	1
NURS:6100	Primary Care: Infants, Children, and Adolescents I	3
NURS:6101	Primary Care: Infants, Children, and Adolescents II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4

### Second Year

Code	Title	Hours
NURS:6703	Advanced Practice Clinical Practicum III	3

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

# Psychiatric/Mental Health Nurse Practitioner, Graduate Certificate

Visit the Post-Graduate Certificate Programs plans of study on the College of Nursing website for information about certificate program requirements.

## Learning Outcomes

Graduates will be able to:

- demonstrate high quality, evidence-based clinical competence in the advanced practice care of a new patient population focus;
- utilize scientific underpinnings for the advanced practice care of a new patient population focus; and
- incorporate principles of inclusive, compassionate, person-centered care into the delivery of health care.

## Requirements

The graduate Certificate in Psychiatric/Mental Health Nurse Practitioner requires 22 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 2.50 in coursework for the certificate. The certificate is available for post-master's Advanced Practice Registered Nurse (APRN) degree students who would like to pursue a second specialty.

The curriculum includes didactic and clinical core courses as well as specialty courses, as determined by the director of the program. Coursework and clinical hours are determined by a gap analysis.

The Certificate in Psychiatric/Mental Health Nurse Practitioner requires the following work.

## Coursework

### First Year

Code	Title	Hours
NURS:5036	Psychopharmacology for Advanced Clinical Practice	3
NURS:5041	Psychotherapeutics for Advanced Practice Nursing Across the Lifespan I	2
NURS:5042	Psychotherapeutics for Advanced Practice Nursing Across the Lifespan II	1
NURS:6500	Psychiatric/Mental Health Nursing for Advanced Practice Didactic I	3
NURS:6501	Psychiatric/Mental Health Nursing for Advanced Practice Didactic II	3
NURS:6701	Advanced Practice Clinical Practicum I	3
NURS:6702	Advanced Practice Clinical Practicum II	4

### Second Year

Code	Title	Hours
NURS:6703	Advanced Practice Clinical Practicum III	3

# College of Pharmacy

## Dean

- Donald E. Letendre

## Executive Associate Dean

- Gary Milavetz

## Associate Dean, Academic Affairs

- Mary E. Ray

## Associate Dean, Research and Graduate Programs

- David L. Roman

## Associate Dean, Student Affairs

- Susan S. Vos

## Associate Dean, University of Iowa Hospitals & Clinics Health Science Affairs

- Michael J. Brownlee

## Assistant Dean, Iowa City Veterans Affairs Medical Center

- Traviss A. Tubbs

## Chair, Pharmaceutical Sciences and Experimental Therapeutics

- Jonathan A. Doorn

## Chair, Pharmacy Practice and Science

- Jay D. Currie

## Head, Applied Clinical Sciences

- James D. Hoehns

## Head, Health Services Research

- William R. Doucette

## Managing Director, University of Iowa Pharmaceuticals

- Dennis M. Erb

**Professional degree:** Pharm.D.

**Professional certificate:** palliative care

**Graduate degrees:** M.S. in pharmacy; Ph.D. in pharmacy

**Faculty:** <https://pharmacy.uiowa.edu/people>

**Website:** <https://pharmacy.uiowa.edu/>

The hallmarks of a University of Iowa pharmacy degree are patient-centered practice, strong grounding in science and evidence-based practice, exploration of career choices through required and elective courses, and exposure to leadership opportunities within the college, the University, and the profession. Career options may include community and/or hospital pharmacy, public service, consulting and long-term care, teaching and research in academia, managed care, pharmaceutical industry, or research careers.

The University of Iowa's Pharm.D. program synthesizes basic scientific principles and practice through caring and communication in an integrated professional program. The role of a pharmacist ranges from managing medication for individuals to shaping national health care policy. Students learn to manage aspects of practice, to solve problems,

make clinical decisions, clearly communicate ideas, practice ethically, and become leaders in their communities and profession. Students study with professors who, in many cases, are pioneering the development of new drugs and defining the appropriate use of others to solve chronic health problems.

The College of Pharmacy Ph.D. program offers four areas of graduate study: pharmaceuticals, clinical pharmaceutical sciences, medicinal and natural products chemistry, and health services research. The major emphasis of these graduate programs is on research and coursework.

The College of Pharmacy collaborates with the College of Public Health to offer the combined Doctor of Pharmacy/ M.P.H. degree, and with the Graduate College to offer the Doctor of Pharmacy/M.S. in informatics degree. In addition, a Professional Certificate in Palliative Care also is available.

## College Organization

The College of Pharmacy's faculty and programs are organized in two academic units. These units provide coursework for the Doctor of Pharmacy curriculum and for the college's graduate programs.

## Pharmacy Practice and Science

Faculty in Pharmacy Practice and Science (PPS) provide expertise and education in the professional practice of pharmacy. They specialize in a wide variety of clinical pharmacy practices; conduct research on patient and population outcomes related to medication therapy; contribute to the scholarship of teaching and learning in pharmacy education; and provide instruction in the pharmacist's professional role and the safe, effective use of medications.

This unit offers Master of Science and Doctor of Philosophy curricula in health services research, which encompasses the behavioral, economic, social, and administrative sciences; and elements of pharmacy practice. It offers coursework through its Applied Clinical Sciences Division and its Health Services Research Division.

## Applied Clinical Sciences (ACS) Division

Teaching and research in this division focus on the delivery of care and related services to patients and the education of student and resident pharmacists in practice settings. Courses are offered in pharmacotherapy, communication and practice skill development, clinical problem solving, and patient care. Professional practice mentoring and education are provided in introductory and advanced pharmacy practice experiences.

## Health Services Research (HSR) Division

Teaching and research in this division involve economic, social, behavioral, and administrative components of pharmacy practice and medication use. Courses are offered on the health care system, practice management, the professional and business aspects of pharmacy practice, and on learning and applying economic and social psychological theories to the study of health services and medication use.

To learn more about the department and its two divisions, visit Pharmacy Practice and Science on the College of Pharmacy website.

## Pharmaceutical Sciences and Experimental Therapeutics

Faculty in Pharmaceutical Sciences and Experimental Therapeutics (PSET) provide expertise and education in areas that include the fundamental basis for drug therapy outcomes in patients, factors responsible for specific drug actions in individual patients and larger patient populations, drug metabolism, pharmaceutical toxicology, organic synthesis, structure-activity relationships, drug design, computer-aided drug discovery, bioanalytical chemistry, biopolymeric drugs, molecular pharmacology, dosage form development and performance, pharmaceutical applications of nanotechnology, industrial and manufacturing pharmacy, pharmacokinetics, and pharmacodynamics.

In addition to its educational roles in the Doctor of Pharmacy program, PSET offers Ph.D. and M.S. degrees in three graduate areas: clinical pharmaceutical sciences, medicinal and natural products chemistry, and pharmaceuticals. Clinical pharmaceutical sciences focuses on investigating drug therapy outcomes in patients and identifying factors responsible for specific drug actions in individual patients, related patient groups, and large patient populations. Medicinal and natural products chemistry includes aspects of drug design, organic synthesis, structure-activity relationships, drug metabolism, pharmaceutical toxicology, computer-aided drug discovery, bioanalytical chemistry, biopolymeric drugs, and molecular pharmacology. Pharmaceuticals focuses on characterization of pharmaceuticals and their component materials, development of new dosage forms and drug delivery systems, pharmaceutical applications of nanotechnology, and the pharmacokinetic and pharmacodynamic evaluation of drug actions and interactions.

The department also offers multidisciplinary opportunities with programs in medicine, chemistry, biochemistry, pharmacology, engineering, dentistry, and public health. Its national and international collaborations further enhance the breadth of research activities available to students.

To learn more, visit Pharmaceutical Sciences and Experimental Therapeutics on the College of Pharmacy website.

### Programs

## Professional Programs of Study

### Major

- Doctor of Pharmacy [p. 2041]

### Certificate

- Certificate in Palliative Care [p. 2047]

## Graduate Programs of Study

### Majors

- Master of Science in Pharmacy [p. 2048]
- Doctor of Philosophy in Pharmacy [p. 2049]

### Facilities

## Pharmacy Building

A new, state-of-the-art building has set the stage for advancements in science and discovery, and for world-

class pharmacy education to continue to grow and thrive. Classroom space is designed for collaborative and hands-on learning. The building boasts 16 collaborative research spaces and 23 learning spaces—centers and team rooms with aspects of universal design. In addition, the college has added 16,000 square feet of manufacturing space with a sterile products processing facility.

The original facility, now called the Pharmaceutical Sciences Research Building, continues to house classrooms, labs, offices, and a manufacturing facility.

The College of Pharmacy is located on the University's health sciences campus in close proximity to five professional schools. Students collaborate with expert health care providers at the Carver College of Medicine, and at the Colleges of Dentistry [p. 1331], Nursing [p. 1985], and Public Health [p. 2058]. The College of Pharmacy is located in close proximity to University of Iowa Hospitals & Clinics, the Bowen Science Building, and the Hardin Library for the Health Sciences.

For more than 125 years, the University of Iowa College of Pharmacy has led the way in educating pharmacists and pharmaceutical scientists. The college is well known for its high quality pharmacy education, advanced practice models, patient care, drug discovery, product development, and contract manufacturing.

## University of Iowa Pharmaceuticals

University of Iowa Pharmaceuticals is a pharmaceutical manufacturing facility registered with the U.S. Food and Drug Administration that develops pharmaceutical dosage forms and has manufactured clinical supplies in compliance with Good Manufacturing Practices since 1974. University of Iowa Pharmaceuticals has clients worldwide, including pharmaceutical companies, biotechnology firms, medical departments, and government agencies. Its staff works closely with clients and pharmaceuticals faculty members to produce virtually every type of pharmaceutical dosage form, supplying new pharmaceutical agents for use in clinical trials and other research. For more information, visit the University of Iowa Pharmaceuticals website.

### Courses

Students must be enrolled in the College of Pharmacy to enroll in professional-level (Pharm.D.) coursework numbered 8000-9999. Students who meet prerequisite requirements may register for the college's undergraduate- and graduate-level courses numbered 1100-7999.

## College of Pharmacy Courses

### PHAR:1000 First-Year Seminar 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities).

### PHAR:1100 Introduction to Pharmaceutical Sciences: Drug Development 1-2 s.h.

Introduction to drug discovery, development, and approval pathways used in the United States; specific focus on career pathways related to pharmaceutical development including the natural and biomedical sciences, clinical, regulatory and legal affairs, sales and marketing, and business development.



**PHAR:1111 Need a New Drug?****1 s.h.**

Introduction to drug discovery, development, and approval process in the United States; focus on preclinical and clinical development activities and role of the FDA and other regulatory bodies in approval and oversight of available drug products.

**PHAR:1200 Medicines That Changed the World****1 s.h.**

Herbal remedies and ancient traditional medicines have led to the discovery of life-saving drug therapies; as science has evolved, how the discovery of other important medicines have come about through advances in chemistry and biology and now through advances in computer science and informatics; students learn about the discovery history of some of the most important drug therapies of the 20th and 21st centuries and how those discoveries are leading to even more important, life-saving treatments.

**PHAR:1812 What's in My Medicine Cabinet? An Introduction to Over-the-Counter Medications and Self Care****2 s.h.**

Introduction to nonprescription medications for treatment of minor illness and health maintenance; causes, signs, and symptoms of common ailments with information about selection of appropriate over-the-counter therapies and considerations for the need for further care; self-care strategies for disease prevention and wellness.

**PHAR:3994 Undergraduate Research in Pharmaceutical Sciences****1-4 s.h.**

Individual scientific research conducted under the guidance of a faculty member.

**PHAR:3995 Undergraduate Independent Study****1-4 s.h.**

Supervised study. Requirements: enrollment in College of Pharmacy undergraduate certificate program.

**PHAR:4146 Drug Disposition and Pharmacokinetics****2 s.h.**

Introduction to drug absorption, distribution, and elimination processes controlling overall drug exposure in humans; basic quantitative measurements presented and used to demonstrate the influence of drug properties and physiological action on drug disposition. Prerequisites: (MATH:1380 or MATH:1460 or MATH:1550 or MATH:1850) and (BIOL:1140 or BIOL:1141 or BIOL:1411 or BIOL:1412) and (STAT:1020 or PSQF:1020 or STAT:1030 or STAT:2010).

**PHAR:4501 Basic Principles of Toxicology****3 s.h.**

Basic principles and mechanisms of toxicology as it relates to drugs and environmental agents. Prerequisites: BIOC:3110.

**PHAR:4512 Principles of Drug Discovery****3 s.h.**

Focus on understanding drug targets as receptors, receptor theory, drug discovery, and new drug approval processes; areas of novel drug target identification, pharmacological characterization of new drugs, G protein coupled receptors as targets, and analysis of drug-receptor interactions. Prerequisites: BIOC:3110. Recommendations: one semester of pharmacology.

**PHAR:4521 High Throughput Screening in Drug Discovery****1 s.h.**

Introduction to high throughput screening (HTS) and its application in pharmaceutical and biomedical sciences; description and use of HTS in identification of biologically active small molecules for use as probes, tool compounds, and drug leads; detection systems, robotic liquid handling instruments, and compound libraries; case studies of HTS approaches used in drug discovery. Prerequisites: ((CHEM:2220 or CHEM:2240) and BIOC:3110) or (BIOC:3120 and BIOC:3130). Requirements: one semester of analytical chemistry or analytical biochemistry.

**PHAR:4537 Principles of Drug Metabolism****3 s.h.**

Principles of drug metabolism based on current knowledge of involved enzymes. Prerequisites: (CHEM:2220 or CHEM:2240) and (BIOC:3120 or BIOC:3110).

**PHAR:4700 Pharmaceutical Chemical Analysis****4 s.h.**

Introduction to the use and selection of analytical methods used to evaluate pharmaceutical products; basic laboratory skills, data analysis, and record keeping. Prerequisites: (CHEM:2220 or CHEM:2240) and (CHEM:2410 or CHEM:2420). Requirements: no prior enrollment in PHAR:5700.

**PHAR:4736 Properties of Dosage Forms I****3 s.h.**

Introduction to principles of physical and chemical sciences important in drug product development; solubility, colligative properties, and partitioning behavior, as well as ionic equilibria, pH control, and chemical stability are evaluated in context of their importance in liquid dosage forms; emphasis on issues impacting drug product quality. Prerequisites: (CHEM:2220 or CHEM:2240) and (MATH:1460 or MATH:1380 or MATH:1550 or MATH:1850).

**PHAR:4737 Properties of Dosage Forms II****3 s.h.**

Physical and chemical properties and measurements of materials used in pharmaceuticals; introduction to material properties of drugs and excipients used in development of semi-solid and solid pharmaceuticals; emphasis on material selection, dosage form performance characteristics, and evaluation of drug product quality. Prerequisites: PHAR:4736.

**PHAR:4740 Materials in Drug and Gene Delivery****3 s.h.**

Different types of materials used in drug and gene delivery including synthetic and natural polymers (poly lactic-co-glycolic acid and chitosan respectively); different forms of delivery systems including (but not limited to) liposomes, micelles, biodegradable nanoparticles, nondegradable nanoparticles, and solid porous scaffolds; applications of these material-based delivery systems from targeted chemotherapy to bone regeneration to vaccination applications.

**PHAR:4741 Immunology and Immunotherapies****2 s.h.**

Introduction to basics of the immune system and how it protects against infection and disease; in-depth lectures on vaccines against infectious diseases and cancer in terms of their formulations and how they work; focus on past seminal findings, current treatment modalities, and cutting-edge technologies likely to impact future immunotherapeutic strategies.

**PHAR:4745 Drug Delivery I****arr.**

Advanced design and development of drug delivery systems; emphasis on selection of materials and designs suitable for specific applications; comparison and evaluation of available and emerging technologies. Prerequisites: (BIOC:3110 or BIOC:3120) and (MATH:1460 or MATH:1550 or MATH:1850 or MATH:1380) and (CHEM:2220 or CHEM:2240) and PHAR:4737. Corequisites: PHAR:4146 (if not taken as a prerequisite). Requirements: one semester of human physiology.

- PHAR:4799 Special Topics in Pharmaceutics** arr. 1 s.h.  
Current topics in pharmaceutics. Prerequisites: MATH:2560 and CHEM:4431.
- PHAR:4800 Chemical and Biophysical Properties of Drugs** 1 s.h.  
Introduction to design of drug molecules based on an understanding of drug-like properties including chemical reactivity and structural optimization; minimization of potentially toxic biotransformations; optimization of absorption; screening methods for selection and classification of optimized molecules. Prerequisites: ((CHEM:2220 or CHEM:2240) and BIOC:3110) or (BIOC:3120 and BIOC:3130).
- PHAR:4850 Upstream Biotechnology Processes** 2 s.h.  
Introduction to fermentation, fermenter preparation, cell growth and medium requirements, inoculation, sampling, process termination, separation of cells, fermentation case study, enzyme activity, and biocatalysis. Same as CHEM:4850.
- PHAR:4851 Radiopharmaceuticals in Diagnostics and Therapy** 2 s.h.  
Use of radionuclides for diagnosis and monitoring of disease and in development of new therapeutic agents; strategies for provision of effective agents, regulatory processes, and safe handling and administration. Prerequisites: CHEM:2220 or CHEM:2240. Recommendations: one semester of physics, one semester of biology, one semester of anatomy or physiology, and one semester of pharmacology.
- PHAR:5110 Clinical Pharmaceutical Sciences Seminar** 1-2 s.h.  
Research by faculty, graduate students.
- PHAR:5310 Health Services Research Seminar** 1-2 s.h.  
Recent research in pharmacy administration.
- PHAR:5350 Introduction to Research Methods** 3 s.h.  
Scientific inquiry, experimental design, data collection, statistical methods used in the study of health services and clinical investigations; focus on understanding the research process and evaluating published studies. Recommendations: introductory statistics.
- PHAR:5360 Applied Research Methods: Primary Data** 3 s.h.  
Advanced topics in research methods; focus on primary data collection and analysis; qualitative, mixed, survey, and intervention research methods with focus on applying these methods to topics in pharmacy health services research. Prerequisites: PHAR:5350.
- PHAR:5365 Applied Research Methods: Secondary Data** 3 s.h.  
Advanced topics in research methods applicable to common sources of secondary data; hands-on experience writing programs to prepare and analyze various health-related data using common statistical software packages (e.g., SAS, STATA, R). Prerequisites: PHAR:5350.
- PHAR:5400 Principles of Pharmacogenomics** 3 s.h.  
Fundamental knowledge of molecular biology and relationship to pharmacological agents; working knowledge of DNA, RNA, and protein changes that occur to influence gene expression; how pharmacological agents can impact biological mechanisms and how this can impact treatment response; requirements to design and carry out an experiment in human and animal models to study specific biological mechanisms; critical evaluation of published scientific literature to describe cutting-edge pharmacological findings in this field. Requirements: graduate standing in pharmacy (clinical pharmaceutical sciences, pharmaceutics, medicinal chemistry), neuroscience, pharmacology, or toxicology.
- PHAR:5510 Pharmaceutical Sciences and Experimental Therapeutics Seminar** 1-2 s.h.
- PHAR:5512 Drug Discovery and Mechanisms** 3 s.h.  
Process of modern drug discovery, focus on high throughput screening strategies, target validation, pharmacological characterization of new compounds; mechanism of drugs targeting G protein coupled receptors, ion channels and transporters, targets in biological systems.
- PHAR:5515 Perspectives in MNPC Research** 2 s.h.  
Contemporary research in medicinal chemistry and natural products.
- PHAR:5520 Medicinal and Natural Products Chemistry Research** arr.
- PHAR:5521 High Throughput Screening for Pharmaceutical and Biomedical Sciences** 1 s.h.  
Broad introduction to high throughput screening (HTS) and its application in pharmaceutical and biomedical sciences; HTS as a modern technology platform integrated with robust detection systems and robotic liquid handling instruments; use of HTS platforms to identify biologically active small organic molecules to validate drug targets, screen compound libraries; identification of biologically active small molecules for use as probes, tool compounds, drug leads; systematic, unbiased, and/or focused hypothesis-based approaches for mechanistic studies in biological and medical sciences. Recommendations: bachelor degree in biochemistry, chemistry, molecular biology, pharmacology, or equivalent.
- PHAR:5525 Drug Delivery Systems for Insoluble Compounds** 3 s.h.  
Specialized disperse systems (e.g., emulsions, nanoemulsions, microemulsions, micelle) used for insoluble systems; introduction to basics of lipid systems to understand behavior in aqueous media when delivered to the body.
- PHAR:5530 Pharmaceutical Sciences and Experimental Therapeutics Seminar** 1-2 s.h.
- PHAR:5537 Enzymatic Basis of Drug Metabolism** 3 s.h.  
Current literature on catalytic and physical properties, distribution, and substrate specificity of enzymes involved in mammalian drug metabolism. Prerequisites: CHEM:2220.
- PHAR:5541 Total Synthesis of Biologically Active Natural Products** 3 s.h.  
Total synthesis of natural products; use of strategies and tactics for synthetic maneuvering; selectivity of important and complex medicinal compounds; modern chemical methods for construction of carbon-carbon bonds.
- PHAR:5542 Molecular Recognition** 1 s.h.  
Focus on determinants in protein small molecule binding, particularly involving pharmaceutically relevant enzymes and receptors; how modern structure-based drug discovery is greatly aided by ability to employ protein structures in discovery and design of certain classes of drugs; structural approaches for predicting and improving drug affinity and selectivity, which have made a lasting impact across a number of diseases; important contemporary topics include in-depth lectures on fragment based drug discovery (FBDD), use and pitfalls of in silico docking and other screening methods, and emergence of covalent drugs. Requirements: introductory course in biochemistry. Same as BMB:5244.
- PHAR:5545 Current Medicinal Chemistry** 3 s.h.  
Modern techniques used in drug discovery; important drug classes, their chemical mechanism of action.

- PHAR:5549 Analytical Biochemistry** 3 s.h.  
Application of modern chromatographic and detection methods used to isolate, characterize, and quantify drugs and macromolecules.
- PHAR:5700 Quantitative Research Methods in Pharmacy I** 3-4 s.h.  
Collection and interpretation of analytical data; instrumental analysis and separation techniques.
- PHAR:5702 Clinical Pharmacokinetics** 2 s.h.  
Fundamental concepts in pharmacokinetics and pharmacodynamics; application in dose regimen optimization and rational drug use.
- PHAR:5720 Pharmaceutical Materials and Analysis** 3 s.h.  
Strong working knowledge in pharmaceutical solids; different types of solid phases, preparation, and methods of characterization in context of optimizing phase selection with respect to solubility, stability, and processability.
- PHAR:5745 Drug Delivery: Principles and Applications I** arr.  
Advanced design and development of drug delivery systems with emphasis on selection of materials and designs suitable for specific applications; comparison and evaluation of available and emerging technologies. Prerequisites: (BIOC:3110 or BIOC:3120) and (MATH:3600 or MATH:2560) and (CHEM:2220 or CHEM:2240) and PHAR:4737. Corequisites: PHAR:4146 (if not taken as a prerequisite). Requirements: one semester of human anatomy and physiology.
- PHAR:5800 Concepts in Preclinical Drug Development** 1 s.h.  
Topics relevant to preclinical phase and early clinical stage of drug development; role of drug transporters in drug absorption, distribution, elimination; use of in vitro systems to evaluate drug metabolism, how to use in vitro metabolism data to predict drug clearance in humans; use of animal rule in drug development; biopharmaceutical classification system (BCS) and bioequivalence; biosimilar; use of minimum anticipated biological effect level (MABEL) to determine first-in-human (FIH) dose of protein drugs; drug-drug interaction including basic enzyme kinetics and inhibition (competitive, noncompetitive, uncompetitive); for students seeking to work in pharmaceutical industry.
- PHAR:5875 Perspectives in Biocatalysis** 1-3 s.h.  
Applied enzymology, protein design, structure-activity relationships, biosensor technology, microbial transformations, biodegradation of environmental pollutants. Requirements: graduate standing in a participating department supported by the Predoctoral Training Program in Biotechnology. Same as BMB:5875, CBE:5875, CEE:5875, CHEM:5875, MICR:5875.
- PHAR:6120 Clinical Pharmaceutical Sciences Research** arr.
- PHAR:6305 Foundation Literature in Health Services Research** arr.
- Issues related to pharmacy administration, social and behavioral pharmacy, pharmacy education.
- PHAR:6320 Health Services Research** arr.
- PHAR:6330 Models of Patient Behavior and Choice** 3 s.h.  
Theoretical models used to describe behavior and choice in pharmaceutical socioeconomic research; models from economics, health services research, health behavior, clinical decision making.
- PHAR:6331 Models of Provider Behavior and Choice** 3 s.h.  
Theoretical background for study of provider decision making and behavior; models based on a classic economic approach, models used to study provider behavior.
- PHAR:6501 Principles and Mechanisms of Chemical Toxicology** 3 s.h.  
General principles and basic mechanisms of chemical and pharmaceutical toxicology; drug/toxicant disposition, including biotransformation and bioactivation to electrophiles.
- PHAR:6504 Mastering Reproducible Science** 1 s.h.  
Training in methods for conducting rigorous and reproducible science; features an array of faculty who provide lectures and discussions based on their areas of expertise (i.e., research with animals, synthetic chemistry, high throughput screening, etc.) to provide broad exposure and training in these areas; critical evaluation of literature outside of student's own specific field of study.
- PHAR:6700 Advanced Pharmacokinetics and Pharmacodynamics** 3 s.h.  
Application of pharmacokinetics and pharmacodynamics principles in pharmaceutical research. Prerequisites: PHAR:8146 or PHAR:4146. Requirements: two semesters of calculus and one semester of statistics.
- PHAR:6706 Equilibria Processes** 3 s.h.  
Equilibria pertaining to ionic systems, complexation, partitioning, solubility. Prerequisites: CHEM:2220 or CHEM:2240.
- PHAR:6710 Pharmaceutics Graduate Seminar** 1-2 s.h.
- PHAR:6720 Pharmaceutics Research** arr.
- PHAR:7101 Principles of Experimental Therapeutics** 3 s.h.  
Introduction to key principles and concepts for research in experimental therapeutics; basic principles related to drug disposition, toxicity, and efficacy.
- PHAR:7102 Applied Clinical and Translational Science** 3 s.h.  
Application of clinical and translational science in a multidisciplinary collaborative environment to develop, conduct, and report research.
- PHAR:7331 Analytic Issues in Health Services Research II** 3 s.h.  
Continuation of HMP:7960; advanced applications, including panel data and qualitative response models. Prerequisites: HMP:7960. Same as HMP:7965.
- PHAR:7701 Surface Phenomena** arr.  
Behavior of matter in phase boundaries, especially adsorptive processes at liquid-solid and vapor-solid interfaces. Prerequisites: CHEM:4431.
- PHAR:7703 Transport Phenomena** 3 s.h.  
Diffusion and mass transport phenomena related to pharmaceutical systems.
- PHAR:8130 Foundations of Pharmacy Practice I** 4 s.h.  
Introduction to contemporary pharmacy practice; small-group discussion, application of core concepts through active hands-on learning approaches; for first-year student pharmacists. Requirements: P1 standing.

- PHAR:8131 Engagement: Professional Skills and Values** 1 s.h.  
Opportunity for student engagement in the College of Pharmacy prior to Professionalism Ceremony; development as a responsible partner in learning process by nurturing collaboration, leadership, service, compassion, community, self development, and social enrichment among students, faculty, and staff. Requirements: P1 standing.
- PHAR:8132 Continuing Professional Development** 1 s.h.  
Engagement with profession of pharmacy and community through service and leadership activities, reflection; use of Continuous Professional Development Cycle (CPD) approach to learning. Requirements: P3 standing.
- PHAR:8133 Introductory Pharmacy Practice Experience Career Exploration** 1 s.h.  
Hands-on exposure to various pharmacist career opportunities in four different pharmacy practice patient care settings; settings include practice areas and rotation types required for P4 Advanced Pharmacy Practice Experience (APPE) sites in community pharmacy, hospital pharmacy, ambulatory care/family practice, acute care medicine, and other elective practice settings; work with faculty mentor. Requirements: P1 standing.
- PHAR:8134 Foundations of Health Services** 3 s.h.  
Foundation issues for pharmacist practice related to social, cultural, behavioral, economic, and organization design components of pharmacy care. Requirements: P1 standing.
- PHAR:8135 Health Information Retrieval and Informatics** 3 s.h.  
Introduction and overview of health care information retrieval, organization, and dissemination; retrieval and organization of health information from pharmacy and medical primary and tertiary literature using secondary resources; knowledge and skills to manage, analyze, and legally share health information in electronic health records, pharmacy information systems, and automated systems. Requirements: P1 standing.
- PHAR:8136 Foundations of Pharmaceutical Sciences** 6 s.h.  
Introduction and overview of foundations of pharmaceutical sciences. Requirements: P1 standing.
- PHAR:8140 Foundations of Pharmacy Practice II** 4 s.h.  
Introduction to contemporary pharmacy practice for first-year student pharmacists; classroom methods include small group discussion-based and active hands-on learning approaches where students will apply core concepts.
- PHAR:8148 Pharmacokinetics and Dose Optimization** 2 s.h.
- PHAR:8149 Foundations of Pharmacology and Toxicology** 3 s.h.  
Principles of pharmacology and toxicology.
- PHAR:8150 Foundations of Health, Wellness, and Disease** 2 s.h.  
Overview of basic processes of good health and practices that promote wellness; emphasis on mechanistic causes of human disease.
- PHAR:8151 Discovery I: Introduction and Background** 3 s.h.  
Creation and dissemination of new knowledge related to pharmacy or health care; broadly based scholarly effort with topics ranging from patient case studies, literature reviews, and analysis of pharmacy practice problems or basic research.
- PHAR:8152 Fundamentals of Compounding** 1 s.h.  
Introduction to personalized drug delivery systems through the art of compounding. Requirements: P1 standing.
- PHAR:8153 Integrated Pharmacotherapy: Dermatology and Sensory** 2 s.h.  
Key elements of science and practice of pharmacy presented in an integrated manner and focused on particular organ systems or disease states. Requirements: P1 standing.
- PHAR:8207 Introductory Pharmacy Practice Experiences Community** 3 s.h.  
Exposure to the provision of care in a community pharmacy setting; activities focus on those experiences related to the community pharmacy environment, medication distribution, special products and populations, and related professional activities; delivered in set time blocks over winter break and during summer session before or after the P2 year.
- PHAR:8209 Introductory Pharmacy Practice Experiences Hospital** 3 s.h.  
Exposure to the provision of care in a hospital pharmacy setting; activities focus on those experiences related to the hospital pharmacy environment, medication distribution, special products and populations, and related professional activities.
- PHAR:8250 Applications of Pharmacy Practice I** 2 s.h.  
Expands on skills and concepts taught in the foundations of pharmacy practice course series and includes skills relevant to the disease states in the specific aligned component courses; taught using a variety of classroom methods including small-group, discussion-based, and active hands-on learning approaches where students will apply core concepts. Requirements: P2 standing.
- PHAR:8252 Integrated Pharmacotherapy: Musculoskeletal** 4 s.h.  
Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.
- PHAR:8253 Integrated Pharmacotherapy: Genitourinary and Reproductive** 3 s.h.  
Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.
- PHAR:8254 Integrated Pharmacotherapy: Endocrine** 3 s.h.  
Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.
- PHAR:8255 Discovery II: Design and Methods** arr.  
Create and disseminate new knowledge related to pharmacy or health care with emphasis on design methods and data collection.
- PHAR:8256 Integrated Pharmacotherapy: Renal, Fluids, and Electrolytes** 2 s.h.  
Key elements of the science and practice of pharmacy presented in an integrated manner; focus on particular organ systems or disease states.
- PHAR:8260 Integrated Pharmacotherapy: Cardiovascular** 4 s.h.  
Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

**PHAR:8261 Integrated Pharmacotherapy: Neurology and Psychiatry****4 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

**PHAR:8263 Integrated Pharmacotherapy: Infectious Diseases****4 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

**PHAR:8264 Discovery III: Data Collection and Results****1 s.h.**

Create and disseminate new knowledge related to pharmacy or health care with emphasis on data collection and results.

**PHAR:8265 Applications of Pharmacy Practice II****2 s.h.**

Expands on skills and concepts taught in the foundations of pharmacy practice course series and includes skills relevant to the disease states in the specific integrated pharmacotherapy courses; taught using a variety of classroom methods including small group, discussion-based, and active hands-on learning approaches where students apply core concepts.

**PHAR:8301 Introductory Pharmacy Practice Experience Clinical****1 s.h.**

This third IPPE clinical is completed as an introduction to the Advanced Pharmacy Practice Experiences (APPE) to which student pharmacists are exposed during their P4 year; the IPPE clinical involves a P3 student observing and participating with a P4 student currently on an APPE rotation.

**PHAR:8370 Integrated Pharmacotherapy: Respiratory and Allergy****3 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

**PHAR:8371 Integrated Pharmacotherapy: Oncology and Hematology****3 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

**PHAR:8372 Integrated Pharmacotherapy: Gastroenterology and Nutrition****3 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

**PHAR:8373 Integrated Pharmacotherapy: Renal, Fluids, and Electrolytes****2 s.h.**

Key elements of the science and practice of pharmacy presented in an integrated manner focused on particular organ systems or disease states.

**PHAR:8374 Applications of Pharmacy Practice III****2 s.h.**

Expands on skills and concepts taught in the foundations of pharmacy practice course series and includes skills relevant to the disease states in the specific aligned component courses; taught using a variety of classroom methods including small group, discussion-based, and active hands-on learning approaches where students apply core concepts.

**PHAR:8375 Advanced Topics in Health Services****2 s.h.**

Exploration of advanced topics in health service.

**PHAR:8376 Discovery IV: Presentation of Results****1 s.h.**

Dissemination and presentation of new knowledge related to pharmacy or health care with emphasis on design methods and data collection.

**PHAR:8377 Integrated Pharmacotherapy: Capstone****4 s.h.**

Capstone serves as a culminating academic and research project for students and mentors, integrating all areas of professional discovery.

**PHAR:8378 Pharmacy Law and Ethics****2 s.h.**

Topics include ethical behavior for pharmacists and student of pharmacy law.

**PHAR:8379 Advanced Pharmacy Practice Experiences Preparation****1 s.h.**

Guidance provided for advanced pharmacy practice experiences.

**PHAR:8387 Capstone: Skills-Based Assessment****1 s.h.**

Further development of assessment skills.

**PHAR:8402 Pharm.D. Learning Portfolio II****1 s.h.**

Students continue to demonstrate and document mastery of experiential and didactic coursework and assignments, as well as self-assessment of progression. Requirements: P4 standing.

**PHAR:8500 Advanced Drug Literature Evaluation and Application****2 s.h.**

Critical evaluation, utilization, and clinical application of drug literature.

**PHAR:8501 Introduction to Nuclear Pharmacy****2 s.h.**

Nuclear pharmacy as a specialty area of pharmacy practice that involves preparation of radioactive materials for patient administration.

**PHAR:8502 Advanced Pharmacopalliation of Pain****2 s.h.**

Exploration of symptom management across the trajectory of serious illness through a series of longitudinal patient cases.

**PHAR:8503 Advanced Pharmacopalliation of Non-Pain Symptoms****3 s.h.**

Terminal extubation, terminal agitation, discontinuing life sustaining therapies, and pharmacokinetic and pharmaceutical issues in advanced illness.

**PHAR:8504 Sustained Clinical Pharmacy Services****2 s.h.**

Pharmacists may find themselves needing to justify their salary, the cost effectiveness of their pharmacy services, or may wish to create a new clinical service; introduction to pharmacists' role in initiating and sustaining clinical services in the ambulatory setting; writing a business plan; identifying and communicating with key stakeholders; finding billable opportunities.

**PHAR:8505 Advanced Topics in Infectious Disease, HIV, and Antimicrobial Therapy****2 s.h.**

Topics in antimicrobial treatment of infectious diseases beyond those in the required pharmacy curriculum, including topics covered in the infectious disease therapeutics course; lectures, case discussion, class participation, and summary presentations of an uncommon organism or antimicrobial agent.

**PHAR:8506 Health Informatics Essentials****2 s.h.**

Health informatics as a multidisciplinary field that uses health information technology to improve health care services for patients.

**PHAR:8507 Personal and Professional Transformation****2 s.h.**

How to maximize personal and professional goals; focus on what students want to achieve in their personal and professional life.

- PHAR:8508 Interprofessional Case Studies** 2 s.h.  
Interdisciplinary collaboration to formulate pharmacologic treatments of common diseases; case-based learning utilized with peer teaching; medical and pharmacy students revisit and share foundational science concepts from their disciplines, including mechanisms of health and disease and principles of pharmacokinetics and pharmacodynamics; discussions led by students and facilitated with a Carver College of Medicine clinician and a College of Pharmacy clinical pharmacist; students formulate treatment plans using the World Health Organization's six step approach to good prescribing. Requirements: P3 standing.
- PHAR:8509 Leaders Read: A Book Club Elective** 2 s.h.  
Introduction to concepts from *The Five Practices for Exemplary Leaders* by Kouzes and Posner; overview of all five practices with focus on first practice of "Modeling the Way;" values and skills of servant leadership through reading, reflection, and discussion; servant leadership philosophy where the main goal of the leader is to serve, and exploration of why servant leadership is critical; students articulate their own "why" and the importance of service in leadership.
- PHAR:8510 Pediatric Elective** 1 s.h.  
Overview of pediatric developmental differences, disease state medication issues, and clinical decision skills specific to pediatric population. Requirements: P3 standing.
- PHAR:8511 Introduction to Specialty Pharmacy** 2 s.h.  
Introduction to the rapidly growing field of specialty pharmacy; weekly interactive classes; students spend time in a specialty pharmacy environment and specialty clinic with a clinical pharmacy specialist to gain knowledge and understanding of clinical, business, distributive, and managed care aspects of specialty pharmacy. Requirements: P2 or P3 standing.
- PHAR:8512 Advanced Drug Literature I: Study Design, Evaluation, and Interpretation** 1 s.h.  
Expansion of concepts introduced in the first pharmacy discovery course; improvement of knowledge and skills for practical evaluation of drug literature; emphasis on understanding advanced concepts in study designs which aid in applied interpretation and application of study findings to patient care.
- PHAR:8513 Advanced Drug Literature II: Evaluation and Clinical Application** 1 s.h.  
Expansion of concepts introduced in first professional discovery course; improvement of knowledge and skills in practical evaluation of drug literature; emphasis on applied interpretation and application of study findings to patient care through active student journal club presentations and facilitation by faculty content experts. Prerequisites: PHAR:8512.
- PHAR:8706 Pharmacy Projects** arr.  
Basic and applied research problems of pharmaceutical interest.
- PHAR:8708 Substances of Misuse** 2 s.h.  
Emphasis on the most important themes and concepts in the field of substance use and treatment; drugs of misuse including stimulants, opioids, sedative-hypnotics, alcohol, hallucinogens, marijuana, and performance enhancing compounds; drug use prevention and treatment; depiction of substance use in modern culture.
- PHAR:8709 Pharmacist Role in Health Coaching and Nutrition** 2 s.h.  
Exploration of pharmacist role in health coaching and nutrition.
- PHAR:8712 Nonprescription Pharmacotherapy and Self-Care** 2 s.h.  
Introduction to nonprescription medications; development of patient assessment and consultation skills; understanding of pharmacist's role in patient self-care. Requirements: P3 standing.
- PHAR:8717 Ambulatory Care Pharmacy** 2 s.h.  
Additional experience in the practice of clinical pharmacy; focus on key therapeutic areas where ambulatory care clinical pharmacists currently have a significant impact improving patient care, including anticoagulation management, hyperlipidemia management, and diabetes management; opportunity to develop expertise in clinical decision making, improve problem solving abilities, and continued development in writing and oral presentation skills. Requirements: P3 standing.
- PHAR:8718 Special Topics in Acute Care** 2 s.h.  
Pharmacotherapy for common but varied inpatient medicine topics; review of disorder, therapeutic goals, treatment plans, patient education, monitoring; lecture or case-based classes; anticoagulation, hemostasis, diabetic ketoacidosis, ICU overview, hepatic failure, renal replacement therapies, ACLS, antimicrobial and antifungal selection, septic shock, cardiogenic shock, neurogenic shock and neuro/neurosurgical emergencies, burns, sedation.
- PHAR:8721 Leadership and Political Advocacy** arr.  
Contemporary issues in pharmacy; role of leadership and advocacy in shaping profession; becoming effective advocates within political and policy making process; development of advocacy and leadership skills essential to improve self, profession, and community. Requirements: P1 or P2 standing.
- PHAR:8722 Current Topics in Health Policy** 2 s.h.  
Legislative process and broad range of current issues in health policy; general- and pharmacy-specific health policy topics at state and federal levels. Requirements: P1, P2, P3, or graduate standing.
- PHAR:8724 Health System Pharmacy Practice Management** 2 s.h.  
Organizational structure of pharmacy departments in hospitals and health care systems; models for delivery of pharmaceutical care; pharmacy's role in drug-policy decision making; provision of drug information; clinical and distributive pharmacy services; control of pharmacy and pharmacy costs; use of information technology and automation for service delivery; supervisory management; quality improvement. Requirements: P3 standing.
- PHAR:8725 Career Pathways in Pharmacy** 1 s.h.  
Career preparation through writing, speaking, reading, and listening; writing résumés, curricula vitae, cover letters; interviewing techniques; electronic portfolios; web-based career information; guest speakers from pharmacy associations, major chains; workshop approach. Requirements: P2 or P3 standing.
- PHAR:8790 Sustainable Clinical Pharmacy Services: Leadership, Management, and Implementation** 2 s.h.  
Practical knowledge and understanding of how to implement and sustain clinical pharmacy services in a variety of practice settings; how to identify outcomes to evaluate the success of ongoing services; students explore the perspective of leadership and management as it pertains to clinical pharmacy services.

**PHAR:8793 Introduction to Global Health Studies 1 s.h.**

Overview of topics pertaining to international health and cultural diversity in relation to pharmacy and global health; preparation for student pharmacists to become health care practitioners who optimize the health of patients and society; inspires students to advance the profession by fostering collaboration, global and public health leadership, professionalism and civic engagement; introduction and discussion of important topics in global health, focusing specifically on care of the underserved in a global context.

**PHAR:8794 Emergency Medicine and Toxicology 2 s.h.**

Pharmacology in the world of emergency medicine and toxicology; students learn through lecture, case discussion, class participation, and evaluation of evidence-based medicine literature in emergency medicine and toxicology.

**PHAR:8795 Foundations of Palliative Care 2 s.h.**

Introduction to palliative care as a public health issue; exploration of the principles and practice of palliative care including interdisciplinary care of the whole person and family, communication, and self care.

**PHAR:8796 Introduction to Travel Medicine 1 s.h.**

Overview of services provided to travelers to prevent and management conditions that may arise prior to, during, and after international travel; students learn about topics pertaining to each of these areas.

**PHAR:8797 Ethics and Spirituality in Health Care 3 s.h.**

Case-based examination of ethical issues in caring for patients with serious illness; exploration of suffering, spirituality, death, and dying. Requirements: P2 or P3 standing.

**PHAR:8798 Continuing Professional Development in Palliative Care 1 s.h.**

Self-directed learning and development in palliative care; creation and implementation of a professional development plan including activities in service, scholarship and education, leadership and advocacy, and self-care and personal resilience.

**PHAR:8799 Active Residency Preparation 2 s.h.**

Students develop the best understanding of what a residency is, what programs exist, the usual qualifications for placement, and the necessary pathway and components of residency attainment; hands-on experience with preparation process; for pharmacy students interested in pursuing residency training following graduation. Requirements: P3 standing.

**PHAR:8811 New Drugs for New Therapies: Introduction to Drug Discovery, Development, and Registration 1-2 s.h.**

From "magic bullets" to "personalized medicine," the quest for new drugs to treat disease involves serendipity, science, and business success; through lectures, presentations, readings, and discussion, students will learn how potential new drug therapies are identified and what happens between finding a drug that seems to work and the launch of a commercial drug product.

**PHAR:9401 Ambulatory Care Rotation 6 s.h.**

Clinical experience in providing pharmaceutical care in outpatient clinic settings. Requirements: P4 standing.

**PHAR:9402 Elective Ambulatory Care Rotation 6 s.h.**

Clinical experience providing pharmaceutical care in specialty outpatient settings. Requirements: P4 standing.

**PHAR:9403 Elective Nuclear Pharmacy Rotation 6 s.h.**

Practical experience in the handling and clinical use of radiopharmaceuticals. Requirements: P4 standing.

**PHAR:9404 Community Clinical Rotation 6 s.h.**

Clinical experience in the community setting; emphasis on delivery of pharmaceutical care. Requirements: P4 standing.

**PHAR:9405 Elective Hospice and Palliative Care Rotation 6 s.h.**

Clinical experience providing pharmacotherapy for end-of-life care. Requirements: P4 standing.

**PHAR:9406 Elective: Drug Information Rotation 6 s.h.**

Practice experience applying drug information knowledge to service and research projects. Requirements: P4 standing.

**PHAR:9407 Elective Family Medicine Rotation 6 s.h.**

Clinical practice experience applying primary care therapeutics in family medicine practice settings. Requirements: P4 standing.

**PHAR:9408 Elective Hematology/Oncology Rotation 6 s.h.**

Drug therapy management of oncology patients and patients with hematologic malignancies, aplastic anemia, sickle cell disease, hemophilia. Requirements: P4 standing.

**PHAR:9409 Elective Home Health Care Rotation 6 s.h.**

Clinical experience in the team approach to health care delivery, including total parenteral nutrition, chemotherapy, intravenous antibiotics, lab analysis, hospice care, and pain management. Requirements: P4 standing.

**PHAR:9410 Hospital Pharmacy Rotation 6 s.h.**

Instruction and practical experience in various components of hospital pharmacy; emphasis on hospital organization, inpatient and outpatient services, IV admixtures, unit dose, and clinical services. Requirements: P4 standing.

**PHAR:9411 Elective Long Term Care Rotation 6 s.h.**

Practice in consulting and providing services to varied long-term patient care environments. Requirements: P4 standing.

**PHAR:9412 Elective Managed Care Rotation 6 s.h.**

Practice experience in providing pharmaceutical care or pharmacy-related services in a managed care organization. Requirements: P4 standing.

**PHAR:9413 Acute Care Medicine Rotation 6 s.h.**

Clinical experience applying therapeutic skills for the pharmacotherapeutic management of patients on general medicine or specialty inpatient areas. Requirements: P4 standing.

**PHAR:9415 Elective: Pediatrics Rotation 6 s.h.**

Clinical experience in drug therapy management of general and specialty pediatric patients. Requirements: P4 standing.

**PHAR:9416 Elective: Pharmacy Rotation 6 s.h.**

Selected practice experiences in various pharmacy practice settings. Requirements: P4 standing.

**PHAR:9417 Elective Psychiatry Rotation 6 s.h.**

Clinical experience in the rational use of drugs in psychiatric disorders. Requirements: P4 standing.

**PHAR:9418 Elective Research Rotation 6 s.h.**

Practice experience in basic pharmaceutical or clinical research; proposal, study design, data collection and analysis, presentation of results. Requirements: P4 standing.

**PHAR:9419 Elective: Surgery Rotation 6 s.h.**

Clinical experience in drug therapy management on a surgery unit. Requirements: P4 standing.

**PHAR:9420 Elective Pharmacy Practice Underserved Population Rotation 6 s.h.**

Opportunity to learn the best practices for pharmaceutical management; approaches to enhance access to and appropriate use of medicines in underserved and resource-limited environments. Requirements: P4 standing.

**PHAR:9421 Elective Community Management Rotation 6 s.h.**

Practice exposure to community pharmacy operations and management at the store, district, or corporate level. Requirements: P4 standing.

**PHAR:9422 Elective: Compounding/Complementary Alternative Medicine Rotation 6 s.h.**

Clinical work in a community setting with focus on team approach; experience developing extemporaneous compounds to optimize patient care and/or integrating traditional and nontraditional medicine. Requirements: P4 standing.

**PHAR:9423 Elective: Critical Care Medicine Rotation 6 s.h.**

Practice experience providing pharmaceutical services to intensive care unit patients. Requirements: P4 standing.

**PHAR:9424 Elective Emergency Medicine Rotation 6 s.h.**

Clinical experience providing pharmaceutical care for patients treated in the emergency department. Requirements: P4 standing.

**PHAR:9425 Elective Hospital Management Rotation 6 s.h.**

Practice experience in hospital pharmacy operations and management. Requirements: P4 standing.

**PHAR:9426 Elective Infectious Disease Rotation 6 s.h.**

Clinical experience providing pharmacotherapeutic management of patients receiving antimicrobial medications. Requirements: P4 standing.

**PHAR:9427 Elective Medication Use Evaluation Rotation 6 s.h.**

Practical experience in drug use evaluation to improve patient outcomes. Requirements: P4 standing.

**PHAR:9428 Elective Pharmacy Industry Rotation 6 s.h.**

Practice experience in an area of the pharmaceutical or related industries. Requirements: P4 standing.

**PHAR:9429 Elective: Pharmacy Regulatory Rotation 6 s.h.**

Practice experience with a pharmacy regulatory body. Requirements: P4 standing.

**PHAR:9430 Elective: Professional Association Rotation 6 s.h.**

Practice experience in professional association management environment at the state or national level. Requirements: P4 standing.

**PHAR:9431 Elective: Veterinary Pharmacy Rotation 6 s.h.**

Practice experience in managing drug therapy for animals. Requirements: P4 standing.

**PHAR:9432 Elective Community Rotation 6 s.h.**

Community pharmacy experience emphasizing patient-centered care. Requirements: P4 standing.

**PHAR:9433 Elective Academic Rotation 6 s.h.**

Practice experience delivering pharmacy education with a College of Pharmacy faculty member. Requirements: P4 standing.

**PHAR:9434 Elective International Pharmacy Non-Patient Care Rotation 6 s.h.**

Practice experiences in pharmacy practice outside the United States with a focus on research, health care policy, and/or pharmacy education. Requirements: P4 standing.

**PHAR:9435 Administrative Bye Rotation 6 s.h.****PHAR:9436 Elective Transitions of Care Rotation 6 s.h.**

Practice experience consulting and providing services to patients transitioning through different patient care environments.

**PHAR:9437 Elective Informatics Rotation 6 s.h.**

Practice experience in informatics in health care setting.

**PHAR:9438 Elective International Pharmacy Patient Care Rotation 6 s.h.**

Practice experiences in pharmacy practice outside the United States with a patient care focus.

**PHAR:9440 Elective Virtual Rotation 6 s.h.**

Experience with disease state management and board preparation; students examine medical literature to answer drug information questions, reflect on current issues facing the medical community, and identify potential solutions to problems for individual patients and populations; activities are intended to guide students toward professional competency. Requirements: P4 standing.

**PHAR:9441 Elective Neurology Rotation 6 s.h.**

Clinical experience in pharmacotherapeutic and pathophysiologic considerations of neurological disorders. Requirements: P4 standing.



# Doctor of Pharmacy, Pharm.D.

## Requirements

The Doctor of Pharmacy (Pharm.D.) program provides professional education in a number of areas, including pharmaceutical technology, biopharmaceutics, medicinal chemistry and natural products, pharmaceutical socioeconomics, pharmacotherapy, patient care, clinical and hospital pharmacy, and aspects of biotechnology. Graduates of the program are qualified to take the Iowa Board of Pharmacy examination that is required for licensure as a pharmacist.

The program requires four years of full-time pharmacy study preceded by at least two years of pre-pharmacy study in the College of Liberal Arts and Sciences at the University of Iowa or at an accredited community or liberal arts college in the United States or Canada. During pre-pharmacy study, students complete the prerequisites for admission to the Pharm.D. program (see Admission [p. 2044] in this section of the Catalog for a list of prerequisite coursework). If possible, students should complete all 20 s.h. of their general education work before they enter the Pharm.D. program. Courses in moral reasoning or ethics, communication, computer science, business, behavioral and social sciences, and the humanities are recommended. Courses in physical education skills, applied music, and studio art do not count toward the general education electives requirement. Students must maintain a pharmacy and cumulative g.p.a. of at least 2.00.

For rules and regulations concerning academic probation, pass/nonpass, credit by examination, maximum schedule, second-grade-only option, waiver or substitution of courses, cancellation of registration, and drop date, see Pharm.D. Student Resources on the College of Pharmacy website.

The College of Pharmacy provides students with the highest possible quality in the professional experiential program. Faculty and adjunct faculty serve as preceptors, providing introductory and advanced practice experience at institutions and pharmacies in Iowa, nationwide, and around the world.

## Professional Curriculum

The Pharm.D. degree requires the coursework listed below, including at least 6 s.h. of professional electives. In addition, students must complete all prerequisites for admission to the Pharm.D. program, including a minimum of 16 s.h. of general education courses chosen from behavioral, social, humanistic, and business disciplines (see Admission [p. 2044] in this section of the Catalog). They also must complete an additional 8 s.h. of general education coursework either before or after admission to the Pharm.D. program.

### First Year, Fall

Code	Title	Hours
PHAR:8130	Foundations of Pharmacy Practice I	4
PHAR:8131	Engagement: Professional Skills and Values	1
PHAR:8133	Introductory Pharmacy Practice Experience Career Exploration (unless taken spring semester)	1

PHAR:8134	Foundations of Health Services	3
PHAR:8135	Health Information Retrieval and Informatics	3
PHAR:8136	Foundations of Pharmaceutical Sciences	6
PHAR:8152	Fundamentals of Compounding	1

### First Year, Spring

Code	Title	Hours
PHAR:8133	Introductory Pharmacy Practice Experience Career Exploration (unless taken first semester)	1
PHAR:8140	Foundations of Pharmacy Practice II	4
PHAR:8148	Pharmacokinetics and Dose Optimization	2
PHAR:8149	Foundations of Pharmacology and Toxicology	3
PHAR:8150	Foundations of Health, Wellness, and Disease	2
PHAR:8151	Discovery I: Introduction and Background	3
PHAR:8153	Integrated Pharmacotherapy: Dermatology and Sensory	2

### Second Professional Year, Fall

Code	Title	Hours
PHAR:8207	Introductory Pharmacy Practice Experiences Community (may be taken in a different semester)	3
PHAR:8209	Introductory Pharmacy Practice Experiences Hospital (may be taken in first or second semester of second year)	3
PHAR:8250	Applications of Pharmacy Practice I	2
PHAR:8252	Integrated Pharmacotherapy: Musculoskeletal	4
PHAR:8253	Integrated Pharmacotherapy: Genitourinary and Reproductive	3
PHAR:8254	Integrated Pharmacotherapy: Endocrine	3
PHAR:8255	Discovery II: Design and Methods	1

### Second Professional Year, Spring

Code	Title	Hours
PHAR:8207	Introductory Pharmacy Practice Experiences Community (may be taken in a different semester)	3

PHAR:8260	Integrated Pharmacotherapy: Cardiovascular	4
PHAR:8261	Integrated Pharmacotherapy: Neurology and Psychiatry	4
PHAR:8263	Integrated Pharmacotherapy: Infectious Diseases	4
PHAR:8264	Discovery III: Data Collection and Results	1
PHAR:8265	Applications of Pharmacy Practice II	2

### Third Professional Year, Fall

Code	Title	Hours
PHAR:8301	Introductory Pharmacy Practice Experience Clinical	1
PHAR:8370	Integrated Pharmacotherapy: Respiratory and Allergy	3
PHAR:8371	Integrated Pharmacotherapy: Oncology and Hematology	3
PHAR:8372	Integrated Pharmacotherapy: Gastroenterology and Nutrition	3
PHAR:8373	Integrated Pharmacotherapy: Renal, Fluids, and Electrolytes	2
PHAR:8374	Applications of Pharmacy Practice III	2
PHAR:8375	Advanced Topics in Health Services	2
PHAR:8376	Discovery IV: Presentation of Results	1

### Third Professional Year, Spring

Code	Title	Hours
PHAR:8132	Continuing Professional Development	1
PHAR:8377	Integrated Pharmacotherapy: Capstone	4
PHAR:8378	Pharmacy Law and Ethics	2
PHAR:8379	Advanced Pharmacy Practice Experiences Preparation	1

### Third Year Spring Semester and Fourth Year: Advanced Pharmacy Practice Rotations

During the spring semester of the third year, students may choose to complete one or two rotations in addition to the eight rotations required during the fourth year. During the fourth year, students must complete eight advanced pharmacy practice rotations. All students must complete the first four rotations listed below (24 s.h.); the remaining rotations may be selected by each student.

Code	Title	Hours
All of these:		
PHAR:9401	Ambulatory Care Rotation	6

PHAR:9404	Community Clinical Rotation	6
PHAR:9410	Hospital Pharmacy Rotation	6
PHAR:9413	Acute Care Medicine Rotation	6

Four of these:

PHAR:9402	Elective Ambulatory Care Rotation	6
PHAR:9403	Elective Nuclear Pharmacy Rotation	6
PHAR:9406	Elective: Drug Information Rotation	6
PHAR:9407	Elective Family Medicine Rotation	6
PHAR:9408	Elective Hematology/ Oncology Rotation	6
PHAR:9409	Elective Home Health Care Rotation	6
PHAR:9411	Elective Long Term Care Rotation	6
PHAR:9412	Elective Managed Care Rotation	6
PHAR:9415	Elective: Pediatrics Rotation	6
PHAR:9416	Elective: Pharmacy Rotation	6
PHAR:9417	Elective Psychiatry Rotation	6
PHAR:9418	Elective Research Rotation	6
PHAR:9419	Elective: Surgery Rotation	6
PHAR:9420	Elective Pharmacy Practice Underserved Population Rotation	6
PHAR:9422	Elective: Compounding/ Complementary Alternative Medicine Rotation	6
PHAR:9423	Elective: Critical Care Medicine Rotation	6
PHAR:9424	Elective Emergency Medicine Rotation	6
PHAR:9425	Elective Hospital Management Rotation	6
PHAR:9426	Elective Infectious Disease Rotation	6
PHAR:9427	Elective Medication Use Evaluation Rotation	6
PHAR:9428	Elective Pharmacy Industry Rotation	6
PHAR:9429	Elective: Pharmacy Regulatory Rotation	6
PHAR:9430	Elective: Professional Association Rotation	6
PHAR:9431	Elective: Veterinary Pharmacy Rotation	6
PHAR:9432	Elective Community Rotation	6
PHAR:9433	Elective Academic Rotation	6
PHAR:9440	Elective Virtual Rotation	6
PHAR:9441	Elective Neurology Rotation	6

### Professional Electives

Pharm.D. students must complete at least 6 s.h. of professional electives, which they may choose from the following list.

Code	Title	Hours
PHAR:4740	Materials in Drug and Gene Delivery	3
PHAR:4741	Immunology and Immunotherapies	2
PHAR:8500	Advanced Drug Literature Evaluation and Application	2
PHAR:8501	Introduction to Nuclear Pharmacy	2
PHAR:8502	Advanced Pharmacopalliation of Pain	2
PHAR:8503	Advanced Pharmacopalliation of Non-Pain Symptoms	3
PHAR:8505	Advanced Topics in Infectious Disease, HIV, and Antimicrobial Therapy	2
PHAR:8506	Health Informatics Essentials	2
PHAR:8508	Interprofessional Case Studies	2
PHAR:8509	Leaders Read: A Book Club Elective	2
PHAR:8706	Pharmacy Projects	1-3
PHAR:8708	Substances of Misuse	2
PHAR:8709	Pharmacist Role in Health Coaching and Nutrition	2
PHAR:8511	Introduction to Specialty Pharmacy	2
PHAR:8512	Advanced Drug Literature I: Study Design, Evaluation, and Interpretation	1
PHAR:8513	Advanced Drug Literature II: Evaluation and Clinical Application	1
PHAR:8712	Nonprescription Pharmacotherapy and Self-Care	2
PHAR:8717	Ambulatory Care Pharmacy	2
PHAR:8718	Special Topics in Acute Care	2
PHAR:8721	Leadership and Political Advocacy	arr.
PHAR:8722	Current Topics in Health Policy	2
PHAR:8724	Health System Pharmacy Practice Management	2
PHAR:8725	Career Pathways in Pharmacy	1
PHAR:8790	Sustainable Clinical Pharmacy Services: Leadership, Management, and Implementation	2
PHAR:8793	Introduction to Global Health Studies	1
PHAR:8794	Emergency Medicine and Toxicology	2
PHAR:8795	Foundations of Palliative Care	2
PHAR:8796	Introduction to Travel Medicine	1
PHAR:8797	Ethics and Spirituality in Health Care	3

PHAR:8798	Continuing Professional Development in Palliative Care	1
PHAR:8799	Active Residency Preparation	2
PHAR:8811	New Drugs for New Therapies: Introduction to Drug Discovery, Development, and Registration	1-2

## Combined Programs

### Pharm.D./M.P.H.

The College of Pharmacy and the College of Public Health offer the combined Doctor of Pharmacy/Master of Public Health program. The combined program requires 42 s.h. of graduate credit in addition to the requirements of the Pharm.D. degree. Students who complete the program are granted both degrees.

The Pharm.D./M.P.H. program helps students develop expertise in public health related to pharmacotherapy, health promotion, disease prevention, and medication safety. Its graduates may work in areas of interest common to pharmacy and public health, such as spread and treatment of disease, community health, and immunology; bioterrorism, terrorism, and preparedness; genetics; insurance; managed care; family and juvenile health; and protection of special populations. Employment opportunities are available in hospitals and clinics and with health care providers; private practice; insurance and managed care organizations; local, county, state, and federal government; public health governmental agencies; and colleges and universities.

Separate admission to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program.

See the Master of Public Health, M.P.H. [p. 2078] (College of Public Health) in the Catalog to learn about curriculum and admission requirements.

### Pharm.D./M.S. in Informatics (Health Informatics Subprogram)

The College of Pharmacy and the Graduate College offer the combined Doctor of Pharmacy/Master of Science in informatics with a health informatics subprogram. The combined degree program requires completion of 34 s.h. beyond the bachelor's degree. Students who complete the program are granted both degrees.

The Pharm.D./M.S. program assists students to develop special expertise in information technology, including management of electronic health records, health information exchange standards, electronic prescribing, medication management, decision support, as well as other competencies. Graduates will be prepared for employment in industry or academic institutions with skills to address pharmacotherapy issues as well as information technology management.

Separate application to each degree program is required. Applicants must be admitted to both programs before they may be admitted to the combined degree program. It is recommended that students apply to the Graduate College

for admission to the M.S. program before entering the spring semester of their first year in the pharmacy program.

For information about the Master of Science degree, see the M.S. in informatics [p. 1749] (Graduate College) in the Catalog.

## Admission

Individuals apply to the Pharm.D. program using PharmCAS, the American Association of College of Pharmacy application service. Applicants also must submit a supplemental application, including the application fee, to the University of Iowa College of Pharmacy; see Doctor of Pharmacy on the University of Iowa Graduate Admissions website for more information.

By selecting the University of Iowa College of Pharmacy, students choose to be part of the legacy of leaders for which the College of Pharmacy has become well known. Iowa pharmacy shapes pharmacy practice nationally and internationally with evidence-based practice models and collaborative pharmacy care innovations.

As aspiring Doctor of Pharmacy students, the first two years are spent completing general education and prerequisite courses to prepare candidates for the PharmD. degree. Just before they complete their required courses, they apply to the program itself, which is comprised of an additional four years of integrated courses, hands-on research involvement, and practical experiences.

Applicants must complete the college-level work listed under "Prerequisites for Admission to the Pharm.D. Program" below. They also must have an overall cumulative g.p.a. of at least 2.50 and must submit two letters of recommendation and a personal statement. Applicants considered for admission must have a personal interview; the college contacts applicants to arrange interview appointments.

Fulfillment of the admission requirements listed above does not ensure admission to the College of Pharmacy. The admissions committee considers applicants who meet these requirements and selects individuals who, in their judgment, are the best qualified for the study and practice of pharmacy.

Applicants who are accepted for admission are required to submit to a criminal background check and pay an admission acceptance fee. The fee is applied to tuition for the student's first semester of enrollment in the college. The deposit is not refunded to applicants who do not enroll in the College of Pharmacy.

Entering health sciences students are required to have an annual tuberculin skin test (TST) and proof of immunization against mumps, measles and rubella (two MMRs), tetanus, diphtheria and varicella before classes begin. The usual regimen of three doses of Hepatitis B vaccine and a Hepatitis B titre must be completed by the second semester of the first year. All students are required to have hospitalization and health insurance.

## Prerequisites for Admission

Applicants to the Pharm.D. program must have completed the following college-level work with a C-minus or higher.

- Rhetoric: 4 s.h. (RHET:1030 Rhetoric) or 6 s.h. of transfer credit in English composition and rhetoric and 3 s.h. in speech.
- Biochemistry: 3 s.h. (BMB:3110 Biochemistry).

- General biology: 8 s.h. (BIOL:1411 Foundations of Biology and BIOL:1412 Diversity of Form and Function).
- General chemistry: 8 s.h. (CHEM:1110 Principles of Chemistry I and CHEM:1120 Principles of Chemistry II).
- Human anatomy: 3 s.h. (ACB:3110 Principles of Human Anatomy).
- Human physiology: 3 s.h. (HHP:3500 Human Physiology).
- Organic chemistry: 6 s.h. (CHEM:2210 Organic Chemistry I and CHEM:2220 Organic Chemistry II).
- Mathematics: 3-4 s.h. of a satisfactory differential and integral calculus course (MATH:1460 Calculus for the Biological Sciences).
- Physics: one year of high school physics or one semester of college-level physics with a lab (PHYS:1400 Basic Physics).
- Statistics: 3 s.h.
- General education electives: a minimum of 12 s.h.

Courses in moral reasoning or ethics, communications, computer science, and business, behavioral and social sciences, and the humanities are accepted. Courses in physical education skills, applied music, and studio art do not count toward the general education requirement.

## Financial Support

Each year the College of Pharmacy awards scholarships to student pharmacists through a variety of awards. In 2020, the college awarded over \$1.2 million to help cover the cost of education. Around half of the student body receives a scholarship, with 235 scholarships given out in 2020.

**Albrecht/Winckler Scholarship:** for a deserving pharmacy student.

**Steve and Teresa Berge Scholarship:** for a pharmacy student who is a U.S. citizen and has a g.p.a. of at least 3.00; experience doing volunteer work highly desirable.

**Seymour M. Blaug Memorial Award:** for a pharmacy student with above-average academic achievement.

**Dennis and Bev Boussetot Scholarship:** life insurance gift bequest.

**Ilse O. Buckner Scholarship:** for a pharmacy student who maintains satisfactory academic progress; nonrenewable, financial need is considered.

**Burroughs-Wellcome Scholarship Fund:** for a student of the committee's choice.

**David and James Carlson Scholarship:** for two pharmacy students interested in clinical or hospital practice; preference is given to students who reside north of U.S. Interstate 80 and west of U.S. Interstate 35 and show financial need.

**Class of 1970 Award:** qualifications vary.

**Class of 2009 Award:** qualifications vary.

**Jordan and Jana Cohen Doctor of Pharmacy Scholarship:** for a pharmacy student in good academic standing; based on merit and need; renewable.

**College of Pharmacy Executive Leadership Board Excellence Fund:** for the senior class president and/or qualifications vary.

**Vernon Conzemius Scholarship:** for a pharmacy student who demonstrates financial need; preference is given to students in the upper half of their class.

**John and Margo Daniel Scholarship:** preference is given to a student from Webster County, Iowa.

**Donor-Endowed Awards:** for Pharm.D. students in their second, third, or fourth year in the program; see College of Pharmacy website to learn more about donor scholarships.

**Max Eggleston Scholarship:** for a student who has completed one year; preference is given to students from Iowa and based on financial need.

**Lori A. Grimes Memorial Scholarship:** based on financial need; renewable.

**Dick and Brenda Hartig Scholarship:** for a student who demonstrates financial need; preference is given to students from Dubuque, Waukon, Dyersville, and Iowa City, Iowa; and Galena and Stockton, Illinois.

**Thomas D. Hill Scholarship:** for a pharmacy student in good academic standing.

**Janet Hinderliter Scholarship:** for a P3 or P4 student with a g.p.a. of at least 3.00 and demonstrated involvement in campus and community affairs.

**Frances T. and Charles Holub Memorial Award:** for a third-year pharmacy student; financial need is considered; renewable once.

**Iowa Pharmacy Access Award:** for incoming first-year nonresident Pharm.D. students who are U.S. citizens or permanent residents or international students who graduate from a U.S. high school.

**Iowa Pharmacy Foundation Scholarships:** for selected pharmacy students who are residents of Iowa and who demonstrate outstanding academic ability; financial need is considered (Eggleston-Granberg Scholarship is awarded from this fund).

**Iowa Pharmacy Scholars Award:** for incoming Pharm.D. students who are Iowa residents who submit a complete application by March 1; awards are based on merit (standardized test scores and grade-point average) and exceptional promise at the University of Iowa.

**R.A. Kuever Scholarship Fund:** for a pharmacy student from Iowa who is in good academic standing.

**Ronald Madden Scholarship:** for an Iowa high school graduate in good academic standing.

**Charles J. Malecek Pharmacy Scholarship:** for a student of the committee's choice.

**Virgil R. McCutchan Memorial Scholarship:** for a deserving pharmacy student.

**J. Patrick McDonnel Scholarship:** qualifications vary.

**Carleton Mikkelsen Scholarship:** for the top P4 student based on final P3 grade-point average; in case of a tie, the committee chooses the recipient.

**Miller-Ruegnitz Scholarships:** based on financial need; nonrenewable.

**NACDS Scholarship:** for a student interested in community pharmacy.

**Opportunity Award:** for students who submit a complete application; award is based on leadership experiences, unique personal abilities or talents, health care experiences, racial, ethnic, geographic and/or intellectual diversity, perseverance in overcoming obstacles to academic success or others.

**Petersen Linder Scholarship:** for a pharmacy student in excellent academic standing who has outstanding leadership skills; based on financial need.

**Pharmacists Mutual Scholarship:** for a student of the committee's choice.

**Pharmacy Student Aid Scholarship:** for a student of the committee's choice.

**Quad Cities Area Pharmacists Association Scholarships:** for students who demonstrate financial need; preferably one student from Iowa and one from Illinois.

**Robert E. and Barbara J. Rehal Family Scholarship:** for a student who has interest in independent or community pharmacy; preferably from Sioux City, Iowa.

**Sattler Family Scholarship:** for a student of the committee's choice, alternates with the Carver College of Medicine.

**Scherling Scholarship:** for a student who demonstrates superior academic achievement in organic chemistry.

**Hal Schimmelpfenning Scholarship Fund:** for a pharmacy student from Sigourney, Iowa.

**Schlumberger Scholarship:** qualifications vary.

**Chuck and Jacqueline Schwenke Scholarship:** for a student of the committee's choice.

**Gordon H. Sheffield Scholarship:** for a P3 or P4 student from Iowa; preference is given to a student who demonstrates leadership and financial need.

**Shutt Pharmacy Scholarship:** preference is given to Iowa residents; based on financial need.

**H. Curtis Snyder Award:** for a pharmacy student in good standing.

**Paul G. and Vivian Soderdahl:** for a student of the committee's choice.

**Wilber J. Teeters and the Teeters/Wahl Scholarships:** for a pharmacy student who has completed at least one year in the college; financial need is considered.

**Thompson Scholarship Fund in Memory of Rob Chabal:** preference is given to a fourth-year student committed to community pharmacy practice.

**John S. Thor (Nash) Scholarship Fund:** for a pharmacy student in good standing; renewable.

**Donald J. and Nancy L. Unash Scholarship:** qualifications vary.

**Colonel Thomas C. Veach Class of 1952 Scholarship Fund:** preference is given to a student interested in compounding or industrial pharmacy.

**Walgreens Diversity Scholarship:** for a student who has made significant efforts toward raising awareness about matters of diversity that affect the pharmacy profession.

**Jo H. and Robert A. Wiley Scholarship Fund:** for a pharmacy student who is an Iowa native and shows financial need.

**Louis C. Zopf Memorial Award:** for a pharmacy student who is academically qualified; financial need is considered.

**John D. Zuelke Scholarship:** for a pharmacy student (preferably P3 or P4) from Wapello County, Iowa.

## Career Advancement

The College of Pharmacy has had nearly a 100 percent placement rate for its graduates for many years.

Pharmacists often choose to practice in a community pharmacy or a hospital setting. They hold positions in government, independent businesses, home health care, consulting, clinical pharmacy, managed care facilities, higher education, or the pharmaceutical industry.

# Palliative Care, Professional Certificate

## Requirements

The professional Certificate in Palliative Care requires 17 s.h. of credit. Students must maintain a pharmacy and cumulative g.p.a. of at least 3.00 in work for the certificate. The certificate program prepares students to practice as palliative care generalists or champions upon graduation from the Doctor of Pharmacy (Pharm.D.) program. Students who complete the certificate will possess the knowledge, skills, and attitudes to serve patients living with serious illnesses across the trajectory of life in a variety of general pharmacy practice environments and non-palliative pharmacy specialties, including critical care, emergency medicine, geriatrics, and cardiology. The program addresses the educational needs of pharmacy students who may provide pharmaceutical care in a community pharmacy setting, a long-term care pharmacy, oncology, cardiology, infectious disease, critical care, transplant, and emergency medicine. The certificate also prepares graduates to pursue advanced postgraduate clinical training in palliative care and hospice, including palliative care residencies and fellowships.

The Certificate in Palliative Care requires the following coursework.

Code	Title	Hours
All of these:		
PHAR:8795	Foundations of Palliative Care	2
PHAR:8797	Ethics and Spirituality in Health Care	3
PHAR:8798	Continuing Professional Development in Palliative Care	1
PHAR:8502	Advanced Pharmacopalliation of Pain	2
PHAR:8503	Advanced Pharmacopalliation of Non-Pain Symptoms	3
One of these:		
PHAR:9401	Ambulatory Care Rotation (at the UIHC Palliative Care Clinic)	6
PHAR:9405	Elective Hospice and Palliative Care Rotation	6

## Admission

Students may apply in their fall P2 semester to begin the program and then take the longitudinal course, PHAR:8798 Continuing Professional Development in Palliative Care, in their spring P2 semester.

Applicants must be in good academic standing, as defined in the Student Handbook, and have a College of Pharmacy cumulative g.p.a. of at least 2.70. The Certificate in Palliative Care Admission Committee reviews all applications holistically.

Admitted students demonstrate:

- preparedness to engage in a challenging certificate curriculum without compromising their success in the Pharm.D. program, and
- an understanding of what palliative care is and of the program's requirements.

# Pharmacy, M.S.

## Learning Outcomes

Graduates will exhibit the ability to:

- demonstrate both subject matter expertise and the ability to critically evaluate the current state of knowledge in that area of expertise;
- understand the fundamental concepts and applications of current methodology and techniques for the conduct and evaluation of research in their area of expertise;
- demonstrate the ability to conduct research under the direction of a faculty member and interact successfully with other members of a research team;
- effectively communicate research findings in both written and oral formats;
- know and apply the highest ethical standards in research and in communication of the results of that research; and
- be prepared for career options in academia, industry, government, or other relevant fields.

## Requirements

The Master of Science in pharmacy requires at least 30 s.h. of credit, which may include 6 s.h. of research. The degree usually requires a thesis. Students must maintain a cumulative g.p.a. of at least 2.75. Programs are offered in four areas: clinical pharmaceutical sciences, health services research, medicinal and natural products chemistry, and pharmaceuticals.

The clinical pharmaceutical sciences area is designed for students interested in clinical research. The goal of the program is to advance the science of human pharmacology and therapeutics and to improve the safe, effective, and economical use of medications by patients. The program emphasizes the integration of clinical and basic research. It involves advanced studies of clinical pharmacology, pharmacokinetics, pharmacodynamics, pharmacogenetics, and the requirements for regulatory approval of new drugs.

The health services research area provides an innovative approach to studying the challenges facing the health care system and provides evidence to support policy-based solutions. The program combines ideas across several distinct scientific paradigms (sociology, economics, psychology, business, and anthropology) to better understand the factors leading to decisions in health care and the consequences of these decisions. Students gain broad knowledge of health and pharmaceutical care, informed by theories from economics and social psychology. The program teaches intellectual and practical skills to investigate research questions dealing with current issues.

The medicinal and natural products chemistry area educates students in the chemistry and biology of drug discovery. The program offers an interdisciplinary course of study and challenging opportunities to do fundamental drug-related research in the basic chemical and biological sciences. Contemporary research geared toward drug discovery and design is the cornerstone of graduate study in this area. Students design a course of study, including core courses in synthesis, spectroscopy, enzymology, pharmacology, analytical chemistry, toxicology, and drug design as well as elective courses to maintain breadth and achieve depth in a research area.

The pharmaceuticals area is a multidisciplinary science that examines the development, production, and characterization of dosage forms, as well as the disposition and action of drugs in the body. As pharmaceutical scientists have been engaged in the development of novel biomaterials for sophisticated drug delivery systems, they also have expanded into research with applications in the development of medical devices and tissue engineering.

For more information about graduate study, visit the College of Pharmacy website.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must:

- hold a bachelor's degree from a U.S. institution or an equivalent degree from another country as determined by the University of Iowa Office of Admissions;
- have a g.p.a. of at least 3.00;
- submit a Graduate Record Examination (GRE) General Test score; and
- if an international applicant, receive a Test of English as a Foreign Language (TOEFL) minimum score of 81, an International English Language Testing System (IELTS) minimum overall score of 7.0 with no individual score below 6.0, or a Duolingo English Test (DET) minimum score of 105; however, if an applicant has a master's degree from a U.S. institution, this requirement is waived.

Visit Graduate Degree: How to Apply on the College of Pharmacy website for a list of program requirements and application deadlines. Academic requirements for maintaining graduate registration are determined by the Graduate College and by the individual divisions in the College of Pharmacy.

## Career Advancement

Advanced study in the pharmaceutical sciences prepares students for research, teaching, and administrative positions in the pharmaceutical industry, in colleges and universities, in government agencies, and in health-related institutions and organizations.



## Pharmacy, Ph.D.

The College of Pharmacy offers a Doctor of Philosophy degree in pharmacy with subprograms in four areas: clinical pharmaceutical sciences, health services research, medicinal and natural products chemistry, and pharmaceutics.

The clinical pharmaceutical sciences subprogram is designed for students interested in clinical research. The goal is to advance the science of human pharmacology and therapeutics and to improve the safe, effective, and economical use of medications by patients. The subprogram emphasizes the integration of clinical and basic research. It involves advanced studies of clinical pharmacology, pharmacokinetics, pharmacodynamics, pharmacogenetics, and the requirements for regulatory approval of new drugs.

The health services research subprogram provides an innovative approach to studying the challenges facing the health care system and provides evidence to support policy-based solutions. It combines ideas across several distinct scientific paradigms (sociology, economics, psychology, business, and anthropology) to better understand the factors leading to decisions in health care and the consequences of these decisions. Students gain broad knowledge of health and pharmaceutical care, informed by theories from economics and social psychology. The subprogram teaches intellectual and practical skills to investigate research questions dealing with current issues.

The medicinal and natural products chemistry subprogram educates students in the chemistry and biology of drug discovery. It offers an interdisciplinary course of study and challenging opportunities to do fundamental drug-related research in the basic chemical and biological sciences. The subprogram spans many aspects of the subdisciplines of chemistry, biochemistry, and pharmacology with a common theme of drug discovery. This includes extensive laboratory research aimed at testing a novel hypothesis, which is written and defended as a student's thesis. Contemporary research geared toward drug discovery and design is the cornerstone of graduate study in this area. Students design a course of study, including core courses in synthesis, spectroscopy, enzymology, pharmacology, analytical chemistry, toxicology, and drug design as well as elective courses to maintain breadth and achieve depth in a research area.

The pharmaceutics subprogram provides a multidisciplinary science focus that examines the development, production, and characterization of dosage forms, as well as the disposition and action of drugs in the body. As pharmaceutical scientists have been engaged in the development of novel biomaterials for sophisticated drug delivery systems, they also have expanded into research with applications in the development of medical devices and tissue engineering.

For more information about graduate study, visit the College of Pharmacy website.

### Learning Outcomes

Graduates will demonstrate the ability to:

- identify important research problems through development of subject matter expertise and critical evaluation of the current state of knowledge in that area of expertise;
- develop testable hypotheses and/or research questions, and then utilize sound methodology to design research approaches to address them;

- conduct, analyze, and interpret independent original research that contributes new knowledge to the field of study;
- effectively communicate research results to a range of audiences in both written and oral formats;
- conduct all aspects of research and communication of results with the highest ethical standards; and
- be prepared for a diversity of career options in academia, industry, government, or other relevant fields.

### Clinical Pharmaceutical Sciences

The Doctor of Philosophy in pharmacy with a subprogram in clinical pharmaceutical sciences requires 72 s.h. of credit, including 22 s.h. of didactic coursework that consists of required courses and electives. The remaining 50 s.h. consist of research credits, seminars, and additional coursework. Students must maintain a cumulative g.p.a. of at least 3.00.

The Doctor of Philosophy in pharmacy with a subprogram in clinical pharmaceutical sciences requires the following work.

### Biostatistics

Code	Title	Hours
Both of these:		
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3

Students can substitute one or two of these with advisor approval:

EPID:4400	Epidemiology I: Principles	3
EPID:5500	Introduction to Clinical Epidemiology	3
STAT:4520/ IGPI:4522/ PSQF:4520	Bayesian Statistics	3

### Genetics

Code	Title	Hours
Both of these:		
BIOL:5412	Fundamental Genetics - Graduate Lecture	3
BIOL:5512	Readings in Genetics	2

Students can substitute one of these with advisor approval:

BIOL:3713	Molecular Genetics	4
BMB:3130	Biochemistry and Molecular Biology II	3

### Required Courses

Code	Title	Hours
PHAR:6120	Clinical Pharmaceutical Sciences Research	0-2
PHAR:6700	Advanced Pharmacokinetics and Pharmacodynamics	3
PHAR:6710	Pharmaceutics Graduate Seminar (enrollment required each semester)	1-2
PHAR:7101	Principles of Experimental Therapeutics	3

PHAR:7102	Applied Clinical and Translational Science	3
BMED:7270	Scholarly Integrity/ Responsible Conduct of Research I (taken in second year)	0
BMED:7271	Scholarly Integrity/ Responsible Conduct of Research II (taken in second year)	0
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3

## Electives

At least 12 s.h. must be taken from the following or students may choose other graduate-level coursework in consultation with their advisor.

Code	Title	Hours
PHAR:4736	Properties of Dosage Forms I	3
PHAR:4737	Properties of Dosage Forms II	3
PHAR:4740	Materials in Drug and Gene Delivery	3
PHAR:4741	Immunology and Immunotherapies	2
PHAR:5350	Introduction to Research Methods	3
PHAR:5512	Drug Discovery and Mechanisms	3
PHAR:5549	Analytical Biochemistry	3
PHAR:5700	Quantitative Research Methods in Pharmacy I	3-4
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	3
PHAR:6504	Mastering Reproducible Science	1
BIOS:5130/ IGPI:5130	Applied Categorical Data Analysis	3
BIOS:6610/ IGPI:6610	Statistical Methods in Clinical Trials	3
CS:3210	Programming Languages and Tools (when topics are programming with C++ or programming with Java)	2
EPID:6900	Design of Intervention and Clinical Trials	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3
MMED:6230	Pathogenesis of Metabolic and Cardiovascular Disorders	3
MPB:6220/ ACB:6220/ MMED:6220	Mechanisms of Cellular Organization	3
MPB:6225/ ACB:6225/ MMED:6225/ PCOL:6225	Growth Factor Receptor Signaling	1

## Comprehensive Examination

The comprehensive examination follows completion of the majority of didactic coursework, usually at the end of the second year in the Ph.D. program. The comprehensive examination assesses the candidate's mastery of the major and related fields of study, and of the research tools in which competence has been certified. It also helps identify any weaknesses in a candidate's knowledge base that needs to be corrected with additional coursework or instruction.

Successfully passing the comprehensive examination indicates that candidates can continue work toward the doctorate. Examination times are scheduled at the discretion of the clinical pharmaceutical sciences graduate program. An examination may be scheduled during the fall, spring, or summer semesters. Questions for the comprehensive examination are solicited from graduate faculty members and from the examination committee. The questions may be directly or indirectly related to the area of each candidate's research proposal. The format of the questions is left up to the faculty member, but may include the interpretation of published literature or written questions designed to test a candidate's knowledge. The oral portion of the examination is scheduled to occur within two weeks of completion for the written part, and allows the committee to evaluate a candidate's knowledge and oral communication skills.

## Thesis Defense

Students schedule a data session with their doctoral committee during their third or fourth year, at a time that is approximately one year prior to their final defense. Data sessions include a progress report to seek the scientific advice and approval of the committee. For these sessions, students should prepare a brief written summary, present research results, and clearly explain the immediate and final goals of their project.

The defense is a formal public 45-minute presentation, scheduled as a regular division seminar if possible, during which students present the details of their thesis research. Following the public presentation, students and their thesis committee meet in a separate session to ask more detailed questions.

## Health Services Research

The Doctor of Philosophy in pharmacy with a subprogram in health services research requires 74 s.h. of credit. Students must maintain a cumulative g.p.a. of at least 3.00.

In the first two years in the program, students participate in on-going research and complete coursework. In the third year, emphasis is placed on developing a dissertation topic. The following two years are spent on research and writing of the dissertation.

The Doctor of Philosophy in pharmacy with a subprogram in health services research requires the following work.

## Core Competencies

Students complete the following coursework before they take the Core Competency Qualifying Exam.

## Health Services Research

Code	Title	Hours
All of these:		
PHAR:6320	Health Services Research	arr.

PHAR:6330	Models of Patient Behavior and Choice	3
PHAR:6331	Models of Provider Behavior and Choice	3
HMP:4000	Introduction to the U.S. Health Care System (or equivalent as approved by advisor)	3

## Research Methods and Statistics

Code	Title	Hours
All of these:		
PHAR:5350	Introduction to Research Methods	3
PHAR:5360	Applied Research Methods: Primary Data	3
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120/ IGPI:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3

Additional statistics coursework (biostatistics, economics, education, psychology, mathematics, or sociobiology) 6

## Specialty

The specialty area requires at least 24 s.h. of coursework. With the guidance of their faculty advisor, students develop a plan of study that encompasses an area of expertise or specialty.

## Additional Requirements

Students are expected to participate in specific aspects of ongoing research. These research activities are often paid graduate research assistantships; course credit is not available for paid assistantships. By the end of their third year, students are expected to present the results from one completed research project at a regional or national meeting.

Code	Title	Hours
PHAR:5310	Health Services Research Seminar (students enroll in the seminar for 1 s.h. each semester they are on campus, excluding summer session)	1
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I (taken in second year)	0
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II (taken in second year)	0

## Medicinal and Natural Products Chemistry

The Doctor of Philosophy in pharmacy with a subprogram in medicinal and natural products chemistry requires 72 s.h. of credit. Students complete 24 s.h. of didactic coursework, of which a minimum of 15 s.h. must be divisional courses. The remaining hours may be fulfilled by selecting from interdisciplinary elective courses. Students must maintain a cumulative g.p.a. of at least 3.00.

The Ph.D. is based upon interdisciplinary study in courses offered by the biochemistry, medicinal and natural products chemistry, pharmacology, and toxicology disciplines. Students complete the majority of their coursework during the first two years of study while simultaneously gaining research experience in the laboratory. The degree is granted only after students complete and defend an original research-based thesis project, typically in five years.

Entering students who do not have basic knowledge in all subjects are advised to complete one or more prerequisite electives during their first and second years.

The Doctor of Philosophy in pharmacy with a subprogram in medicinal and natural products chemistry requires the following work.

## Required Coursework

Code	Title	Hours
All of these:		
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar	1-2
PHAR:5515	Perspectives in MNPC Research (taken every fall semester)	2
PHAR:5520	Medicinal and Natural Products Chemistry Research (taken every fall and spring semester)	arr.
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I (taken in second year)	0
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II (taken in second year)	0
CCP:3169	Internship in Graduate Studies (taken summer of third year)	0

## Interdisciplinary Electives

Code	Title	Hours
3-6 s.h., taken every fall and spring semester		

## Divisional Courses

Code	Title	Hours
3-6 s.h., taken every fall and spring semester, from these:		
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar	1-2
PHAR:5512	Drug Discovery and Mechanisms	3
PHAR:5521	High Throughput Screening for Pharmaceutical and Biomedical Sciences	1
PHAR:5537	Enzymatic Basis of Drug Metabolism	3
PHAR:5541	Total Synthesis of Biologically Active Natural Products	3

PHAR:5542/ BMB:5244	Molecular Recognition	1
PHAR:5545	Current Medicinal Chemistry	3
PHAR:5549	Analytical Biochemistry	3
PHAR:6501	Principles and Mechanisms of Chemical Toxicology	3
PHAR:6504	Mastering Reproducible Science	1

## Pharmaceutics

The Doctor of Philosophy in pharmacy with a subprogram in pharmaceutics requires 72 s.h. of credit. The degree requires 30 s.h. in didactic coursework, including a minimum of 15 s.h. in divisional courses and 15 s.h. of pharmacy or elective coursework. The remaining 42 s.h. can be fulfilled with research or electives. Students must maintain a cumulative g.p.a. of at least 3.00.

Entering students who do not have basic knowledge in all subjects follow a plan of study in order to complete divisional requirements during their first and second years.

The Doctor of Philosophy in pharmacy with a subprogram in pharmaceutics requires the following work.

## Required Courses

Code	Title	Hours
All of these:		
PHAR:4146	Drug Disposition and Pharmacokinetics	2
PHAR:4736	Properties of Dosage Forms I (or equivalent)	3
PHAR:4737	Properties of Dosage Forms II	3
PHAR:4800	Chemical and Biophysical Properties of Drugs	1
PHAR:5700	Quantitative Research Methods in Pharmacy I	3-4
PHAR:5720	Pharmaceutical Materials and Analysis	3
PHAR:5745	Drug Delivery: Principles and Applications I	arr.
PHAR:6700	Advanced Pharmacokinetics and Pharmacodynamics	3
PHAR:6706	Equilibria Processes	3
PHAR:6710	Pharmaceutics Graduate Seminar (enrollment required each semester until completion of comprehensive exam)	1
PHAR:6720	Pharmaceutics Research	arr.
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I (taken in second year)	0
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II (taken in second year)	0

## Elective Courses

Students choose appropriate electives for individual research objectives.

## Comprehensive Examination

Students take the comprehensive examination between the beginning and end of their third year of graduate study.

## Dissertation

The dissertation is defended in a final oral examination.

## Admission

Applicants must meet the admission requirements of the Graduate College. They must:

- hold a bachelor's degree from a U.S. institution or an equivalent degree from another country as determined by the University of Iowa Office of Admissions;
- have a minimum g.p.a. of at least 3.00;
- if an international applicant, receive a Test of English as a Foreign Language (TOEFL) minimum score of 81, an International English Language Testing System (IELTS) minimum overall score of 7.0 with no individual score below 6.0, or a Duolingo English Test (DET) minimum score of 105; however, if an applicant has a master's degree from a U.S. institution, this requirement is waived.

Students may submit a Graduate Record Examination (GRE) General Test score, but that is optional.

Visit Graduate Degree: How to Apply on the College of Pharmacy website for a list of program requirements and application deadlines. Academic requirements for maintaining graduate registration are determined by the Graduate College and by the individual divisions in the College of Pharmacy.

## Career Advancement

Advanced study in the pharmaceutical sciences prepares students for research, teaching, and administrative positions in the pharmaceutical industry, in colleges and universities, in government agencies, and in health-related institutions and organizations.

## Academic Plans

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Pharmacy, Ph.D.

- Clinical Pharmaceutical Sciences Subprogram [p. 2053]
- Health Services Research Subprogram [p. 2054]
- Medicinal and Natural Products Chemistry Subprogram [p. 2055]
- Pharmaceutics Subprogram [p. 2056]

## Clinical Pharmaceutical Sciences Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
BIOS:4120	Introduction to Biostatistics <sup>b</sup>	3
PHAR:7101	Principles of Experimental Therapeutics	3
PHAR:6120	Clinical Pharmaceutical Sciences Research	2
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective <sup>d</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences <sup>b</sup>	3
PHAR:7102	Applied Clinical and Translational Science	3
PHAR:6120	Clinical Pharmaceutical Sciences Research	2
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective <sup>d</sup>		3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOL:5412	Fundamental Genetics - Graduate Lecture <sup>e</sup>	3
BIOL:5512	Readings in Genetics <sup>e</sup>	2
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
PHAR:6700	Advanced Pharmacokinetics and Pharmacodynamics <sup>f</sup>	3
PHAR:6120	Clinical Pharmaceutical Sciences Research	3
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
PCOL:3101	Pharmacology I: A Drug's Fantastic Journey	3
PHAR:6120	Clinical Pharmaceutical Sciences Research	2
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective <sup>d</sup>		3
Elective <sup>d</sup>		3
<b>Hours</b>		<b>12</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Comprehensive Exam		
<b>Hours</b>		<b>0</b>

### Fall

Begin Research Proposal <sup>g</sup>		
PHAR:6120	Clinical Pharmaceutical Sciences Research	8
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
<b>Hours</b>		<b>9</b>

### Spring

PHAR:6120	Clinical Pharmaceutical Sciences Research	8
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
<b>Hours</b>		<b>9</b>

### Fourth Year

<b>Fall</b>		
PHAR:6120	Clinical Pharmaceutical Sciences Research	1
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
<b>Hours</b>		<b>2</b>

### Spring

PHAR:6120	Clinical Pharmaceutical Sciences Research	1
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
<b>Hours</b>		<b>2</b>

### Fifth Year

<b>Fall</b>		
PHAR:6120	Clinical Pharmaceutical Sciences Research	1
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1-2
<b>Hours</b>		<b>2-3</b>

### Spring

PHAR:6120	Clinical Pharmaceutical Sciences Research	1
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1-2
Final Exam <sup>h</sup>		
<b>Hours</b>		<b>2-3</b>

**Total Hours** **74-76**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Depending on biostatistics background, students may substitute one or two of the following courses: EPID:4400, EPID:5500, STAT:4520.

c Registration required every semester; optional after fourth year.

d Work with faculty advisor to determine appropriate elective coursework and sequence.

e Depending on genetics background, students may substitute one of the following courses: BIOL:3713 or BMB:3130.

f Students may need to complete MATH:1460 prior to registering for PHAR:6700; work with faculty advisor to determine if it is a prerequisite.

g Work with faculty advisor to schedule data session with doctoral committee (usually in third or fourth year); see department website for specifics.

h Dissertation defense.

## Health Services Research Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
74 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
BIOS:4120	Introduction to Biostatistics	3
HMP:4000	Introduction to the U.S. Health Care System <sup>b, c</sup>	3
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:5350	Introduction to Research Methods <sup>c, e</sup>	3
PHAR:6320	Health Services Research	2
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:5360	Applied Research Methods: Primary Data	3
PHAR:6320	Health Services Research	2
Research Methods and Statistics Elective <sup>c, f, g</sup>		3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	2
PHAR:6330	Models of Patient Behavior and Choice <sup>c, e</sup>	3
Research Methods and Statistics Elective <sup>c, f, g</sup>		3
Specialty Area Elective <sup>f</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	2
PHAR:6331	Models of Provider Behavior and Choice <sup>c, e</sup>	3
Specialty Area Elective <sup>f</sup>		3
Specialty Area Elective <sup>f</sup>		3
<b>Hours</b>		<b>12</b>
<b>Third Year</b>		
<b>Any Semester</b>		
Specialty Qualifying Exam <sup>h</sup>		0
<b>Hours</b>		<b>0</b>

<b>Fall</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	1
Specialty Area Elective <sup>f</sup>		3
Specialty Area Elective <sup>f</sup>		3
Specialty Area Elective <sup>f</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	2
Specialty Area Elective <sup>f</sup>		3
Specialty Area Elective <sup>f</sup>		3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
Comprehensive Exam <sup>i</sup>		0
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	1
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1
PHAR:6320	Health Services Research	1
<b>Hours</b>		<b>2</b>
<b>Fifth Year</b>		
<b>Fall</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1-2
PHAR:6320	Health Services Research	1
<b>Hours</b>		<b>2-3</b>
<b>Spring</b>		
PHAR:5310	Health Services Research Seminar <sup>d</sup>	1-2
PHAR:6320	Health Services Research	1
Final Exam <sup>j</sup>		2-3
<b>Hours</b>		<b>2-3</b>
<b>Total Hours</b>		<b>76-78</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b May be waived for students who have had equivalent coursework.

c Must complete before taking the Core Competency Qualifying Exam.

d Registration required every semester; optional after fourth year.

e Offered every other year; work with faculty advisor to select appropriate first year classes if entering the program on a year when not taught.

f Work with faculty advisor to determine appropriate graduate coursework and sequence; see General Catalog and department website for specifics.

- g May be taken in biostatistics, economics, education, psychology, mathematics, or sociobiology.  
 h Faculty advisor to determine when this exam will be, but typically by the end of third year.  
 i A required Core Competency Qualifying Exam; work with faculty advisor to determine when this exam may be completed (typically during fourth year).  
 j Dissertation defense.

## Medicinal and Natural Products Chemistry Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
PHAR:5515	Perspectives in MNPC Research <sup>b</sup>	2
PHAR:5520	Medicinal and Natural Products Chemistry Research	1
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1
MNPC Divisional Course <sup>d</sup>		3
MNPC Divisional Course <sup>d</sup>		3
Elective <sup>e</sup>		2
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
PHAR:5520	Medicinal and Natural Products Chemistry Research	2
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1
MNPC Divisional Course <sup>d</sup>		3
Interdisciplinary Elective <sup>d</sup>		3
Elective <sup>e</sup>		3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
PHAR:5515	Perspectives in MNPC Research <sup>b</sup>	2
PHAR:5520	Medicinal and Natural Products Chemistry Research	2
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1
MNPC Divisional Course <sup>d</sup>		3
Interdisciplinary Elective <sup>d</sup>		3
Elective <sup>e</sup>		1
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
PHAR:5520	Medicinal and Natural Products Chemistry Research	4

PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1
MNPC Divisional Course <sup>d</sup>		3
Interdisciplinary Elective <sup>d</sup>		3
<b>Hours</b>		<b>11</b>

### Third Year

#### Any Semester

Comprehensive Exam <sup>f</sup>		0
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
PHAR:5515	Perspectives in MNPC Research <sup>b</sup>	2
PHAR:5520	Medicinal and Natural Products Chemistry Research	5
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1
Elective <sup>e</sup>		2
<b>Hours</b>		<b>10</b>

#### Spring

PHAR:5520	Medicinal and Natural Products Chemistry Research	5
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1
Elective <sup>e</sup>		3
<b>Hours</b>		<b>9</b>

#### Summer

CCP:3169	Internship in Graduate Studies	0
<b>Hours</b>		<b>0</b>

### Fourth Year

#### Fall

PHAR:5520	Medicinal and Natural Products Chemistry Research	3
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1-2
<b>Hours</b>		<b>4-5</b>

#### Spring

PHAR:5520	Medicinal and Natural Products Chemistry Research	1
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1-2
<b>Hours</b>		<b>2-3</b>

### Fifth Year

#### Fall

PHAR:5520	Medicinal and Natural Products Chemistry Research	1
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1-2
<b>Hours</b>		<b>2-3</b>

#### Spring

PHAR:5520	Medicinal and Natural Products Chemistry Research	1
PHAR:5510	Pharmaceutical Sciences and Experimental Therapeutics Seminar <sup>c</sup>	1-2

Final Exam<sup>g</sup>

Hours	2-3
<b>Total Hours</b>	<b>76-80</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Registration required every fall semester until comprehensive exam has been completed.
- c Registration required every semester; optional after third year.
- d Students complete 24 s.h. of didactic coursework, of which a minimum of 15 s.h. must be divisional courses; the remaining hours may be fulfilled by selecting from interdisciplinary elective courses. Work with faculty advisor to determine appropriate graduate coursework and sequence.
- e Work with faculty advisor to determine appropriate graduate coursework and sequence; see General Catalog and department website for specifics.
- f Typically taken during third year.
- g Dissertation defense.

## Pharmaceutics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
The degree requires 30 s.h. in didactic coursework, including a minimum of 15 s.h. in divisional courses and 15 s.h. of pharmacy or elective coursework; the remaining 42 s.h. can be fulfilled with research or electives.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
MATH:2560 or MATH:3600	Engineering Mathematics IV: Differential Equations <sup>b</sup> or Introduction to Ordinary Differential Equations	3
CHEM:4430 or CHEM:4431	Principles of Physical Chemistry <sup>b</sup> or Physical Chemistry I	3
PHAR:4736	Properties of Dosage Forms I <sup>b</sup>	3
PHAR:6706	Equilibria Processes	3
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
PHAR:4737	Properties of Dosage Forms II <sup>b</sup>	3
PHAR:5700	Quantitative Research Methods in Pharmacy I	3
PHAR:4800	Chemical and Biophysical Properties of Drugs	1
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective <sup>d</sup>		3
<b>Hours</b>		<b>11</b>

## Second Year

<b>Fall</b>		
PHAR:4146	Drug Disposition and Pharmacokinetics	2
BMED:7270	Scholarly Integrity/Responsible Conduct of Research I	0
PHAR:6720	Pharmaceutics Research	2
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective <sup>d</sup>		3
Elective <sup>d</sup>		3
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
PHAR:5745	Drug Delivery: Principles and Applications I	3
PHAR:6700	Advanced Pharmacokinetics and Pharmacodynamics	3
BMED:7271	Scholarly Integrity/Responsible Conduct of Research II	0
PHAR:6720	Pharmaceutics Research	2
PHAR:6710	Pharmaceutics Graduate Seminar <sup>c</sup>	1
Elective <sup>d</sup>		3
<b>Hours</b>		<b>12</b>

## Third Year

<b>Any Semester</b>		
Comprehensive Exam <sup>e</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
Elective <sup>d</sup>		3
Elective <sup>d</sup>		3
PHAR:6720	Pharmaceutics Research	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Elective <sup>d</sup>		3
Elective <sup>d</sup>		3
PHAR:6720	Pharmaceutics Research	3
<b>Hours</b>		<b>9</b>

## Summer

Internship (optional)		
<b>Hours</b>		<b>0</b>

## Fourth Year

<b>Fall</b>		
PHAR:6720	Pharmaceutics Research	2
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
PHAR:6720	Pharmaceutics Research	2
<b>Hours</b>		<b>2</b>
<b>Summer</b>		
Internship (optional)		
<b>Hours</b>		<b>0</b>
<b>Fifth Year</b>		
<b>Fall</b>		
PHAR:6720	Pharmaceutics Research	2
<b>Hours</b>		<b>2</b>
<b>Spring</b>		
PHAR:6720	Pharmaceutics Research	1



Final Exam <sup>f</sup>	
<b>Hours</b>	<b>1</b>
<b>Total Hours</b>	<b>72</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b If equivalent course not taken previously; otherwise work with faculty advisor to select relevant elective in Pharmaceutics or outside the department.
- c Enrollment required each semester until completion of comprehensive exam.
- d Work with faculty advisor to determine appropriate graduate coursework and sequence.
- e Written research proposal and oral exam; typically completed by the end of third year.
- f Dissertation defense.

# College of Public Health

## Dean

- Edith A. Parker

## Associate Dean, Academic Affairs

- Margaret L. Chorazy

## Associate Dean, Faculty Affairs

- Jeffrey D. Dawson

## Associate Dean, Research

- Diane Rohlman

## Associate Dean, Administration

- Lori J. Cranston

## Assistant Dean, Student Services

- Scot H. Reisinger

## Director, Undergraduate Programs

- Brandi Janssen

**Undergraduate major:** public health (B.A., B.S.)

**Undergraduate certificate:** public health

**Graduate degrees:** M.H.A.; M.P.H.; M.S.; Ph.D.

**Graduate certificates:** agricultural safety and health; biostatistics; emerging infectious disease epidemiology; healthcare management; public health; translational and clinical investigation

**Website:** <https://www.public-health.uiowa.edu/>

The College of Public Health, established in 1999, is a partner with the Carver College of Medicine and the Colleges of Dentistry, Nursing, and Pharmacy in striving to improve human health and well-being. Consistent with the interdisciplinary traditions of public health, the college also collaborates with non-health science colleges across the University and with other Board of Regents, State of Iowa institutions, state and local agencies, and the private sector.

Public health is the science of protecting and improving the health of communities. Professionals in this field use specialized knowledge and skills to better understand the root causes of diseases and injuries and, whenever possible, develop strategies to prevent them.

A population-based approach to health is a distinguishing feature of public health and of the college. For public health practitioners—a wide range of professionals including physicians, nurses, dentists, pharmacists, social workers, nutritionists, environmental scientists, health educators, and health service administrators—the primary focus is on the health of entire communities rather than individual patients. Tools that public health professionals use to improve and enhance quality of life include analytical methods to identify, describe, and monitor the health of communities and populations at risk; education and prevention programs, methods of assuring access to appropriate and cost-effective care; and formulation of sound public policies.

The public health approach has led to many important health improvements over the past century. Vaccination campaigns, improved sanitation, fluoridation of drinking water, and efforts to reduce tobacco use are among the most recognizable

public health initiatives. Public health programs also have led to safer workplaces, reduction of deaths from coronary heart disease and stroke, improved motor vehicle safety, and creation of effective health systems to provide care to those who need it. Today, public health professionals play an important role worldwide in seeking better approaches to complex issues such as quality of life for the elderly, drug and alcohol abuse, teen pregnancy, new and reemerging infectious diseases, bioterrorism, health literacy, nutrition, and food safety.

The College of Public Health provides educational opportunities to students campuswide. In addition to training and educating public health students, the college welcomes students from the Tippie College of Business, the Carver College of Medicine, the Graduate College, and the Colleges of Dentistry, Education, Engineering, Law, Nursing, and Pharmacy who enroll in public health courses. Undergraduate students in the College of Liberal Arts and Sciences and graduate students from programs such as anthropology, microbiology, and statistics also register for public health courses. The college's faculty members, staff members, and graduate and postdoctoral students contribute to teaching and research activities throughout the health sciences campus and provide services to Iowa and the nation. Partnerships for teaching and research extend across the campus. This background provides a rich array of educational opportunities.

The college includes the Departments of Biostatistics [p. 2093], Community and Behavioral Health [p. 2103], Epidemiology [p. 2110], Health Management and Policy [p. 2125], and Occupational and Environmental Health [p. 2139]. It offers programs leading to two undergraduate degrees: Bachelor of Arts (B.A.) and Bachelor of Science (B.S.). It also offers programs leading to four graduate degrees: Master of Health Administration (M.H.A.), Master of Public Health (M.P.H.), Master of Science (M.S.), and Doctor of Philosophy (Ph.D.). In addition, it offers the Certificate in Agricultural Safety and Health [p. 2092], the Certificate in Biostatistics [p. 2102], the Certificate in Emerging Infectious Disease Epidemiology [p. 2109], the Certificate in Healthcare Management [p. 2138], the undergraduate Certificate in Public Health [p. 2077], the graduate Certificate in Public Health [p. 2090], and the Certificate in Translational and Clinical Investigation [p. 2151].

The undergraduate and graduate programs of the college are accredited by the Council on Education for Public Health (CEPH), the accrediting body for schools and programs of public health. Three programs in the college also are accredited: the industrial hygiene M.S. training program is accredited by the Accreditation Board for Engineering and Technology (ABET), the Master of Health Administration is accredited by the Commission on Accreditation of Healthcare Management Education (CAHME), and the Occupational Medicine Residency is accredited by the Accreditation Council for Graduate Medical Education (ACGME).

## Faculty

The college's faculty includes members with single appointments in the College of Public Health as well as secondary and adjunct appointments. See the Faculty A-to-Z List on the college's website for more information.

## Programs

### Undergraduate Programs of Study

The College of Public Health offers the Bachelor of Arts (B.A.) and the Bachelor of Science (B.S.); see the B.A. in public health [p. 2066] and the B.S. in public health [p. 2072] in the Catalog for more information. The college also offers the undergraduate Certificate in Public Health [p. 2077].

### Graduate Programs of Study

The College of Public Health offers the Master of Public Health [p. 2078] (M.P.H.); the Master of Health Administration [p. 2128] (M.H.A.), the Master of Science (M.S.), and the Doctor of Philosophy (Ph.D.); see the Biostatistics [p. 2093], Community and Behavioral Health [p. 2103], Epidemiology [p. 2110], Health Management and Policy [p. 2125], and Occupational and Environmental Health [p. 2139] departmental sections of the Catalog for more information.

The College of Public Health also offers graduate Certificates in Public Health [p. 2090], Agricultural Safety and Health [p. 2092], Biostatistics [p. 2102], Emerging Infectious Disease Epidemiology [p. 2109], Healthcare Management [p. 2138], and Translational and Clinical Investigation [p. 2151].

## Undergraduate Rules and Procedures

### Academic Advising

First-year students directly admitted to the College of Public Health major are advised by undergraduate program staff at the College of Public Health. First-year College of Liberal Arts and Sciences (CLAS) public health interest students are advised at the University's Academic Advising Center. CLAS public health interest students who apply and are admitted to the College of Public Health are advised at the College of Public Health by undergraduate program staff. All students are required to have a conference with their advisor before registering for classes each semester.

### Application for Degree

Students who wish to be considered for graduation must submit an Application for Degree through MyUI the session before they are eligible to graduate or before the deadline date during the session in which they expect to graduate.

Students who do not graduate in the session they submitted their Application for Degree must submit another application through MyUI for the next applicable session. Students do not need to be registered to apply for a degree.

See Degree Application on the Office of the Registrar website.

### Academic Recognition

#### Dean's List

Undergraduate students in the College of Public Health who achieve a g.p.a. of 3.50 or higher on 12 s.h. or more of University of Iowa graded coursework during a given semester or summer session and who have no semester hours of I (incomplete) or O (no grade reported) during the same semester are recognized by inclusion on the Dean's List for that semester.

### President's List

Undergraduate students in the College of Public Health who achieve a g.p.a. of 4.00 on 12 s.h. or more of University of Iowa graded coursework and who have no semester hours of I (incomplete) or O (no grade reported) for two consecutive semesters (excluding summer sessions) are recognized by inclusion on the President's List.

### Graduation with Distinction

Graduation with distinction recognizes high academic achievement based on grades. The Office of the Registrar certifies to the dean of the College of Public Health the names of students eligible to graduate with distinction. To be eligible for consideration, the graduate must complete the public health major at the University of Iowa. The grade-point average upon which distinction is determined includes all college-level work (cumulative UI and total) undertaken prior to the opening of the final session.

- To graduate with highest distinction, the cumulative g.p.a. must be 3.90 to 4.00.
- To graduate with high distinction, the cumulative g.p.a. must be 3.80 to 3.89.
- To graduate with distinction, the cumulative g.p.a. must be 3.75 to 3.79.

### Graduation with Honors

Graduation with honors recognizes high academic achievement based on both grades and exceptional accomplishment.

#### Honors in the Major

Students majoring in public health have the opportunity to graduate with honors in the major. To graduate with honors in public health, students must successfully complete all college requirements with a g.p.a. of at least 3.33 in all courses for the major, in all college coursework, and in all UI coursework.

In addition, students must complete an honors thesis in CPH:4990 Mentored Independent Undergraduate Research in Public Health, where they must write a brief research proposal summarizing background and goals of honors research, defend their research proposal to a honors project faculty member and a honors advisor, conduct research, submit their honors thesis, and conclude with an oral and/or poster presentation.

Outstanding undergraduate students in the college have an opportunity to undertake independent study and to work closely with faculty members. Completion of requirements for honors in the major also will satisfy the experiential learning requirement.

### Academic Standards

#### Maximum Schedule

Course schedules of more than 19 s.h. for a semester, 12 s.h. for a summer session, or 3 s.h. for a winter session require approval of the advising staff in the undergraduate program office.

#### Classification of Students

Students are classified by the number of semester hours of credit they have earned toward the bachelor's degree.

Code	Title	Hours
First year:	0-29 s.h.	
Second year:	30-59 s.h.	
Junior:	60-89 s.h.	
Senior:	90 s.h. or more	

## Credit and Grading

### Credit by Examination

Students may earn up to 30 s.h. of credit by examination by taking selected tests from the College Level Examination Program (CLEP) and the Advanced Placement Program (AP) of the College Board, the Cambridge Assessment International Education (CAIE), or the International Baccalaureate Program (IB). For information about when and how to take the CLEP and AP examinations, contact the University's Office of Teaching, Learning & Technology.

The College of Public Health has information on scores, credit, and course duplicates for all CLEP, AP, and IB tests accepted by the college. Ordinarily, credit earned through examination is applied first to the General Education Requirements. Credit also may be applied to requirements of a major, minor, or certificate, or as elective credit.

### Credit From Other Colleges

Students who have taken courses at another institution that are similar to those approved for the public health major or the General Education Requirements may request that these courses be evaluated for transfer credit. When students apply for admission to the College of Public Health, they must submit official transcripts from each college attended along with their application for admission. After the credit has been certified by the Office of Admissions as college-level work from an accredited institution and after admission has been granted, the credit is evaluated by the undergraduate program either before or during the student's first semester of enrollment in the college.

### Grading System

The college uses a letter grading system. A denotes superior performance, B denotes above average, C denotes average, D denotes below average, and F denotes failure of the course. Plus and minus designate gradations of performance between letter grades. Letter grades and their numerical equivalents are as follows.

A+	4.33
A (superior)	4.00
A-	3.67
B+	3.33
B (above average)	3.00
B-	2.67
C+	2.33
C (average)	2.00
C-	1.67
D+	1.33
D (below average)	1.00
D-	0.67
F (failing)	0

### Adding and Dropping Courses

Students may drop courses, except College of Law courses, any time before the deadline published in the University's academic deadline calendar. Deadlines are different for

regular and off-cycle courses. See Academic Calendar on the Office of the Registrar website.

Students must obtain approval from the college that offers the course in order to request permission to add or drop a course after these deadlines.

### Auditing Courses

College of Public Health students may choose to take courses without earning credit for them (audit) with the permission of the course instructor and their advisor. Students are still charged for auditing courses. The mark of AUS (audit successful) is assigned to students registered for zero credit if attendance and performance in the course are satisfactory; if unsatisfactory, the mark of AUU (audit unsuccessful) is assigned. Courses completed with a mark of AUS do not meet any requirements nor do they carry any credit toward graduation. Auditing may not be used as a second-grade-only option.

To register for a course on an audit basis, students must obtain the instructor's authorizing signature and their advisor's signature and must register for 0 s.h. To change registration from audit to credit or from credit to audit, a change in registration form is used. These changes must be made during the period when adding courses is allowed.

### Pass/Nonpass Courses

Undergraduate students in the College of Public Health may not use courses taken P/N (pass/nonpass) to satisfy General Education Requirements, high school course requirements, prerequisite or major public health course requirements, or any course in the College of Public Health. Major public health requirements include any course that fulfills the major course requirements (including public health electives), regardless of the college offering the course. The College accepts a maximum of 15 s.h. of P (pass) credit from the University of Iowa toward the bachelor's degree and a maximum of 30 s.h. of P (pass) and S (satisfactory) grades from all sources (UI as well as transfer work) toward the bachelor's degree.

Pass/nonpass registration must be completed during the first 10 days of a fall or spring semester or the first one-and-one-half weeks of a summer session, and it requires the approval of the advisor and the instructor. For courses taken pass/nonpass, an earned grade of C-minus or higher is recorded as a P; an earned grade of D-plus or lower is recorded as an N. Pass/nonpass credit is not included in grade-point average calculations.

### Satisfactory/Fail Courses

The College of Public Health Direct Admit Seminar, Second Year Undergraduate Public Health Seminar, and Third Year Undergraduate Public Health Seminar are offered only satisfactory/fail (S/F). A grade of F (fail) earned for these seminars does not satisfy any portion of the professional development seminar requirement.

Certain other College of Public Health courses are offered satisfactory/fail (S/F). All students registered for these courses receive one of these marks.

Semester hours of S graded coursework are not used in computing grade-point averages, but hours of F graded coursework are used. Semester hours of S graded coursework are counted as semester hours earned toward graduation; semester hours of F graded coursework do not count as semester hours earned toward graduation.

College of Public Health undergraduates may not use S graded coursework to fulfill General Education Requirements.

The college accepts a maximum of 15 s.h. of S credit from the University of Iowa toward the bachelor's degree and a maximum of 30 s.h. of S and P grades from all sources (UI as well as transfer work) toward the bachelor's degree.

### **Incomplete Grades**

Instructors may report a mark of I (incomplete) only if the unfinished part of a student's work in a course other than research, thesis, or independent study is small; if the work is unfinished for reasons acceptable to the instructor; and if a student's standing in the course is satisfactory.

Students should not re-enroll in a course for which they have an incomplete. Incomplete grades must be removed by completing the unfinished part of the work. Faculty and students are encouraged to state clearly in a written agreement how the incomplete is to be completed and the due date for the remaining work. Both the faculty member and the student should keep a record of the written agreement.

Failure to remove the incomplete before the end of the next full semester, excluding summer and winter sessions, results in replacement of the I with a grade of F, regardless of whether a student is enrolled during that semester. A grade change may be submitted to convert a grade of F to another letter grade, with the instructor's approval.

Students cannot graduate with an I mark on their record. They must either complete the course for a passing grade, or allow the Incomplete to lapse to a grade of F.

### **Second-Grade-Only Option for CLAS Public Health Interest Students**

Public health interest students must follow the rules established by the College of Liberal Arts and Sciences (CLAS). Contact the CLAS Undergraduate Programs office or consult the CLAS Academic Policies Handbook for more information.

### **Second-Grade-Only Option**

College of Public Health students may repeat up to three courses taken at the University of Iowa regardless of the grade originally earned in the course and may only be used once per class. A course may not be repeated under the second-grade-only option once it has been used as a prerequisite for a more advanced course that the student has completed successfully. The second-grade-only option cannot be used to remove a grade of incomplete, which must be removed in the usual manner.

The second-grade-only option may be used only for University of Iowa courses. A course taken at another college or university may not be repeated at the University of Iowa under the second-grade-only option, nor may a UI course be repeated at another institution under the second-grade-only option.

Any second-grade-only options used before entry to the College of Public Health count toward the maximum of three second-grade-only options allowed.

If the course was taken for a grade the first time, it must be taken for a grade the second time.

If the course was taken satisfactory/fail the first time, a student may choose to take the course for a grade or as satisfactory/fail the second time.

Any University of Iowa course taken in any mode of delivery—during a regular semester, a summer session, an intensive session, through distance education, or through Distance and Online Education [p. 2181]—may be repeated in the same mode of delivery or in any other mode of delivery.

Students who have been awarded a degree from the University of Iowa may not use the second-grade-only option on a course taken before the degree was awarded.

Students must register as usual for the course that is to be repeated. After the session in which the course is being repeated has begun, students must request the second-grade-only option by completing the Second-Grade-Only Option Request Form. Students must follow this procedure or both grades will be counted in their University of Iowa grade-point average.

The permanent record is adjusted by placing a pound symbol (#) next to the first grade to indicate that it is no longer being included in the grade-point-average calculation, and only the semester hours from the second registration have been counted as semester hours earned. Once placed on the record, the option may not be retracted. Graduate or professional colleges may recalculate grade-point averages using all grades visible on the permanent record.

### **Student Academic Misconduct**

Policies regarding cases of cheating or plagiarism are outlined in the Undergraduate Student Handbook; see Examples of Academic Misconduct on the College of Public Health website.

### **Academic Probation and Dismissal**

College of Public Health students are expected to meet academic standards set by the college and to demonstrate reasonable progress toward a degree. To be considered in good academic standing, students must earn a minimum cumulative public health major g.p.a., a minimum UI cumulative g.p.a., and a minimum cumulative g.p.a. for all college work of at least 2.00, and a required University of Iowa session g.p.a. of 1.50 or higher during any spring, summer, or fall enrollment. If a student does not meet all grade-point average conditions, then the student is placed on academic probation.

Students usually are allowed only one session to return to good academic standing. They are required to meet with an academic advisor. Students on academic probation who withdraw registration after the deadline for dropping courses may be dismissed.

The college reviews academic records for all students at the end of the fall and spring semesters. There is no review at the end of the summer session. Students are placed on probation, dismissed for unsatisfactory progress (with or without previous probationary status), or restored to good standing only at the end of the fall and spring semesters.

Students who do not make satisfactory progress may be dismissed from the college without an intervening probationary period. Students who are dismissed from the college for unsatisfactory academic progress due to circumstances beyond their control, such as a death in their immediate family or extended personal illness, may appeal for a revocation of the dismissal. A student dismissed in January must submit a written appeal by the second day of spring semester classes. A student dismissed in May must submit the written appeal by June 15.

Students dismissed from the college for poor scholarship may appeal to re-enroll after an interval of at least one

calendar year following the end of the term in which they were dismissed. A written appeal for reinstatement must be submitted to the Undergraduate Program Office. Appeals must be submitted before June 15 for reinstatement in a fall semester or before December 1 for reinstatement in a spring semester.

For details, see the Undergraduate Student Handbook on the college's website.

## Reinstatement

Students dismissed for unsatisfactory scholarship for the first time are not permitted to register again for one year. Students dismissed for the second time may or may not be granted a second reinstatement. Requests for reinstatement must be made in writing and should be addressed to the Associate Dean for Academic Affairs, College of Public Health. Arrangements for a reinstatement interview must be made with the associate dean for academic affairs. The interview must take place between March 1 and July 1 for reinstatement for fall semester, or between October 1 and December 1 for reinstatement to spring semester. Late requests are deferred to the following semester.

Students who are permitted to register following dismissal are registered on academic probation and ordinarily are allowed two semesters to achieve good standing. Most reinstatements include a limit on the number of semester hours the student may take upon reinstatement. Very poor academic work in the first semester of a reinstatement, however, may result in dismissal at the close of that semester.

## Facilities

The College of Public Health Building, a state-of-the-art facility that opened in 2012 on the University's health sciences campus, houses the college's administrative, departmental, and faculty offices. The college's research centers, institutes, and specialized laboratories are located in Westlawn, on the health sciences campus; in University Capitol Centre, on the main campus east; and at the University of Iowa Research Park.

Four student computer laboratories are housed at the college. More than 55 software packages are available for student use, most without charge. Software includes Microsoft Office products, SAS, and S+. Some specialty labs are equipped with RedHat Linux and are loaded with R, Macanova, Xlispstat, Mathematica, and other software.

Students, faculty, and staff draw on extensive library resources available across campus. Hardin Library for the Health Sciences serves as a central resource for all of the health sciences colleges. Hardin Library's Information Commons, a state-of-the-art health sciences educational technology facility, provides central support and delivery for courseware development, classroom instruction, health-related research, and independent learning. It offers high-end multimedia development workstations, networked electronic classrooms, a case-based learning and conference room, and information research workstations for searching health-related databases and the internet.

## Research Centers and Institutes

The College of Public Health is home to 23 centers and institutes that conduct research and provide public service. These multidisciplinary centers and institutes—most of which are supported by federal grants—focus their investigative efforts on important public health topics. They conduct an

array of outreach, service, and policy activities through which the College of Public Health engages with agencies, communities, and organizations throughout Iowa, the Midwest, the nation, and the world. Students are encouraged to explore opportunities for involvement with any of the college's centers and institutes.

For more information, see Research Centers and Programs on the college's website.

## Courses

### College of Public Health Courses

#### **CPH:1000 First-Year Seminar** 1 s.h.

Small discussion class taught by faculty member; topics chosen by instructor; may include outside activities (e.g., films, readings, visits to research facilities).

#### **CPH:1050 College of Public Health Direct Admit Seminar** 1 s.h.

Introduction for first-year students to student life and the public health profession; tips for student success, resources on campus, coping with adversity, advising responsibilities, curriculum choices and career objectives, and community building events.

#### **CPH:1400 Fundamentals of Public Health** 3 s.h.

Introduction to public health; emphasis on issues, challenges, achievements, careers; historical events that serve as a foundation for public health practice. GE: Social Sciences.

#### **CPH:1600 Public Health Science: Inquiry and Investigation in Public Health** 3 s.h.

Introduction to epidemiology, biostatistics, and the interdisciplinary nature of public health research and practice; how public policy and population-based interventions are subsequently shaped by public health evidence. GE: Quantitative or Formal Reasoning.

#### **CPH:1800 Social and Psychological Determinants of Health: Changing Behavior, Improving Health** 3 s.h.

Study of the social and psychological aspects of health, including understanding behavior change to improve health.

#### **CPH:2050 Second Year Undergraduate Public Health Seminar** 1 s.h.

Preparation for experiential learning opportunities, including development of interpersonal, teamwork, leadership, and communication skills; ethical decision making; understanding the cultural contexts in which professionals work; working with communities and the role of advocacy; professionalism.

#### **CPH:2200 Climageddon: Understanding Climate Change and Associated Impacts on Health** 2 s.h.

Discovery, underlying principles, and impacts of global climate change; scientific evidence, global climate models, international treaties, ethics, advocacy and denial of climate change; strategies for climate adaptation and mitigation of unsustainable practices.

#### **CPH:2210 Introduction to Maternal and Infant Health Epidemiology** 2 s.h.

Introductory overview of maternal and infant health concepts, methods, and issues, both domestic and abroad, including contraception and fertility, pregnancy complications, caesarean delivery, maternal and infant morbidity and mortality, and child survival.

**CPH:2220 Building a Healthier Tomorrow: Public Health Methods to Minimize Disease and Pollutant Exposures** 3 s.h.

Introduction to historical public health practices developed to prevent exposures to environmental contaminants; major sources of those contaminants that adversely affect natural waters and air are evaluated relative to methods used to provide safe drinking water and clean air; in-class exercises involve critical thinking and creativity to understand concepts and tools needed to utilize prior public health successes and application to current and future environmental health events.

**CPH:2230 Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats** 3 s.h.

Exploration of lay and scientific literature, pandemic infection games, and popular culture television programming to evaluate past and fictional pandemics—are these pandemics rooted in fact or fiction?

**CPH:2240 Health, Intersectionality, and Diversity** 3 s.h.

Exploration of intersectionality related to gender and health disparities, particularly as they impact diverse populations in the United States. Same as GWSS:2400, LATS:2400.

**CPH:2400 The U.S. Health System in a Global Context** 3 s.h.

Fundamental organizational structures of the U.S. health system and the difference between systems globally; basic concepts of legal, ethical, economic, and regulatory dimensions of health care and policy and roles, influences, and responsibilities of government agencies.

**CPH:2600 Introduction to Public Health Methods** 3 s.h.

Introductory quantitative and qualitative methods used in public health practice and research. Prerequisites: CPH:1600 with a minimum grade of C-.

**CPH:3050 Third Year Undergraduate Public Health Seminar** 1 s.h.

Development and preparation for post-college plans, including how to conduct a job search, write a résumé and cover letter, interview, and apply to graduate programs in public health and related fields.

**CPH:3100 Health Economics** 3 s.h.

Introduction to microeconomic theory and applications to health and health care, including demand for health and health services, health insurance coverage, health care markets, behavior of health care providers, and role of government.

**CPH:3200 Death at Work: Case Studies of Workplace Safety and Health** 3 s.h.

Case-study approach to understanding the rights of workers to a safe and healthful workplace; relevant risk factors (physical, economic, social) among several working environments.

**CPH:3210 Nutrition in Public Health** 3 s.h.

Concepts and methods of obtaining and using food and nutrition information from federal databases and research publications; how food and nutrition knowledge, policy, and research are used for improvement of the health of populations.

**CPH:3220 Public Health as a Public Good: Economics and Decision Making in Public Health Systems** 3 s.h.

Role of government in the economy from a public health perspective; emphasis on the importance of public goods, behavioral economics in public health solutions, and key methods for evaluation of public programs.

**CPH:3230 Human Genetics and Public Health** 3 s.h.

Introduction to human genome and its impact on public health; students learn about public health initiatives and policies that include genetics (e.g., newborn screening, birth defects surveillance, cancer screening). Prerequisites: BIOL:1140 or BIOL:1141 or BIOL:1411.

**CPH:3240 Global Health Today** 1 s.h.

Attendance at diverse on-campus, local, and regional global health events. Same as GHS:3030.

**CPH:3300 Undergraduate Independent Study in Public Health** arr.

In-depth pursuit of an area of special interest in public health.

**CPH:3400 Health, Work, and the Environment** 3 s.h.

Survey of environmental and occupational health hazards and the associated health risks of exposure; how public health protects society from these hazards; how public health policy can be influenced by science. Same as GEOG:3210.

**CPH:3500 Global Public Health** 3 s.h.

Exploration of historical, current, and forecasted trends in global public health, the factors influencing health demographics in human populations, sources of health inequalities, and appropriate policy and intervention approaches for addressing global public health challenges. Same as GHS:3500.

**CPH:3600 Applied Public Health Methods** 3 s.h.

Application of quantitative and qualitative methods used in public health practice and research. Prerequisites: CPH:1600 with a minimum grade of C- and CPH:2600 with a minimum grade of C-.

**CPH:3700 Methods for Program Implementation and Evaluation** 3 s.h.

Introduction of theory and practice of program implementation and evaluation for health care and public health interventions focusing on programs implemented at the community level, including projects in government and nonprofit organizations. Prerequisites: CPH:1600 and CPH:2600.

**CPH:3750 Undergraduate Service Learning in Public Health** arr.

Community service learning experience directly related to goals and objectives of a specific public health course for undergraduate students; faculty-guided planning and reflection; satisfies the experiential learning public health degree requirement for undergraduate public health majors. Recommendations: CPH:2050 strongly recommended.

**CPH:3800 Public Health Theories and Society** 3 s.h.

Examination of public health and social science theories as they relate to socioeconomic, policy, institutions, communities, individual decision making, behavior, and health. Prerequisites: CPH:1400 and CPH:2600.

**CPH:3900 Fundamentals in Public Health Emergency Preparedness and Response** 3 s.h.

Basic concepts and principles used in emergency prevention, preparedness, response, and recovery at the local, state, and national levels with emphasis on roles and responsibilities of public health that align with policies, laws, and systems. Prerequisites: CPH:1400.

**CPH:3999 Undergraduate Research Experience in Public Health** arr.

Hands-on involvement in scholarly public health research activities under the supervision of faculty or research staff; satisfies the experiential learning degree requirement for undergraduate public health majors. Recommendations: CPH:2050 strongly recommended.

**CPH:4200 Agriculture, Food Systems, and Sustainability****3 s.h.**

Identification and development of tools to measure environmental and social sustainability of global agricultural practices, including interactions with the environment, social considerations, and the ability of agriculture to support farmers' livelihoods.

**CPH:4210 Making a Difference: Public Health Policy and Advocacy****3 s.h.**

Important role of policy in health, including policy structures, implementation, advocacy, and evaluation; students focus their work on a policy of their special interest.

**CPH:4220 Global Road Safety****3 s.h.**

Road safety problem, data sources, research methods used in field, and how intervention and prevention programs are developed and evaluated; lecture, hands-on approaches. Same as GHS:4530, OEH:4530.

**CPH:4230 Injury and Violence Prevention****3 s.h.**

Theory, research, and practice of injury control; unintentional and intentional injuries; local, national, international injury issues. Same as EPID:4510, OEH:4510.

**CPH:4240 Special Topics****arr.**

Didactic material in public health; may include tutorial, seminar, or faculty-directed work; may be a special topic or experience taught one time or on a first-time basis.

**CPH:4250 Field Experiences in Public Health****1 s.h.**

Direct involvement in actions being taken at local community level; topics include environmental health, infectious diseases, chronic diseases, and pediatric health; practical examples and hands-on experiences during site visits for topic-specific field investigations. Offered spring semesters. Prerequisites: BIOL:1140 or BIOL:1141 or BIOL:1411. Requirements: biology or microbiology coursework. Same as EPID:4314.

**CPH:4260 College of Public Health Strike Force****0 s.h.**

Provide support to public health organizations, health care systems, and nonprofit organizations throughout Iowa, nationally, and globally; students deploy to assist with diverse public health related projects; use of surge capacity, service learning, and just-in-time training models; hands-on learning opportunities that transition theory into practice while addressing real-life situations.

**CPH:4750 Undergraduate Global Learning in Public Health****arr.**

Global public health experience; satisfies the experiential learning public health degree requirement for undergraduate public health majors. Recommendations: CPH:2050 strongly recommended.

**CPH:4755 International Perspectives: Xicotepec****2 s.h.**

Interdisciplinary service-learning course to enrich understanding of Mexican culture and history; students hone teamwork, leadership, cultural sensitivity, cultural humility, and project management skills while developing and carrying out public health projects that address community-identified needs; coordinated with the support of Rotary International.

**CPH:4850 Undergraduate Public Health Internship****arr.**

Public health internship experience; satisfies the experiential learning public health degree requirement for undergraduate public health majors. Recommendations: CPH:2050 strongly recommended.

**CPH:4990 Mentored Independent Undergraduate Research in Public Health****arr.**

Independent student research project under the supervision of a faculty mentor; satisfies the experiential learning degree requirement for undergraduate public health majors. Corequisites: CPH:3600. Recommendations: CPH:2050 strongly recommended.

**CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health****3 s.h.**

Students in their final year synthesize and apply knowledge through cumulative and integrative activities that serve as a capstone to their educational experience. Prerequisites: CPH:1800 and CPH:2400 and CPH:3050 and CPH:3400 and CPH:3500 and CPH:3600 and CPH:3700.

**CPH:5100 Introduction to Public Health****3 s.h.**

Concepts, structures, and activities in public health practice. Offered fall semesters and summer sessions.

**CPH:5201 Interprofessional Education and Practice for M.P.H. Students I****0 s.h.**

Students gain knowledge and skills in interprofessional practice between health professionals including medicine, pharmacy, dentistry, physical therapy, nursing, health administration, and public health; understanding roles/responsibilities, values, and ethics across health professions; development of teamwork skills.

**CPH:5202 Interprofessional Education and Practice for M.P.H. Students II****0 s.h.**

Students gain knowledge and skills in interprofessional practice between health professionals including medicine, pharmacy, dentistry, physical therapy, nursing, health administration, and public health; understanding roles/responsibilities, values, and ethics across health professions; development of teamwork skills.

**CPH:5203 Interprofessional Education and Practice for M.P.H. Students III****0 s.h.**

Students gain knowledge and skills in interprofessional practice between health professionals including medicine, pharmacy, dentistry, physical therapy, nursing, health administration, and public health; understanding roles/responsibilities, values, and ethics across health professions; development of teamwork skills.

**CPH:6100 Essentials of Public Health****2 s.h.**

Introduction and overview of the scope of public health; emphasis on history, definitions, issues, achievements, and future challenges; examples of public health research and practice.

**CPH:6500 Independent Study in Public Health****arr.**

In-depth pursuit of an area of special interest in public health. Requirements: approval from the College of Public Health.

**CPH:6600 Service-Learning in Public Health****arr.**

Community service learning experience directly related to goals and objectives of a specific public health course; faculty-guided planning and reflection.

**CPH:6700 Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines****3 s.h.**

Introduction to public health emergency preparedness from a one health perspective; emergency preparedness from federal, state, and local perspectives; important elements for preparing responders; preparedness information systems and communication techniques.



**CPH:7000 M.P.H. Practicum Experience 0-6 s.h.**

Comprehensive and integrated application of knowledge acquired in the M.P.H. program in a practice setting; demonstration of professional competence in public health practice. Prerequisites: CBH:4105 and (HMP:5005 or HMP:4000) and EPID:4400 and BIOS:4120 and OEH:4240 and CPH:5100. Requirements: an approved practicum proposal.

**CPH:7200 M.P.H. Capstone Experience 1 s.h.**

Students gain knowledge and skills in public health practice by working on an interdisciplinary team to solve a real-world public health issue; each student has the opportunity to apply classroom and practical experience received throughout their M.P.H. coursework into an integrative experience; students particularly gain skills in advocacy, communication with diverse audiences on public health issues, and the role of different public health disciplines in solving health issues in the community. Prerequisites: CBH:4105 and (HMP:5005 or HMP:4000) and EPID:4400 and BIOS:4120 and OEH:4240 and CPH:5100.

**CPH:7270 Principles of Scholarly Integrity: Public Health 0-1 s.h.**

Training in the responsible conduct of research and scholarly activities; discussion of student/mentor responsibilities in pursuit of scholarly work and intellectual dialogues; responsibilities to the institution/scholarly community/society; public health core discipline examples are utilized.

**CPH:7500 M.P.H. Applied Practice Experience 1-2 s.h.**

Comprehensive and integrated application of knowledge acquired in the M.P.H. program in a practice setting; demonstration of professional competence in public health practice. Prerequisites: CBH:4105 and (HMP:5005 or HMP:4000) and EPID:4400 and BIOS:4120 and OEH:4240 and CPH:5100.

**CPH:7604 Principles of Scholarly Integrity: Public Health - Postdoc/K Awardees 0 s.h.**

Training in the responsible conduct of research and scholarly activities; discussion of student/mentor responsibilities in pursuit of scholarly work and intellectual dialogues; responsibilities to institution/scholarly community/society; utilization of public health core discipline examples; for public health postdoc/K awardees.

## Public Health, B.A.

The Bachelor of Arts (B.A.) degree provides students with a basic understanding of the five core public health knowledge areas: biostatistics, social and behavioral sciences, epidemiology, health policy and management, and occupational and environmental health sciences. Students will be prepared to enter the workforce or continue their education.

A public health core provides the degree with breadth in the biological, social, economic, quantitative, geographic, and educational components of health and health disparities within and across populations. Students complete a cumulative capstone experience during which they will integrate, apply, and synthesize public health knowledge. As an integral part of their education, students also are exposed to public health professionals and agencies.

### Requirements

The Bachelor of Arts with a major in public health requires a minimum of 120 s.h., including at least 61 s.h. of work for the major. Students must have a cumulative g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major; in all college coursework and in all UI coursework; and in all college coursework in public health and in all UI public health coursework, including any courses administered by the College of Public Health in the Departments of Biostatistics, Community and Behavioral Health, Epidemiology, Health Management and Policy, and Occupational and Environmental Health. Students are required to earn a minimum of 30 s.h. in public health coursework at the University of Iowa.

The B.A. with a major in public health requires the following coursework.

### College Success Requirement

All students are required to complete CSI:1600 Success at Iowa during the fall semester; students complete part one before participating in an orientation program. The course is designed to help students successfully transition to college life. The course covers information about online tools that are specific to the University, such as MyUI and Iowa Courses Online (ICON), and also discusses resources for navigating life on campus. Additional content includes financial aid literacy, strategies for making healthy behavior choices, sexual assault awareness and prevention, and the comprehensive transitional survey known as MAP-Works.

### General Education Requirements

Code	Title	Hours
RHET:1030	Rhetoric	4
ENGL:1200	The Interpretation of Literature	3
World Languages		0-10
Natural Sciences		7
Quantitative or Formal Reasoning		3
Social Sciences		3
Historical Perspectives		3
Diversity and Inclusion		3
International and Global Issues		3
Literary, Visual, and Performing Arts		3
Values and Culture		3

### World Languages

Students may complete the world languages requirement using one of the following three options. One year of high school language study is generally equivalent to one semester of college language study.

#### Option One

Attain fourth-level proficiency in a single world language, usually by completing four years of that language in high school or four semesters in college or an equivalent combination of high school and college coursework; or pass an achievement test or evaluation at fourth-level proficiency.

#### Option Two

Attain second-level proficiency in each of two world languages, usually by completing two years of each language in high school or two semesters of each language in college or an equivalent combination of high school and college coursework; or pass achievement tests and/or evaluations at second-level proficiency in each language. Option two does not fulfill the World Languages requirement for the College of Liberal Arts and Sciences or qualify students to earn credit under the Furthering Language Incentive Program (FLIP).

#### Option Three

Attain second-level proficiency in a single world language, usually by completing two years of that language in high school or two semesters of that language in college plus one 3 s.h. course from the GE CLAS Core [p. 20] in International and Global Issues, Values and Culture, or Diversity and Inclusion. Option three does not fulfill the World Languages requirement for the College of Liberal Arts and Sciences or qualify students to earn credit under the Furthering Language Incentive Program (FLIP).

Students may count courses taken to fulfill General Education Requirements toward other requirements for the B.A. degree.

### Prerequisites for Admission to the College

Students who wish to enter the major in public health after declaring the public health interest through the College of Liberal Arts and Sciences must complete the following by the end of the semester in which they apply before they may enter the major:

- completion of at least 12 s.h. at the University of Iowa;
- completion of CPH:1400 Fundamentals of Public Health with a grade of B-minus or higher;
- completion of CPH:1600 Public Health Science: Inquiry and Investigation in Public Health with a grade of B-minus or higher; and
- a cumulative g.p.a. of at least 2.75 in all courses taken at the University of Iowa and in all college-level coursework attempted.

### Public Health Core Courses

Students must complete the following (29-30 s.h.). Only direct admission students complete CPH:1050 whereas standard admission students do not.

Code	Title	Hours
CPH:1050	College of Public Health Direct Admit Seminar (only direct admission students complete this course)	1

CPH:1400	Fundamentals of Public Health	3
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health	3
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
CPH:2050	Second Year Undergraduate Public Health Seminar	1
CPH:2400	The U.S. Health System in a Global Context	3
CPH:2600	Introduction to Public Health Methods	3
CPH:3050	Third Year Undergraduate Public Health Seminar	1
CPH:3400	Health, Work, and the Environment	3
CPH:3500	Global Public Health	3
CPH:3700	Methods for Program Implementation and Evaluation	3
CPH:4999	Public Health Capstone: Practice of Evidence-Based Public Health	3

## Requirements

Students complete 19 s.h. as indicated from the following.

Code	Title	Hours
One of these:		
BIOL:1140	Human Biology: Nonmajors	4
BIOL:1141	Human Biology: Health Professions	4
BIOL:1411	Foundations of Biology	4
All of these:		
CPH:3100	Health Economics	3
CPH:3600	Applied Public Health Methods (section 1)	3
CPH:3800	Public Health Theories and Society	3
CPH:3900	Fundamentals in Public Health Emergency Preparedness and Response	3
One of these:		
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2164	Culture and Healing: An Introduction to Medical Anthropology	3
COMM:1809	Social Marketing Campaigns	3
GEOG:3110	Geography of Health	3
GEOG:4770	Environmental Justice	3
IS:2000	Introduction to International Studies	3
JMC:3116	Media and Global Cultures	3
JMC:3150	Media and Health	3
PHIL:2402	Introduction to Ethics	3
POLI:3111	American Public Policy	3

SOC:1022	Social Justice and Social Welfare in the United States	3
SOC:2810	Social Inequality	3

## Electives

Students complete a minimum of five College of Public Health courses from the following.

Code	Title	Hours
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
CPH:2220	Building a Healthier Tomorrow: Public Health Methods to Minimize Disease and Pollutant Exposures	3
CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
CPH:3200	Death at Work: Case Studies of Workplace Safety and Health	3
CPH:3210	Nutrition in Public Health	3
CPH:3220	Public Health as a Public Good: Economics and Decision Making in Public Health Systems	3
CPH:3230	Human Genetics and Public Health	3
CPH:3240	Global Health Today	1
CPH:4200	Agriculture, Food Systems, and Sustainability	3
CPH:4210	Making a Difference: Public Health Policy and Advocacy	3
CPH:4220	Global Road Safety	3
CPH:4230	Injury and Violence Prevention	3
CPH:4250	Field Experiences in Public Health	1

## Experiential Learning Requirement

Students must successfully complete at least one of these experiences from the following. Second Year Undergraduate Public Health Seminar (CPH:2050) is strongly recommended prior to enrollment in any of these courses. Contact the undergraduate program office for specific details.

## Research

Code	Title	Hours
CPH:3999	Undergraduate Research Experience in Public Health	0-3
CPH:4990	Mentored Independent Undergraduate Research in Public Health	3

## Internship

Code	Title	Hours
CPH:4850	Undergraduate Public Health Internship	0-3

## Global Learning

Code	Title	Hours
CPH:4750	Undergraduate Global Learning in Public Health	0-3

## Service Learning

Code	Title	Hours
CPH:3750	Undergraduate Service Learning in Public Health	0

## B.A./CLAS Undergraduate Degree

Students admitted to or enrolled in the B.A. in public health program may pursue an additional degree in the College of Liberal Arts and Sciences (CLAS). Students pursuing an additional degree outside the College of Public Health are:

- expected to meet all degree requirements, General Education Requirements, and GE CLAS Core requirements for both degree programs;
- required to satisfy the collegiate residence requirements of both colleges;
- assigned two advisors, one in each college; and
- assessed tuition for the primary program of study in accordance with the rules of the Registrar's Office.

Additional considerations:

- Students may be awarded degrees in the two colleges simultaneously or separately without requiring additional coursework beyond the degree requirements.
- Current students enrolled in the College of Public Health who want to add a CLAS major should use the Change of College Application found in MyUI.
- Students who wish to discontinue the additional degree program will need to file a Discontinuation of Combined Degree Program form in the collegiate office of the program of study they are dropping.

Students may change majors with either college in the college academic programs office and still remain in the additional degree program.

## Combined Programs

### B.A./Graduate Degree

Combined undergraduate to graduate programs provide an opportunity for students to earn both their B.A. and a master's degree in five years by beginning to earn graduate credit during their fourth year of undergraduate study.

Students in the combined programs must complete all requirements for each degree. Students apply for admission to the combined program during their third year as undergraduates and enter the program at the beginning of their fourth year.

Applicants also must apply for admission to the master's degree program and must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. For more

information, see Undergraduate to Graduate (U2G) on the College of Public Health website.

Public health majors intending to pursue the Undergraduate to Graduate (U2G) combined degree program in public health must complete 120 s.h. Up to 15 s.h. may be earned in graduate credit by the end of a student's fourth year.

Public health majors must complete all of the following requirements in addition to the 15 s.h. of graduate coursework.

## Public Health Major Degree Requirements

Coursework for the following requirements total approximately 60 s.h.:

- public health core courses,
- B.A. coursework,
- public health elective coursework,
- experiential learning requirement, and
- General Education Requirement courses.

## General Electives

University of Iowa (nonmajor) coursework to total 120 s.h. by end of the fourth year; this could include up to 15 s.h. of graduate credit in public health coursework taken as an undergraduate student.

Graduate courses taken during the fourth year do not count toward major requirements (including public health electives) for the undergraduate public health major. However, these semester hours may count as general elective credits needed to complete the 120 s.h. required for a bachelor's degree.

## Honors

### Honors in the Major

Students majoring in public health have the opportunity to graduate with honors in the major. To graduate with honors in public health, students must successfully complete all college requirements with a g.p.a. of at least 3.33 in all courses for the major, in all college coursework, and in all UI coursework.

In addition, students must complete an honors thesis in CPH:4990 Mentored Independent Undergraduate Research in Public Health, where they must write a brief research proposal summarizing background and goals of honors research, defend their research proposal to a honors project faculty member and a honors advisor, conduct research, submit their honors thesis, and conclude with an oral and/or poster presentation.

Outstanding undergraduate students in the college have an opportunity to undertake independent study and to work closely with faculty members. Completion of requirements for honors in the major also will satisfy the experiential learning requirement. Consult the College of Public Health undergraduate program office for more information.

## University of Iowa Honors Program

Public health interest students interested in honors study are encouraged to participate in the University of Iowa Honors Program until they are admitted to the College of Public

Health. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not a requirement for applying to or graduating with honors in the public health major.

## Admission

Students may be admitted to the College of Public Health either through direct admission or standard admission.

### Direct Admission

Direct admission is designed for students applying to the university as first-year students for the fall semester. Applicants who meet the high school course requirements and present a Regent Admission Index (RAI) of 265 or higher, and a high school g.p.a. of at least 3.33 are directly admitted to the college. Applicants who meet course requirements and either the RAI or grade-point average requirement are carefully considered. Students who are denied direct admission may file an online petition for direct admission to the College of Public Health.

Students granted direct admission to the college are eligible to apply for first-year scholarships. The scholarship application process is competitive and is based on high school record and short essay responses.

First-year students not admitted directly to the College of Public Health may be admitted to the College of Liberal Arts and Sciences as a public health interest student.

Transfer student applications are not being accepted at this time for direct admission to the College of Public Health. Transfer students may apply to the College of Liberal Arts and Sciences public health interest designation.

### Standard Admission

University of Iowa students are eligible to apply for standard admission to the College of Public Health, typically after their first year, once they complete prerequisite courses and earn the required grade-point average.

Application deadline for fall admission is May 1. Application deadline for spring admission is December 1. Students should meet the following requirements by the end of the semester in which they apply:

- completion of at least 12 s.h. at the University of Iowa;
- completion of CPH:1400 Fundamentals of Public Health with a grade of B-minus or higher;
- completion of CPH:1600 Public Health Science: Inquiry and Investigation in Public Health with a grade of B-minus or higher; and
- a minimum g.p.a. of 2.75 in all University of Iowa coursework and in all college coursework.

Students who are denied standard admission may file an online appeal for denial of admission to the College of Public Health if they can provide documentation of extenuating circumstances that affected their academic performance.

## Career Advancement

The B.A. program provides knowledge of the community and behavioral aspects of public health for students interested in working in health education, health communication, public health program development, or public health policy in local,

federal, or international governmental or nongovernmental agencies. Students will be prepared for advanced education in the social sciences, communication studies, social and community health, health policy and management, and other fields.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

The Four-Year Graduation Plan applies only to students who are directly admitted to the College of Public Health or students who meet the prerequisites and submit an application for standard admission before the third semester begins (including public health interest students).

**Before the second semester begins:** CPH:1050 College of Public Health Direct Admit Seminar (for direct admits only).

**Before the third semester begins:** CPH:1400 Fundamentals of Public Health, CPH:1600 Public Health Science: Inquiry and Investigation in Public Health, and at least one-quarter of the semester hours required for graduation.

**Before the fourth semester begins:** CPH:2050 Second Year Undergraduate Public Health Seminar and CPH:2600 Introduction to Public Health Methods.

**Before the fifth semester begins:** one-half of the semester hours required for graduation.

**Before the sixth semester begins:** CPH:3050 Third Year Undergraduate Public Health Seminar and CPH:3600 Applied Public Health Methods.

**Before the seventh semester begins:** CPH:3700 Methods for Program Implementation and Evaluation and at least three-quarters of the semester hours required for graduation.

**Before the eighth semester begins:** all public health core courses, except CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health, and the experiential learning requirement.

**During the eighth semester:** all remaining General Education Requirement courses, enrollment in all remaining coursework in the major, including CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health, and a sufficient number of semester hours to graduate.

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Public Health, B.A.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		

Direct Admission is available only for high school students who meet the published criteria. All other students pursue Standard Admission.

All College of Public Health undergraduate students must successfully complete at least one of these for the experiential learning requirement: research, internship, global learning, or a service learning course.<sup>a</sup>

		<b>Hours</b>	<b>0</b>
<b>First Year</b>			
<b>Fall</b>			
CPH:1050	College of Public Health Direct Admit Seminar		1
CPH:1400	Fundamentals of Public Health <sup>b, c</sup>		3
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health		3
BIOL:1411 or BIOL:1140 or BIOL:1141	Foundations of Biology <sup>c</sup> or Human Biology: Nonmajors or Human Biology: Health Professions		4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature		3 - 4
CSI:1600	Success at Iowa		2
		<b>Hours</b>	<b>16-17</b>
<b>Spring</b>			
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health <sup>b, c</sup>		3
GE: Natural Sciences without Lab <sup>d</sup>			3
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature		3 - 4
Elective course <sup>e</sup>			3
		<b>Hours</b>	<b>12-13</b>
<b>Second Year</b>			
<b>Fall</b>			
CPH:2050	Second Year Undergraduate Public Health Seminar		1
CPH:2600	Introduction to Public Health Methods		3
Major: "choose one" course <sup>f</sup>			3
GE: World Languages First Level Proficiency or elective course <sup>g</sup>			4 - 5
Elective course <sup>e</sup>			3
Elective course <sup>e</sup>			3
		<b>Hours</b>	<b>17-18</b>
<b>Spring</b>			
CPH:2400	The U.S. Health System in a Global Context		3
Major: public health elective course <sup>h</sup>			2 - 3
GE: World Languages Second Level Proficiency or elective course <sup>g</sup>			4 - 5
GE: International and Global Issues <sup>d</sup>			3
GE: Values and Culture <sup>d</sup>			3
		<b>Hours</b>	<b>15-17</b>
<b>Third Year</b>			
<b>Fall</b>			
CPH:3050	Third Year Undergraduate Public Health Seminar		1
CPH:3100	Health Economics		3
CPH:3500	Global Public Health		3
CPH:3600	Applied Public Health Methods		3

GE: Historical Perspectives <sup>d</sup>		3	
Elective course <sup>e</sup>		3	
		<b>Hours</b>	<b>16</b>
<b>Spring</b>			
CPH:3400	Health, Work, and the Environment		3
CPH:3700	Methods for Program Implementation and Evaluation		3
CPH:3800	Public Health Theories and Society		3
CPH:3900	Fundamentals in Public Health Emergency Preparedness and Response		3
GE: Literary, Visual, and Performing Arts <sup>d</sup>			3
		<b>Hours</b>	<b>15</b>
<b>Fourth Year</b>			
<b>Fall</b>			
Major: public health elective course <sup>h</sup>			3
Major: public health elective course <sup>h</sup>			2 - 3
Experiential Learning course <sup>a, i</sup>			0 - 3
GE: Diversity and Inclusion <sup>d</sup>			3
Elective course <sup>e</sup>			3
Elective course <sup>e</sup>			3
		<b>Hours</b>	<b>14-18</b>
<b>Spring</b>			
CPH:4999	Public Health Capstone: Practice of Evidence-Based Public Health <sup>j</sup>		3
Major: public health elective course <sup>h</sup>			3
Major: public health elective course <sup>h</sup>			3
Elective course <sup>e</sup>			3
Elective course <sup>e</sup>			3
Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>k</sup>			
		<b>Hours</b>	<b>15</b>
		<b>Total Hours</b>	<b>120-129</b>

a Students complete the experiential learning requirement by choosing an approved option. CPH:2050 is strongly recommended prior to enrollment in experiential learning.

b Prerequisite for admission to the College of Public Health.

c Fulfills a major requirement and may fulfill a GE requirement.

d GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.

e Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.

f Choose from: ANTH:2100, ANTH:2164, COMM:1809, GEOG:3110, GEOG:4770, IS:2000, JMC:3116, JMC:3150, PHIL:2402, POLI:3111, SOC:1022, SOC:2810.

g Students must complete one of three options: (1) fourth-level proficiency in a single world language, (2) second-level proficiency in two different world languages, or (3) second-level proficiency in a single world language plus an additional 3 s.h. course from the GE CLAS Core in International and Global Issues, Values and Culture, or Diversity and Inclusion.

h Students must complete at least five electives by choosing from approved CPH courses.

i Choose from: CPH:3999, CPH:4990, CPH:4850, CPH:4750, CPH:3750. A completed application and approval by the

College of Public Health undergraduate program office are required.

- j All core courses must be complete prior to enrollment in CPH:4999.
- k Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

## Public Health, B.S.

The Bachelor of Science (B.S.) degree provides students with a basic understanding of the five core public health knowledge areas: biostatistics, social and behavioral sciences, epidemiology, health policy and management, and occupational and environmental health sciences. Students will be prepared to enter the workforce or continue their education.

A public health core provides the degree with breadth in the biological, social, economic, quantitative, geographic, and educational components of health and health disparities within and across populations. Students complete a cumulative capstone experience during which they will integrate, apply, and synthesize public health knowledge. As an integral part of their education, students also are exposed to public health professionals and agencies.

### Requirements

The Bachelor of Science with a major in public health requires a minimum of 120 s.h., including at least 62 s.h. of work for the major. Students must have a cumulative g.p.a. of at least 2.00 in all courses for the major and in all UI courses for the major; in all college coursework and in all UI coursework; and in all college coursework in public health and in all UI public health coursework, including any courses administered by the College of Public Health in the Departments of Biostatistics, Community and Behavioral Health, Epidemiology, Health Management and Policy, and Occupational and Environmental Health. Students are required to earn a minimum of 30 s.h. in public health coursework at the University of Iowa.

The B.S. with a major in public health requires the following coursework.

### College Success Requirement

All students are required to complete CSI:1600 Success at Iowa during the fall semester; students complete part one before participating in an orientation program. The course is designed to help students successfully transition to college life. The course covers information about online tools that are specific to the University, such as MyUI and Iowa Courses Online (ICON), and also discusses resources for navigating life on campus. Additional content includes financial aid literacy, strategies for making healthy behavior choices, sexual assault awareness and prevention, and the comprehensive transitional survey known as MAP-Works.

### General Education Requirements

Code	Title	Hours
RHET:1030	Rhetoric	4
ENGL:1200	The Interpretation of Literature	3
World Languages		0-10
Natural Sciences		7
Quantitative or Formal Reasoning		3
Social Sciences		3
Historical Perspectives		3
Diversity and Inclusion		3
International and Global Issues		3
Literary, Visual, and Performing Arts		3
Values and Culture		3

### World Languages

Students may complete the world languages requirement using one of the following three options. One year of high school language study is generally equivalent to one semester of college language study.

#### Option One

Attain fourth-level proficiency in a single world language, usually by completing four years of that language in high school or four semesters in college or an equivalent combination of high school and college coursework; or pass an achievement test or evaluation at fourth-level proficiency.

#### Option Two

Attain second-level proficiency in each of two world languages, usually by completing two years of each language in high school or two semesters of each language in college or an equivalent combination of high school and college coursework; or pass achievement tests and/or evaluations at second-level proficiency in each language. Option two does not fulfill the World Languages requirement for the College of Liberal Arts and Sciences or qualify students to earn credit under the Furthering Language Incentive Program (FLIP).

#### Option Three

Attain second-level proficiency in a single world language, usually by completing two years of that language in high school or two semesters of that language in college plus one 3 s.h. course from the GE CLAS Core [p. 20] in International and Global Issues, Values and Culture, or Diversity and Inclusion. Option three does not fulfill the World Languages requirement for the College of Liberal Arts and Sciences or qualify students to earn credit under the Furthering Language Incentive Program (FLIP).

Students may count courses taken to fulfill General Education Requirements toward other requirements for the B.S.

### Prerequisites for Admission to the College

Students who wish to enter the major in public health after declaring the public health interest through the College of Liberal Arts and Sciences must complete the following by the end of the semester in which they apply before they may enter the major:

- completion of at least 12 s.h. at the University of Iowa;
- completion of CPH:1400 Fundamentals of Public Health with a grade of B-minus or higher;
- completion of CPH:1600 Public Health Science: Inquiry and Investigation in Public Health with a grade of B-minus or higher; and
- a cumulative g.p.a. of at least 2.75 in all courses taken at the University of Iowa and in all college-level coursework attempted.

### Public Health Core Courses

Students must complete the following (29-30 s.h.). Only direct admission students complete CPH:1050 whereas standard admission students do not.

Code	Title	Hours
CPH:1050	College of Public Health Direct Admit Seminar (only direct admission students complete this course)	1



CPH:1400	Fundamentals of Public Health	3	CPH:2230	Finding Patient Zero: The Exploration of Infectious Disease Transmission and Pandemic Threats	3
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health	3	CPH:3200	Death at Work: Case Studies of Workplace Safety and Health	3
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3	CPH:3210	Nutrition in Public Health	3
CPH:2050	Second Year Undergraduate Public Health Seminar	1	CPH:3220	Public Health as a Public Good: Economics and Decision Making in Public Health Systems	3
CPH:2400	The U.S. Health System in a Global Context	3	CPH:3230	Human Genetics and Public Health	3
CPH:2600	Introduction to Public Health Methods	3	CPH:3240	Global Health Today	1
CPH:3050	Third Year Undergraduate Public Health Seminar	1	CPH:4200	Agriculture, Food Systems, and Sustainability	3
CPH:3400	Health, Work, and the Environment	3	CPH:4210	Making a Difference: Public Health Policy and Advocacy	3
CPH:3500	Global Public Health	3	CPH:4220	Global Road Safety	3
CPH:3700	Methods for Program Implementation and Evaluation	3	CPH:4230	Injury and Violence Prevention	3
CPH:4999	Public Health Capstone: Practice of Evidence-Based Public Health	3	CPH:4250	Field Experiences in Public Health	1

## Requirements

Students complete 22-23 s.h. as indicated from the following.

Code	Title	Hours
All of these:		
BIOL:1411	Foundations of Biology	4
BIOL:1412	Diversity of Form and Function	4
CHEM:1110	Principles of Chemistry I	4
CPH:3600	Applied Public Health Methods	3
One of these:		
MATH:1460	Calculus for the Biological Sciences	4
MATH:1850	Calculus I	4
One of these:		
CS:1110	Introduction to Computer Science	3
CS:1210	Computer Science I: Fundamentals	4

## Electives

Students complete a minimum of four College of Public Health courses from the following.

Code	Title	Hours
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2
CPH:2220	Building a Healthier Tomorrow: Public Health Methods to Minimize Disease and Pollutant Exposures	3

## Experiential Learning Requirement

Students must successfully complete at least one of these experiences from the following. Second Year Undergraduate Public Health Seminar (CPH:2050) is strongly recommended prior to enrollment in any of these courses. Contact the undergraduate program office for specific details.

### Research

Code	Title	Hours
CPH:3999	Undergraduate Research Experience in Public Health	0-3
CPH:4990	Mentored Independent Undergraduate Research in Public Health	3

### Internship

Code	Title	Hours
CPH:4850	Undergraduate Public Health Internship	0-3

### Global Learning

Code	Title	Hours
CPH:4750	Undergraduate Global Learning in Public Health	0-3

### Service Learning

Code	Title	Hours
CPH:3750	Undergraduate Service Learning in Public Health	0

## B.S./CLAS Undergraduate Degree

Students admitted to or enrolled in the B.S. in public health program may pursue an additional degree in the College of Liberal Arts and Sciences (CLAS). Students pursuing an additional degree outside the College of Public Health are:

- expected to meet all degree requirements, General Education Requirements, and GE CLAS Core requirements for both degree programs;
- required to satisfy the collegiate residence requirements of both colleges;
- assigned two advisors, one in each college; and
- assessed tuition for the primary program of study in accordance with the rules of the Registrar's Office.

#### Additional considerations:

- Students may be awarded degrees in the two colleges simultaneously or separately without requiring additional coursework beyond the degree requirements.
- Current students enrolled in the College of Public Health who want to add a CLAS major should use the Change of College Application found in MyUI.
- Students who wish to discontinue the additional degree program will need to file a Discontinuation of Combined Degree Program form in the collegiate office of the program of study they are dropping.

Students may change majors with either college in the college academic programs office and still remain in the additional degree program.

## Combined Programs

### B.S./Graduate Degree

Combined undergraduate to graduate programs provide an opportunity for students to earn both their B.S. and a master's degree in five years by beginning to earn graduate credit during their fourth year of undergraduate study.

Students in the combined programs must complete all requirements for each degree. Students apply for admission to the combined program during their third year as undergraduates and enter the program at the beginning of their fourth year.

Applicants also must apply for admission to the master's degree program and must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website. For more information, visit Undergraduate to Graduate (U2G) on the College of Public Health website.

Public health majors intending to pursue the U2G combined degree program in public health must complete 120 s.h. Up to 15 s.h. may be earned in graduate credit by the end of a student's fourth year.

Public health majors must complete all of the following requirements in addition to the 15 s.h. of graduate coursework.

### Public Health Major Degree Requirements

- Public health core courses,
- B.S. coursework,
- public health elective coursework,
- experiential learning requirement, and
- General Education Requirement courses.

### General Electives

University of Iowa (nonmajor) coursework to total 120 s.h. by end of the fourth year; this could include up to 15 s.h.

of graduate credit in public health coursework taken as an undergraduate student.

Graduate courses taken during the fourth year do not count toward major requirements (including public health electives) for the undergraduate public health major. However, these semester hours may count as general elective credits needed to complete the 120 s.h. required for a bachelor's degree.

## Honors

### Honors in the Major

Students majoring in public health have the opportunity to graduate with honors in the major. To graduate with honors in public health, students must successfully complete all college requirements with a g.p.a. of at least 3.33 in all courses for the major, in all college coursework, and in all UI coursework.

In addition, students must complete an honors thesis in CPH:4990 Mentored Independent Undergraduate Research in Public Health, where they must write a brief research proposal summarizing background and goals of honors research, defend their research proposal to a honors project faculty member and a honors advisor, conduct research, submit their honors thesis, and conclude with an oral and/or poster presentation.

Outstanding undergraduate students in the college have an opportunity to undertake independent study and to work closely with faculty members. Completion of requirements for honors in the major also will satisfy the experiential learning requirement. Consult the College of Public Health undergraduate program office for more information.

### University of Iowa Honors Program

Public health interest students interested in honors study are encouraged to participate in the University of Iowa Honors Program until they are admitted to the College of Public Health. Visit Honors at Iowa to learn about the University's honors program.

Membership in the UI Honors Program is not a requirement for applying to or graduating with honors in the public health major.

## Admission

Students may be admitted to the College of Public Health either through direct admission or standard admission.

### Direct Admission

Direct admission is designed for students applying to the university as first-year students for the fall semester. Applicants who meet the high school course requirements and present a Regent Admission Index (RAI) of 265 or higher, and a high school g.p.a. of at least 3.33 are directly admitted to the college. Applicants who meet course requirements and either the RAI or grade-point average requirement are carefully considered. Students who are denied direct admission may file an online petition for direct admission to the College of Public Health.

Students granted direct admission to the college are eligible to apply for first-year scholarships. The scholarship application process is competitive and is based on high school record and short essay responses.

First-year students not admitted directly to the College of Public Health may be admitted to the College of Liberal Arts and Sciences as a public health interest student.

Transfer student applications are not being accepted at this time for direct admission to the College of Public Health. Transfer students may apply to the College of Liberal Arts and Sciences public health interest designation.

## Standard Admission

University of Iowa students are eligible to apply for standard admission to the College of Public Health, typically after their first year, once they complete prerequisite courses and earn the required grade-point average.

Application deadline for fall admission is May 1. Application deadline for spring admission is December 1. Students should meet the following requirements by the end of the semester in which they apply:

- completion of at least 12 s.h. at the University of Iowa;
- completion of CPH:1400 Fundamentals of Public Health with a grade of B-minus or higher;
- completion of CPH:1600 Public Health Science: Inquiry and Investigation in Public Health with a grade of B-minus or higher; and
- a minimum g.p.a. of 2.75 in all University of Iowa coursework and in all college coursework.

Students who are denied standard admission may file an online appeal for denial of admission to the College of Public Health if they can provide documentation of extenuating circumstances that affected their academic performance.

## Career Advancement

The B.S. program provides knowledge of the natural sciences for students interested in working in a research setting or preparing for advanced study in programs such as biostatistics, dentistry, environmental health, epidemiology, medicine, nursing, occupational health, pharmacy, or veterinary medicine.

## Academic Plans

### Four-Year Graduation Plan

The following checkpoints list the minimum requirements students must complete by certain semesters in order to stay on the University's Four-Year Graduation Plan. Courses in the major are those required to complete the major; they may be offered by departments other than the major department.

The Four-Year Graduation Plan applies only to students who are directly admitted to the College of Public Health or students who meet the prerequisites and submit an application for standard admission before the third semester begins (including public health interest students).

**Before the second semester begins:** CPH:1050 College of Public Health Direct Admit Seminar (for direct admits only).

**Before the third semester begins:** CPH:1400 Fundamentals of Public Health, CPH:1600 Public Health Science: Inquiry and Investigation in Public Health, and at least one-quarter of the semester hours required for graduation.

**Before the fourth semester begins:** CPH:2050 Second Year Undergraduate Public Health Seminar and CPH:2600 Introduction to Public Health Methods.

**Before the fifth semester begins:** one-half of the semester hours required for graduation.

**Before the sixth semester begins:** CPH:3050 Third Year Undergraduate Public Health Seminar and CPH:3600 Applied Public Health Methods.

**Before the seventh semester begins:** CPH:3700 Methods for Program Implementation and Evaluation and at least three-quarters of the semester hours required for graduation.

**Before the eighth semester begins:** all public health core courses, except CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health, and the experiential learning requirement.

**During the eighth semester:** all remaining General Education Requirement courses, enrollment in all remaining coursework in the major, including CPH:4999 Public Health Capstone: Practice of Evidence-Based Public Health, and a sufficient number of semester hours to graduate.

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Public Health, B.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Direct Admission is available only for high school students who meet the published criteria. All other students pursue Standard Admission.		
All College of Public Health undergraduate students must successfully complete at least one of these for the experiential learning requirement: research, internship, global learning, or a service learning course. <sup>a</sup>		
	<b>Hours</b>	<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CPH:1050	College of Public Health Direct Admit Seminar	1
CPH:1400	Fundamentals of Public Health <sup>b, c</sup>	3
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
CHEM:1070	General Chemistry I <sup>c</sup>	3
ENGL:1200 or RHET:1030	The Interpretation of Literature or Rhetoric	3 - 4
CSI:1600	Success at Iowa	2
	<b>Hours</b>	<b>15-16</b>
<b>Spring</b>		
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health <sup>b, c</sup>	3
CHEM:1110	Principles of Chemistry I <sup>c, d</sup>	4
RHET:1030 or ENGL:1200	Rhetoric or The Interpretation of Literature	3 - 4

GE: Values and Culture <sup>e</sup>	3
Elective course <sup>f</sup>	3

**Hours 16-17**

**Second Year**

**Fall**

CPH:2050	Second Year Undergraduate Public Health Seminar	1
CPH:2600	Introduction to Public Health Methods	3
BIOL:1411	Foundations of Biology <sup>c</sup>	4
MATH:1850 or MATH:1460	Calculus I <sup>c, g</sup> or Calculus for the Biological Sciences	4
GE: World Languages First Level Proficiency or elective course <sup>h</sup>		4 - 5

**Hours 16-17**

**Spring**

CPH:2400	The U.S. Health System in a Global Context	3
BIOL:1412	Diversity of Form and Function	4
CS:1110 or CS:1210	Introduction to Computer Science or Computer Science I: Fundamentals	3 - 4
GE: World Languages Second Level Proficiency or elective course <sup>h</sup>		4 - 5

**Hours 14-16**

**Third Year**

**Fall**

CPH:3050	Third Year Undergraduate Public Health Seminar	1
CPH:3500	Global Public Health	3
CPH:3600	Applied Public Health Methods	3
GE: Historical Perspectives <sup>e</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3

**Hours 16**

**Spring**

CPH:3400	Health, Work, and the Environment	3
CPH:3700	Methods for Program Implementation and Evaluation	3
Major: public health elective course <sup>i</sup>		2 - 3
GE: Literary, Visual, and Performing Arts <sup>e</sup>		3
Elective course <sup>f</sup>		3

**Hours 14-15**

**Fourth Year**

**Fall**

Major: public health elective course <sup>i</sup>		3
Major: public health elective course <sup>i</sup>		2 - 3
Experiential Learning course <sup>a, j</sup>		0 - 3
GE: Diversity and Inclusion <sup>e</sup>		3
GE: International and Global Issues <sup>e</sup>		3
Elective course <sup>f</sup>		3

**Hours 14-18**

**Spring**

CPH:4999	Public Health Capstone: Practice of Evidence-Based Public Health <sup>k</sup>	3
Major: public health elective course <sup>i</sup>		3
Elective course <sup>f</sup>		3

Elective course <sup>f</sup>	3
Elective course <sup>f</sup>	3

Degree Application: apply on MyUI before deadline (typically in February for spring, September for fall) <sup>l</sup>

**Hours 15**

**Total Hours 120-130**

- a Students complete the experiential learning requirement by choosing an approved option. CPH:2050 is strongly recommended prior to enrollment in experiential learning.
- b Prerequisite for admission to the College of Public Health.
- c Fulfills a major requirement and may fulfill a GE requirement.
- d Enrollment in chemistry courses requires completion of a placement exam.
- e GE courses may be completed in any order unless used as a prerequisite for another course. Students should consult with an advisor about the best sequencing of courses.
- f Students may use elective courses to earn credit towards the total s.h. required for graduation or to complete a double major, minors, or certificates.
- g Enrollment in math courses requires completion of a placement exam.
- h Students must complete one of three options: (1) fourth-level proficiency in a single world language, (2) second-level proficiency in two different world languages, or (3) second-level proficiency in a single world language plus an additional 3 s.h. course from the GE CLAS Core in International and Global Issues, Values and Culture, or Diversity and Inclusion.
- i Students must complete at least four electives by choosing from approved CPH courses.
- j Choose from: CPH:3999, CPH:4990, CPH:4850, CPH:4750, CPH:3750. A completed application and approval by the College of Public Health undergraduate program office are required.
- k All core courses must be complete prior to enrollment in CPH:4999.
- l Please see Academic Calendar, Office of the Registrar website for current degree application deadlines. Students should apply for a degree for the session in which all requirements will be met. For any questions on appropriate timing, contact your academic advisor or Graduation Services.

# Public Health, Undergraduate Certificate

For more information about the program, visit Undergraduate Certificate in Public Health on the College of Public Health website.

## Requirements

The undergraduate Certificate in Public Health requires 18 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate. They should contact the certificate coordinator to complete a plan of study before they begin certificate coursework.

The certificate is intended for non-public health majors and anyone interested in obtaining knowledge about public health concepts to enhance their ability to succeed in their chosen field. Students completing the certificate will have an understanding of emerging issues in public health, the social and behavioral aspects of preventing disease, environmental health concepts, and the changing health care system in the United States.

The certificate may be earned by any student admitted to the University of Iowa who is not concurrently enrolled in a graduate or professional degree program, except for those students who are earning a B.A. or B.S. with a major in public health or by those who have received one of those degrees.

The undergraduate Certificate in Public Health requires the following coursework. Fundamentals of Public Health (CPH:1400) must be taken prior to or concurrent with other certificate courses.

## Core Courses

Code	Title	Hours
Both of these:		
CPH:1400	Fundamentals of Public Health	3
CPH:1600	Public Health Science: Inquiry and Investigation in Public Health	3

## Required Courses

Code	Title	Hours
9 s.h. from these:		
CPH:1800	Social and Psychological Determinants of Health: Changing Behavior, Improving Health	3
CPH:2400	The U.S. Health System in a Global Context	3
CPH:3400	Health, Work, and the Environment	3
CPH:3500	Global Public Health	3

## Elective

Code	Title	Hours
3 s.h. from these:		
One of the courses not taken from the "Required Courses" list above		
Any College of Public Health course (prefix CPH) numbered 2200-2399 or 3200-3399 or 4200-4399		

# Master of Public Health, M.P.H.

The Master of Public Health (M.P.H.) is recognized as the primary professional degree in public health. The objective of Iowa's M.P.H. program is to provide education and practical training in public health to students who will be leaders in their respective communities. The program is appropriate for individuals who already have professional experience and/or training in public health as well as for those whose expertise lies outside of public health.

Students may earn the Master of Public Health (M.P.H.) as a single degree, or they may pursue one of several combined degree programs. The College of Public Health offers combined M.P.H./professional degree programs with the Carver College of Medicine and the Colleges of Law and Pharmacy. It also offers two programs in collaboration with the College of Veterinary Medicine at Iowa State University. See "M.P.H./D.V.M. (Iowa State University)" and descriptions of the combined degree programs under Combined Programs [p. 2083] in this section of the Catalog.

Undergraduate students can pursue a M.P.H. degree in the following subprograms: biostatistics, community and behavioral health, epidemiology, occupational and environmental health, or policy. Undergraduate students work with their undergraduate advisor and the College of Public Health Undergraduate to Graduate (U2G) coordinator to determine eligibility. In addition, the College of Public Health collaborates with other private colleges in Iowa to offer bachelor's degrees and Master of Public Health programs for undergraduate students who would like to earn an M.P.H. degree.

The Master of Public Health program is offered by the College of Public Health; the degree is awarded by the Graduate College.

## Learning Outcomes

For further information regarding M.P.H. subprogram learning outcomes, visit M.P.H. Programs of Study on the Master of Public Health website.

### M.P.H. Foundational Public Health Knowledge

Students will be able to:

- explain public health history, philosophy and values;
- identify the core functions of public health and the 10 essential services;
- explain the role of quantitative and qualitative methods and sciences in describing and assessing a population's health;
- list major causes and trends of morbidity and mortality in the United States or other community relevant to the school or program;
- discuss the science of primary, secondary, and tertiary prevention in population health, including health promotion, screening, etc.;
- explain the critical importance of evidence in advancing public health knowledge;
- explain effects of environmental factors on a population's health;

- explain biological and genetic factors that affect a population's health;
- explain behavioral and psychological factors that affect a population's health;
- explain the social, political, and economic determinants of health and how they contribute to population health and health inequities;
- explain how globalization affects global burdens of disease; and
- explain an ecological perspective on the connections among human health, animal health, and ecosystem health (e.g., One Health).

### M.P.H. Foundational Competencies

Students will be able to:

- apply epidemiological methods to the breadth of settings and situations in public health practice;
- select quantitative and qualitative data collection methods appropriate for a given public health context;
- analyze quantitative and qualitative data using biostatistics, informatics, computer-based programming, and software, as appropriate;
- interpret results of data analysis for public health research, policy, or practice;
- compare the organization, structure, and function of health care, public health, and regulatory systems across national and international settings;
- discuss the means by which structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels;
- assess population needs, assets, and capacities that affect communities' health;
- apply awareness of cultural values and practices to the design or implementation of public health policies or programs;
- design a population-based policy, program, project, or intervention;
- explain basic principles and tools of budget and resource management;
- select methods to evaluate public health programs;
- discuss multiple dimensions of the policy-making process, including the roles of ethics and evidence;
- propose strategies to identify stakeholders and build coalitions and partnerships for influencing public health outcomes;
- advocate for political, social, or economic policies and programs that will improve health in diverse populations;
- evaluate policies for their impact on public health and health equity;
- apply principles of leadership, governance, and management, which include creating a vision, empowering others, fostering collaboration, and guiding decision making;
- apply negotiation and mediation skills to address organizational or community challenges;
- select communication strategies for different audiences and sectors;
- communicate audience-appropriate public health content, both in writing and through oral presentation;
- describe the importance of cultural competence in communicating public health content;

- perform effectively on interprofessional teams; and
- apply systems-thinking tools to a public health issue.

## Requirements

The Master of Public Health requires 42 s.h. of graduate credit. Students must choose one of the following subprograms: biostatistics [p. 2079], community and behavioral health [p. 2080], epidemiology [p. 2081], occupational and environmental health [p. 2081], policy [p. 2082], or practicing veterinarians [p. 2082].

Degree requirements include a core course in public health practice and in each of the five core disciplines of public health (biostatistics, epidemiology, environmental health, health policy and management, and social and behavioral sciences), a set of content-specific required courses and electives, one interprofessional education course, an applied practice experience, and a capstone experience. Students in the epidemiology subprogram must complete a bioscience course.

All M.P.H. students complete the coursework listed under "Common Requirements." In addition, students complete the coursework listed for their chosen subprogram.

## Common Requirements

The following coursework is required for all M.P.H. students. Students must earn a B-minus or higher in each core course. Students may repeat courses to achieve this standard.

### Core Courses

Code	Title	Hours
All of these (18 s.h.):		
CPH:5100	Introduction to Public Health	3
BIOS:4120	Introduction to Biostatistics (students in the biostatistics subprogram may substitute BIOS:5710)	3
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
EPID:4400	Epidemiology I: Principles	3
HMP:4000	Introduction to the U.S. Health Care System	3
OEH:4240	Global Environmental Health	3

### Interprofessional Education Course

This course is required for all M.P.H. students. Those students in the combined degree programs (M.D./M.P.H., Pharm.D./M.P.H., and D.V.M./M.P.H.) and professional M.P.H. option students (practicing veterinary, practicing medical) will have this requirement waived since the content is covered in pharmacy, medicine, or veterinary courses or professional experience prior to enrollment in the M.P.H. program.

Code	Title	Hours
This course:		
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III	0

### Applied Practice Experience

This requirement is a fieldwork experience in which students show proficiency in applying academic principles in community settings. There are many applied practice

opportunities for M.P.H. students locally, nationally, and internationally.

Before they register for and begin the applied practice experience, students choose an approved topic. A final written report with an oral presentation or a poster presentation is required.

Code	Title	Hours
This course:		
CPH:7500	M.P.H. Applied Practice Experience	2

### Capstone Experience

Students are required to complete the capstone experience in their final semester.

Code	Title	Hours
This course:		
CPH:7200	M.P.H. Capstone Experience	1

## Subprograms

### Biostatistics Subprogram

The Master of Public Health with the biostatistics subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Biostatistics [p. 2093].

The subprogram is designed to train public health professionals who can provide leadership in the analysis of public health data and the design of studies for public health investigations. It is intended for individuals who are interested in public health and who have quantitative ability but not advanced mathematics training.

Applicants to the subprogram must meet all M.P.H. admission requirements; see Admission [p. 2085] in this section of the Catalog. They also should have a cumulative g.p.a. of at least 3.00 and should have completed the following math and computer science coursework: single variable calculus and matrix algebra, satisfied by one semester of calculus equivalent to AP Calculus AB and a high school algebra course involving matrices; and elementary computer programming instruction in any commonly used modern programming language (e.g., Python, Java, C++). Individuals who are admitted to the subprogram without having met all of these requirements must satisfy unmet requirements during their first semester of enrollment in the program.

In addition to the M.P.H. coursework listed under "Common Requirements" above, the biostatistics subprogram requires the following courses.

### Biostatistics Subprogram Core

Code	Title	Hours
All of these (10 s.h.):		
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
BIOS:5130	Applied Categorical Data Analysis	3
BIOS:5510	Biostatistical Computing (when topic is programming with R)	2
BIOS:5510	Biostatistical Computing (when topic is programming with SAS)	2

Students with sufficient mathematical background can substitute BIOS:5710 Biostatistical Methods I, BIOS:5720 Biostatistical Methods II, and BIOS:5730 Biostatistical Methods in Categorical Data in place of BIOS:4120 Introduction to Biostatistics, BIOS:5120 Regression Modeling and ANOVA in the Health Sciences, and BIOS:5130 Applied Categorical Data Analysis. The advanced sequence requires 2 s.h. of fewer elective credits.

## Biostatistics Electives

Electives (12 s.h.) may be chosen from the following list, and may include any related course approved by the student's advisor.

Code	Title	Hours
BIOL:4213	Bioinformatics	4
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
BIOS:6420	Survey Design and Analysis	3
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:6810	Bayesian Methods and Design	3
BIOS:7600	Advanced Biostatistics Seminar	0-3
CS:4470	Health Data Analytics	3
CS:4740	Large Data Analysis	3
CS:5110	Introduction to Informatics	3
EPID:5200	Principles of Public Health Informatics	3
ISE:4172	Big Data Analytics	3
STAT:3100	Introduction to Mathematical Statistics I	3
STAT:3101	Introduction to Mathematical Statistics II	3
STAT:3210	Experimental Design and Analysis	3
STAT:4100	Mathematical Statistics I	3
STAT:4101	Mathematical Statistics II	3
STAT:4520	Bayesian Statistics	3
STAT:4540	Statistical Learning	3
STAT:4580	Data Visualization and Data Technologies	3

## Community and Behavioral Health Subprogram

The Master of Public Health with the community and behavioral health subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Community and Behavioral Health [p. 2103].

The subprogram prepares public health practitioners for a variety of positions related to community development, health program implementation, and health education. Students learn how to design, implement, and evaluate evidence-based interventions directed toward identified public health problems in populations.

A bachelor's degree in the social and behavioral sciences is good preparation for this program, but students come from a variety of educational backgrounds. Preference is given to applicants who have professional experience.

In addition to the M.P.H. coursework listed under "Common Requirements" above, the community and behavioral health subprogram requires the following courses.

## Community and Behavioral Health Subprogram Core

Students earn 18 s.h. in the required subprogram core.

### Theory

Code	Title	Hours
This course:		
CBH:5220	Health Behavior and Health Education	3

### Community and Society

Code	Title	Hours
This course:		
CBH:6230	Health Equity, Disparities, and Social Justice	3

### Intervention

Code	Title	Hours
One of these:		
CBH:6205	Designing and Implementing Interventions	3
CBH:6220	Health Communication Campaigns	3

### Methods

Code	Title	Hours
Both of these:		
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6335	Research Methods in Community and Behavioral Health	3
One of these:		
CBH:5235	Community-Based Participatory Research	3
CBH:5310	Qualitative Research for Public Health	3

## Community and Behavioral Health Electives

Students must take an additional 3 s.h. of elective community and behavioral health coursework or, with the approval of their advisor, they can select coursework in another area. In addition, once the 18 s.h. of required community and behavioral health credit is met, students may take any of the other courses as electives.

The following is a list of suggested elective courses.

Code	Title	Hours
CBH:4140	Feminist Activism and Global Health	3
CBH:5350	Foundations of Maternal and Child Health	3
CBH:5435	Substance Abuse Prevention and Early Intervention	3
CBH:5440	Prevention and Early Intervention of Mental Health Disorders	3
CBH:6115	Ethnographic Field Methods	3



CBH:6405	Global Maternal, Newborn, and Child Health	3
CBH:6415	Independent Study in Community and Behavioral Health	arr.
HMP:6360	Nonprofit Organizational Effectiveness I	3
SOC:6420	Seminar: Selected Topics in Deviance and Control	3
URP:6253	Designing Sustainable and Healthy Cities	1-3
URP:6260	Transportation Policy and Planning	3

## Epidemiology Subprogram

The Master of Public Health with the epidemiology subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Epidemiology [p. 2110].

The subprogram focuses on fundamental epidemiological concepts and methods and provides training in the use of public health data and methods for disease assessment and in methods for evaluating the need and outcome of programs and interventions. Graduates of the program work in public health departments and other health care settings.

Epidemiology subprogram students are required to attend departmental seminars and journal club. They also must present one scientific poster at an international, national, regional, state, university, or departmental poster session.

In addition to the M.P.H. coursework listed under "Common Requirements" above, the epidemiology subprogram requires the following courses.

### Epidemiology Subprogram Core

Code	Title	Hours
All of these (15 s.h.):		
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5925	Epidemiology Journal Club: Evaluating the Literature (taken three times)	0
EPID:5540	Public Health Surveillance Mechanisms, Applications, and Data	3
EPID:5580	Public Health Laboratory Techniques	1
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:6400	Epidemiology II: Advanced Methods	4
Bioscience—one of these (3-4 s.h.):		
PATH:5270	Pathogenesis of Major Human Diseases	3
PATH:8133	Introduction to Human Pathology for Graduate Students	3-4

Students who already have completed a course equivalent to one of the bioscience courses, PATH:5270 Pathogenesis of Major Human Diseases or PATH:8133 Introduction to Human Pathology for Graduate Students, may substitute an additional elective.

## Epidemiology Electives

Additional approved elective coursework must be taken to complete the 42 s.h. total required for the M.P.H. At least 3 s.h. of elective credit must be earned in courses offered by the Department of Epidemiology (prefix EPID) or in one of the following biostatistics courses.

Code	Title	Hours
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3

## Other Requirements

### Department of Epidemiology Seminar

Every week during the academic year, the Department of Epidemiology seminar provides a forum for speakers to present information or research pertaining to diverse topics in epidemiology. Contact information for the seminar coordinators is located on the Department of Epidemiology website under Preceptorship, Journal Club, and Seminar Contacts. Information about the schedule is distributed weekly each semester. Students are expected to achieve at least 80 percent attendance at the seminar during each semester of enrollment.

### Journal Club for First-Year Students

Journal Club for first-year students is for those who are new to the department and is offered in the fall semester. The focus is for students to gain experience reading, in interpretation, and in critically evaluating recently published journal articles. Students should register in EPID:5925 Epidemiology Journal Club: Evaluating the Literature, section 1.

### Journal Club

Every other week during the academic year, the Journal Club meets to discuss articles of interest in the field. Contact information for the Journal Club coordinators can be found on the Department of Epidemiology website under Preceptorship, Journal Club, and Seminar Contacts. Information about the schedule is distributed to students each semester. Students are required to achieve at least 80 percent attendance at Journal Club for three semesters during their time in the program.

## Occupational and Environmental Health Subprogram

The Master of Public Health with the occupational and environmental health subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Occupational and Environmental Health [p. 2139].

The subprogram provides students with a broad perspective on public health and career preparation for a variety of professional positions in occupational and environmental health. Public health experience provides desirable background for this subprogram.

In addition to the M.P.H. coursework listed under "Common Requirements" above, the occupational and environmental health subprogram requires the following courses.

### Occupational and Environmental Health Subprogram Core

Students earn 13 s.h. in the required subprogram core.

Code	Title	Hours
All of these (4 s.h.):		
OEH:5010	Occupational and Environmental Health Seminar (taken three times; twice for 0 s.h. and once for 1 s.h.)	0-1
OEH:5620	Occupational Health	3
Three of these (9 s.h.):		
OEH:4260	Global Water and Health	3
OEH:4510	Injury and Violence Prevention	3
OEH:5410	Occupational Safety	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6710	Human Toxicology and Risk Assessment	3

### Occupational and Environmental Health Electives

Students can earn the remainder of credit for their degree in elective courses (8 s.h.) offered by a department in the College of Public Health.

The following is a list of suggested elective courses.

Code	Title	Hours
OEH:4260	Global Water and Health	3
OEH:4310	Occupational Ergonomics: Principles	3
OEH:4510	Injury and Violence Prevention	3
OEH:4530	Global Road Safety	3
OEH:5410	Occupational Safety	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6120	Current Topics in Agriculture and Rural Health	0-1
OEH:6420	Methods in Exposure Science	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Radiation Hazards	1
OEH:6433	Assessing Ionizing Radiation Hazards	1
OEH:6510	Environmental and Occupational Epidemiology	3
OEH:6520	Injury Epidemiology	3
OEH:6710	Human Toxicology and Risk Assessment	3

### Policy Subprogram

The Master of Public Health with the policy subprogram requires 42 s.h. of graduate credit. The subprogram is offered by the Department of Health Management and Policy [p. 2125].

The subprogram offers coursework and applied learning experiences that prepare students for careers in health policy analysis, system and organizational planning, and program evaluation. Graduates of the program find positions in federal, state, and local government; professional associations; and private agencies. Varied academic backgrounds are

appropriate preparation for this program, including business, liberal arts and sciences, and the health professions.

In addition to the M.P.H. coursework listed under "Common Requirements" above, the policy and administration subprogram requires the following courses.

### Policy Subprogram Core

Code	Title	Hours
All of these:		
HMP:5610	Health Policy	3
HMP:5650	Health Policy Analysis	3
HMP:6610	Legal Aspects of Healthcare	3
HMP:6750	Seminar in Health Policy	3

### Policy Electives

Code	Title	Hours
At least 9 s.h. chosen from these:		
HMP:5310	Healthcare Quality Management	2-3
HMP:5410	Health Economics I	3
HMP:5450	Health Insurance and Managed Care	3
HMP:5750	Medicare and Medicaid Policy	3
HMP:6710	Federalism and Health Policy	3
LAW:8562	Health Law	3
HMP:6850	Independent Study and Research	arr.
POLI:3100	American State Politics	3

### Practicing Veterinarians Subprogram

The Master of Public Health with the practicing veterinarians subprogram requires a minimum of 42 s.h. of graduate credit. The program is presented through a collaboration between the University of Iowa College of Public Health and the College of Veterinary Medicine at Iowa State University and is offered primarily by distance learning. It enables students to prepare for new career opportunities and equips them to respond to public health challenges such as zoonotic diseases, food security and foodborne illnesses, bioterrorism, and environmental health.

Students participate in two summer institutes, one on each campus during consecutive summers (two weeks in May and June); the rest of the program is internet-based, so students may complete requirements at times that fit their schedules. Specific courses are required each semester of the program.

In addition to the M.P.H. coursework listed under "Common Requirements" above, the practicing veterinarians subprogram requires the following courses.

### Practicing Veterinarians Subprogram Core

Code	Title	Hours
All of these (21 s.h.):		
CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	3
EPID:5200	Principles of Public Health Informatics	3
EPID:5300	Food Safety	3
EPID:5470	Applied Veterinary Epidemiology/Biostatistics	3

EPID:5550	Diagnostic Microbiology for Epidemiology	3
EPID:5570	Zoonotic Diseases	3
OEH:6110	Rural Health and Agricultural Medicine	3

## Professional M.P.H. Option

Individuals who have already earned a professional degree can choose to complete the professional M.P.H. degree option allowing greater flexibility in elective course selection. Typically, students who pick this option are fellows, medical residents, practicing nurses, or physicians. Completion of the program can enhance physicians ability to receive primary certification from the American Board of Preventive Medicine. Physicians who are considering this certification should review the Become Certified requirements on the American Board of Preventive Medicine website. Students can take core courses on campus or asynchronously online, accommodating a variety of schedules. Students work closely with their advisor to develop a plan of study that is tailored to their specific background and goals.

A typical student completes the M.P.H. in two years. The following is a sample plan based on a full-time student starting in the fall. Students work with their advisor to choose a plan that works best for them.

In addition to the M.P.H. coursework listed under "Common Requirements" above, the professional program requires the following courses.

## Professional Program Core

Students earn 9 s.h. in the required core.

Code	Title	Hours
Both of these:		
OEH:6110	Rural Health and Agricultural Medicine	3
CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	3
One of these:		
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3

## Professional Program Electives

Code	Title	Hours
At least 12 s.h. chosen from these:		
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
BIOS:5130	Applied Categorical Data Analysis	3
CBH:5220	Health Behavior and Health Education	3
CBH:5435	Substance Abuse Prevention and Early Intervention	3
CBH:5440	Prevention and Early Intervention of Mental Health Disorders	3

CBH:6220	Health Communication Campaigns	3
CBH:6230	Health Equity, Disparities, and Social Justice	3
EPID:5200	Principles of Public Health Informatics	3
EPID:5570	Zoonotic Diseases	3
HMP:5610	Health Policy	1-3
HMP:6360	Nonprofit Organizational Effectiveness I	3
HMP:6365	Nonprofit Organizational Effectiveness II	3
OEH:4260	Global Water and Health	3
OEH:4510	Injury and Violence Prevention	3
OEH:5410	Occupational Safety	3
OEH:6510	Environmental and Occupational Epidemiology	3

## Combined Programs

### M.P.H. (Policy Subprogram)/J.D.

The combined Master of Public Health with a policy subprogram/Juris Doctor requires a minimum of 30 s.h. of graduate credit in addition to the requirements for the J.D. degree. A total of 6 s.h. from the J.D. degree will count toward the 42 s.h. required to earn the M.P.H. degree. The program helps students develop special expertise in public health legal issues. It is designed to train qualified students for leadership roles in both the public and private sectors.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined degree program.

The combined M.P.H. (policy subprogram)/J.D. requires the following coursework.

Code	Title	Hours
HMP:5610	Health Policy	1-3
HMP:5650	Health Policy Analysis	3
HMP:6610	Legal Aspects of Healthcare	3
HMP:6750	Seminar in Health Policy	2-3

These courses count toward both degrees.

Code	Title	Hours
LAW:8467	Family Law	3
LAW:8562	Health Law	3

### M.P.H. Common Requirements

Students must complete courses listed under "Common Requirements" (core courses and practicum) under Master of Public Health Requirements [p. 2079] in this section of the Catalog.

### J.D. Requirements

Students in the combined M.P.H. (policy subprogram)/J.D. degree program must complete the curriculum of the J.D. program; see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog. Students must be enrolled in the College of Law to take College of Law courses.

## M.P.H./M.D.

The combined Master of Public Health/Doctor of Medicine requires a minimum of 30 s.h. of graduate credit in addition to the requirements for the M.D. degree. A total of 12 s.h. from the M.D. degree will count toward the 42 s.h. required to earn the M.P.H. degree. Students who complete the program enjoy expanded career opportunities and are well prepared to apply the principles of medicine and public health in their work.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined program.

The combined M.P.H./M.D. requires the following coursework.

Code	Title	Hours
Both of these:		
CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	3
OEH:6110	Rural Health and Agricultural Medicine	3
One of these:		
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3

All of the following courses count toward the M.D. degree; 12 s.h. from these count toward the M.P.H. degree.

Code	Title	Hours
MED:8121	Clinical and Professional Skills I	3
MED:8122	Medicine and Society I	3
MED:8132	Medicine and Society II	4
MED:8222	Medicine and Society III	4

## M.P.H. Common Requirements

Students must complete courses listed as "Common Requirements" (core courses and practicum) under Master of Public Health Requirements [p. 2079] in this section of the Catalog.

## M.D. Requirements

Students in the combined M.P.H./M.D. program must complete the curriculum of the M.D. program; see Doctor of Medicine, M.D. [p. 1869] (Carver College of Medicine) in the Catalog.

## M.P.H./Pharm.D.

The combined Master of Public Health/Doctor of Pharmacy requires 42 s.h. of graduate credit in addition to the requirements of the Pharm.D. degree. The program helps students develop expertise in public health related to pharmacotherapy, health promotion, disease prevention, and medication safety.

Graduates of the program may work in areas of interest common to pharmacy and public health, such as spread and treatment of disease, community health, and immunology; bioterrorism, terrorism, and preparedness; genetics; insurance; managed care; family and juvenile health; and protection of special populations. Employment opportunities are available in hospitals and clinics and with health care providers; private practice; insurance and managed care

organizations; local, county, state, and federal government; public health governmental agencies; and colleges and universities.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined degree program.

The combined M.P.H./Pharm.D. requires the following coursework.

Code	Title	Hours
Both of these:		
CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	3
OEH:6110	Rural Health and Agricultural Medicine	3
One of these:		
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3

All of the following courses count toward the Pharm.D. degree; 12 s.h. from these count toward the M.P.H. degree.

Code	Title	Hours
PHAR:8250	Applications of Pharmacy Practice I	2
PHAR:8263	Integrated Pharmacotherapy: Infectious Diseases	4
PHAR:8265	Applications of Pharmacy Practice II	2
PHAR:8374	Applications of Pharmacy Practice III	2
PHAR:8375	Advanced Topics in Health Services	2
PHAR:8377	Integrated Pharmacotherapy: Capstone	4
PHAR:8378	Pharmacy Law and Ethics	2

## M.P.H. Common Requirements

Students must complete courses listed as "Common Requirements" (core courses and practicum) under Master of Public Health Requirements [p. 2079] in this section of the Catalog.

## Pharm.D. Requirements

Students in the combined M.P.H./Pharm.D. program must complete the curriculum of the Pharm.D. program; see Doctor of Pharmacy, Pharm.D. [p. 2041] (College of Pharmacy) in the Catalog. Students must be enrolled in the College of Pharmacy in order to take College of Pharmacy courses.

## M.P.H./D.V.M. (Iowa State University)

The Master of Public Health/Doctor of Veterinary Medicine is offered by the University of Iowa College of Public Health and the College of Veterinary Medicine at Iowa State University. It requires a minimum of 30 s.h. in addition to the requirements for the D.V.M. degree (see College of Veterinary Medicine in the Iowa State University Catalog). A total of 12 s.h. from

the D.V.M. degree will count toward the 42 s.h. required to earn the M.P.H. degree. The program prepares students for work as state veterinarians, as college and university faculty members, in local and state departments of public health, in the Public Health Service Commissioned Corps, in state agricultural departments, and for public health positions in the military.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the M.P.H./D.V.M. degree program. For M.P.H. admission requirements, see Admission [p. 2085] in this section of the Catalog.

The M.P.H./D.V.M. requires the following coursework.

Code	Title	Hours
All of these:		
EPID:5300	Food Safety	3
EPID:5470	Applied Veterinary Epidemiology/Biostatistics	3
EPID:5570	Zoonotic Diseases	3

## M.P.H. Common Requirements

Students must complete courses listed as "Common Requirements" (core courses and practicum) under Master of Public Health Requirements [p. 2079] in this section of the Catalog.

## M.P.H. Electives

Code	Title	Hours
At least 9 s.h. from these:		
CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	3
EPID:5200	Principles of Public Health Informatics	3
EPID:5550	Diagnostic Microbiology for Epidemiology (distance education course)	3
OEH:6110	Rural Health and Agricultural Medicine	3

## Admission

Applicants to the M.P.H. program must apply through the Schools of Public Health Application Service (SOPHAS) and then set up a University of Iowa account and pay the UI supplemental fee. For detailed application information, visit Prospective Graduate Students on the Master of Public Health website.

Applicants to the M.P.H. program must have successfully completed one semester each of college algebra and biology.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or another assessment approved by the Graduate College.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students may enter the M.P.H. program in fall and summer. Application deadline for fall or summer entrance to the M.P.H. program is April 15.

Application deadline for the M.P.H. for practicing veterinarians is March 1.

Application deadline for the Undergraduate to Graduate (U2G) program is February 1.

Students may enter the M.P.H. combined programs in fall, spring, and summer. Contact the individual combined programs for deadline information.

## Financial Support

A limited number of tuition scholarship awards are available each year for M.P.H. students. For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

## Career Advancement

For more information about careers in public health, visit Career Services in Public Health on the College of Public Health website or This is Public Health online.

## Academic Plans

## Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Master of Public Health, M.P.H.

- Biostatistics Subprogram [p. 2085]
- Community and Behavioral Health Subprogram [p. 2086]
- Epidemiology Subprogram [p. 2086]
- Occupational and Environmental Health Subprogram [p. 2087]
- Policy Subprogram [p. 2088]
- Practicing Veterinarians Subprogram [p. 2088]
- Professional M.P.H. Option [p. 2089]

## Biostatistics Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
42 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
A cumulative GPA of 3.00 is required.		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
BIOS:5710	Biostatistical Methods I	3 - 4
or BIOS:4120	or Introduction to Biostatistics	
BIOS:5510	Biostatistical Computing	2
BIOS:5510	Biostatistical Computing	2
EPID:4400	Epidemiology I: Principles	3

OEH:4240	Global Environmental Health	3
<b>Hours</b>		<b>13-14</b>
<b>Spring</b>		
BIOS:5720 or BIOS:5120	Biostatistical Methods II or Regression Modeling and ANOVA in the Health Sciences	3 - 4
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
HMP:4000	Introduction to the U.S. Health Care System	3
BIOS Elective <sup>b, c</sup>		2 - 3
<b>Hours</b>		<b>11-13</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOS:5730 or BIOS:5130	Biostatistical Methods in Categorical Data <sup>d</sup> or Applied Categorical Data Analysis	3
CPH:5100	Introduction to Public Health	3
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III	0
BIOS Elective <sup>c</sup>		3
BIOS Elective <sup>c</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
CPH:7200	M.P.H. Capstone Experience	1
CPH:7500	M.P.H. Applied Practice Experience	2
BIOS Elective <sup>c</sup>		3
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>42-45</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b May substitute BIOS:5730 (Advanced Biostatistics Sequence).

c Work with faculty advisor for approval of appropriate graduate level coursework.

d Replace with elective if BIOS:5730 taken in first year spring semester.

### Community and Behavioral Health Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
42 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
A cumulative GPA of 3.00 is required.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CBH:5220	Health Behavior and Health Education <sup>b</sup>	3
CPH:5100	Introduction to Public Health	3
CBH:6335	Research Methods in Community and Behavioral Health <sup>c</sup>	3

EPID:4400	Epidemiology I: Principles	3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
HMP:4000	Introduction to the U.S. Health Care System	3
CBH:6230	Health Equity, Disparities, and Social Justice <sup>d</sup>	3
CBH:6205 or CBH:6220	Designing and Implementing Interventions <sup>e</sup> or Health Communication Campaigns	3
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
OEH:4240	Global Environmental Health	3
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III	0
BIOS:4120	Introduction to Biostatistics	3
CBH:5305	Evaluation: Approaches and Applications <sup>c</sup>	3
CBH Elective <sup>f</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
CBH:5235 or CBH:5310	Community-Based Participatory Research <sup>c</sup> or Qualitative Research for Public Health	3
CPH:7500	M.P.H. Applied Practice Experience	2
CPH:7200	M.P.H. Capstone Experience	1
<b>Hours</b>		<b>6</b>
<b>Total Hours</b>		<b>42</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b CBH Theory requirement.

c CBH Methods requirement.

d CBH Community and Society requirement.

e CBH Intervention requirement.

f Work with faculty advisor for approval of appropriate graduate level coursework.

### Epidemiology Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
42 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
MPH Epidemiology students are also required to attend a departmental seminar series during each semester of enrollment in the program. <sup>b</sup>		
A cumulative GPA of 3.00 is required.		

Students must earn a grade of B- or better in each of the six MPH common core courses and must have a combined GPA of 3.00 or better in these courses. When necessary, a student may repeat a course to meet this requirement.

Every student is required to present at least one scientific poster at the department level and is encouraged to present at the international, national, regional, state, or university level at some point before graduation. This may be the same poster presented during the MPH Applied Practice poster presentation.

		<b>Hours</b>	<b>0</b>
<b>First Year</b>			
<b>Fall</b>			
BIOS:4120	Introduction to Biostatistics	3	
CPH:5100	Introduction to Public Health	3	
EPID:4400	Epidemiology I: Principles	3	
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3	
EPID:5925	Epidemiology Journal Club: Evaluating the Literature <sup>c</sup>	0	
		<b>Hours</b>	<b>12</b>
<b>Spring</b>			
CBH:4105	Introduction to Health Promotion and Disease Prevention	3	
EPID:5241	Statistical Methods in Epidemiology	4	
EPID:5925	Epidemiology Journal Club: Evaluating the Literature <sup>c</sup>	0	
EPID:6400	Epidemiology II: Advanced Methods	4	
HMP:4000	Introduction to the U.S. Health Care System	3	
		<b>Hours</b>	<b>14</b>
<b>Second Year</b>			
<b>Fall</b>			
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III <sup>d</sup>	0	
EPID:5540	Public Health Surveillance Mechanisms, Applications, and Data	3	
EPID:5925	Epidemiology Journal Club: Evaluating the Literature <sup>c</sup>	0	
OEH:4240	Global Environmental Health	3	
PATH:8133 or PATH:5270	Introduction to Human Pathology or Pathogenesis of Major Human Diseases	3 - 4	
		<b>Hours</b>	<b>9-10</b>
<b>Spring</b>			
CPH:7200	M.P.H. Capstone Experience <sup>e</sup>	1	
CPH:7500	M.P.H. Applied Practice Experience <sup>e</sup>	2	
EPID:5580	Public Health Laboratory Techniques	1	
EPID Elective <sup>f, g</sup>		3	
		<b>Hours</b>	<b>7</b>
		<b>Total Hours</b>	<b>42-43</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Students are expected to achieve at least 80% attendance at the seminar during each semester of enrollment.
- c Students are required to achieve at least 80% attendance at Journal Club for three semesters during their time in the program.
- d CPH:5203 is a single day activity, and students must complete this during fall semester of the second year.
- e Students must complete the six MPH common core courses (BIOS:4120, CBH:4105, CPH:5100, EPID:4400, HMP:4000, OEH:4240) prior to taking this course. Exceptions are granted on a case-by-case basis.
- f Elective must have EPID prefix or may be either BIOS:6210 or BIOS:6310.
- g Work with faculty advisor for approval of appropriate graduate level coursework.

## Occupational and Environmental Health Subprogram

<b>Course</b>	<b>Title</b>	<b>Hours</b>
<b>Academic Career</b>		
<b>Any Semester</b>		
42 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
A cumulative GPA of 3.00 is required.		
		<b>Hours</b>
		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
OEH:4240	Global Environmental Health	3
EPID:4400	Epidemiology I: Principles	3
CPH:5100	Introduction to Public Health	3
OEH:5620	Occupational Health	3
OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	0
		<b>Hours</b>
		<b>12</b>
<b>Spring</b>		
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
HMP:4000	Introduction to the U.S. Health Care System	3
		3
		3
OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	0
		<b>Hours</b>
		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
BIOS:4120	Introduction to Biostatistics	3
		3
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III	0
OEH Elective <sup>d</sup>		3
		<b>Hours</b>
		<b>9</b>

<b>Spring</b>		
OEH:5010	Occupational and Environmental Health Seminar <sup>d</sup>	1
OEH Elective <sup>d</sup>		3
OEH Elective <sup>d</sup>		2 - 3
CPH:7500	M.P.H. Applied Practice Experience	2
CPH:7200	M.P.H. Capstone Experience	1
<b>Hours</b>		<b>9-10</b>
<b>Total Hours</b>		<b>42-43</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Students take OEH:5010 Occupational and Environmental Health Seminar three times: twice for 0 s.h. and once for 1 s.h.
- c Take three courses from OEH:4260, OEH:4510, OEH:5410, OEH:6110, OEH:6710.
- d Work with faculty advisor for approval of appropriate graduate level coursework.

### Policy Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
42 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
A cumulative GPA of 3.00 is required.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
HMP:4000	Introduction to the U.S. Health Care System <sup>b</sup>	3
HMP:5610	Health Policy	3
CPH:5100	Introduction to Public Health	3
OEH:4240	Global Environmental Health	3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
BIOS:4120	Introduction to Biostatistics	3
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
HMP:5650	Health Policy Analysis	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
EPID:4400	Epidemiology I: Principles	3
HMP:6750	Seminar in Health Policy	3
HMP:6610	Legal Aspects of Healthcare	3
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III	0
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
Policy Elective <sup>c, d</sup>		3
Policy Elective <sup>c, d</sup>		3
Policy Elective <sup>c, d</sup>		3
CPH:7200	M.P.H. Capstone Experience	1

CPH:7500	M.P.H. Applied Practice Experience	2
<b>Hours</b>		<b>12</b>
<b>Total Hours</b>		<b>42</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b HMP:5005 will also satisfy this requirement.
- c Work with faculty advisor for approval of appropriate graduate level coursework.
- d Choose from HMP:5310, HMP:5410, HMP:5450, HMP:5750, HMP:6710, HMP:6850, LAW:8562, POLI:3100; HMP:5750 and HMP:6710 are recommended.

### Practicing Veterinarians Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
42 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
A cumulative GPA of 3.00 is required.		
All courses are online unless otherwise noted.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
BIOS:4120	Introduction to Biostatistics	3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
EPID:4400	Epidemiology I: Principles	3
OEH:4240	Global Environmental Health	3
<b>Hours</b>		<b>6</b>
<b>Summer</b>		
EPID:5570	Zoonotic Diseases <sup>b</sup>	3
OEH:6110	Rural Health and Agricultural Medicine <sup>b</sup>	3
CPH:5100	Introduction to Public Health	3
<b>Hours</b>		<b>9</b>
<b>Second Year</b>		
<b>Fall</b>		
EPID:5200	Principles of Public Health Informatics	3
CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	3
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III	0
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
EPID:5550	Diagnostic Microbiology for Epidemiology	3
CPH:7500	M.P.H. Applied Practice Experience	2
CPH:7200	M.P.H. Capstone Experience	1
<b>Hours</b>		<b>6</b>



**Summer**

EPID:5300	Food Safety <sup>c</sup>	3
EPID:5470	Applied Veterinary Epidemiology/ Biostatistics <sup>c</sup>	3
HMP:4000	Introduction to the U.S. Health Care System	3
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>42</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b UI Summer Institute

c ISU Summer Institute

**Spring**

MPH Elective <sup>b</sup>		3
MPH Elective <sup>b</sup>		3
CPH:7200	M.P.H. Capstone Experience	1
CPH:7500	M.P.H. Applied Practice Experience	2
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>42</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Work with faculty advisor for approval of appropriate graduate level coursework.

**Professional M.P.H. Option**

Course	Title	Hours
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**Academic Career****Any Semester**

42 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website.<sup>a</sup>

A cumulative GPA of 3.00 is required.

<b>Hours</b>		<b>0</b>
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**First Year****Fall**

EPID:4400	Epidemiology I: Principles	3
OEH:4240	Global Environmental Health	3
BIOS:4120	Introduction to Biostatistics	3
<b>Hours</b>		<b>9</b>

**Spring**

CBH:4105	Introduction to Health Promotion and Disease Prevention	3
OEH:6110	Rural Health and Agricultural Medicine	3
MPH Elective <sup>b</sup>		3
<b>Hours</b>		<b>9</b>

**Summer**

CPH:5100	Introduction to Public Health	3
HMP:4000	Introduction to the U.S. Health Care System	3
<b>Hours</b>		<b>6</b>

**Second Year****Fall**

CPH:6700	Public Health Emergency Preparedness for Veterinarians and Other Public Health Disciplines	3
EPID:6910 or EPID:5500	Pharmacoepidemiology and Comparative Effectiveness Research or Introduction to Clinical Epidemiology	3
MPH Elective <sup>b</sup>		3
CPH:5203	Interprofessional Education and Practice for M.P.H. Students III	0
<b>Hours</b>		<b>9</b>

# Public Health, Graduate Certificate

## Requirements

The graduate Certificate in Public Health requires 18 s.h. of credit. Students must complete the certificate's required coursework within five years of entering the program and must maintain a g.p.a. of at least 2.75 in work for the certificate. All certificate courses are offered online at least once a year, and all courses are offered on campus. Students who are only enrolled in the Certificate in Public Health program may not register for courses other than those required for the certificate.

The certificate program is designed to improve public health practice and public health workforce capacity in Iowa and the upper Midwest. It is intended primarily for individuals in public health practice, those in the workforce, and those interested in strengthening their knowledge and skills in basic public health competencies.

The graduate Certificate in Public Health requires the following coursework.

Code	Title	Hours
All of these:		
CPH:5100	Introduction to Public Health	3
BIOS:4120	Introduction to Biostatistics	3
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
EPID:4400	Epidemiology I: Principles	3
HMP:4000	Introduction to the U.S. Health Care System	3
OEH:4240	Global Environmental Health	3

For more information about the program, visit Graduate Certificate in Public Health on the College of Public Health website.

## Admission

Applicants to the certificate program must hold a bachelor's degree and must have a cumulative g.p.a. of at least 2.75. They must submit official transcript(s), a statement of purpose, two reference letters, a résumé, and an online application.

For more information about how to apply, visit Graduate Certificate in Public Health on the College of Public Health website.

# Agricultural Safety and Health

## Interim Head, Department of Occupational and Environmental Health

- Thomas M. Peters

### Director

- Diane Rohlman (Occupational and Environmental Health)

**Graduate certificate:** agricultural safety and health

**Website:** <https://www.public-health.uiowa.edu/certificate-ash/>

The certificate program in agricultural safety and health trains students to detect safety and illness hazards, and treat and prevent farm-related illnesses and injuries. The program is available for students in related health science, environmental science, or occupational health and safety programs who want to supplement other training with agricultural health information.

The certificate may enhance employment opportunities in health care delivery, government, and the private sector.

The Certificate in Agricultural Safety and Health is administered by the Department of Occupational and Environmental Health [p. 2139]. The Graduate College grants the certificate.

## Programs

### Graduate Program of Study

#### Certificate

- Certificate in Agricultural Safety and Health [p. 2092]

# Agricultural Safety and Health, Graduate Certificate

## Requirements

The graduate Certificate in Agricultural Safety and Health requires 12 s.h. of credit.

The Certificate in Agricultural Safety and Health requires the following coursework.

Code	Title	Hours
OEH:5410	Occupational Safety	3
OEH:5620	Occupational Health	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6120	Current Topics in Agriculture and Rural Health (taken three times for 1 s.h. each)	3
<b>Total Hours</b>		<b>12</b>

For more information, visit Graduate Certificate in Agricultural Safety and Health on the College of Public Health website.

## Admission

Admission requirements include:

- a bachelor's degree with a g.p.a. of at least 2.50 from an accredited university or equivalent experience and education,
- a letter of interest that explains the applicant's current position and educational objectives,
- a résumé, and
- completion of the application form.

For more information, and how to apply, visit Graduate Certificate in Agricultural Safety and Health on the College of Public Health website.

# Biostatistics

## Head

- Joseph E. Cavanaugh

**Graduate degrees:** M.S. in biostatistics; Ph.D. in biostatistics

**Graduate certificate:** biostatistics

**Faculty:** <https://www.public-health.uiowa.edu/biostatistics-faculty-list/>

**Website:** <https://www.public-health.uiowa.edu/biostat/>

The Department of Biostatistics prepares students for professional and academic careers in biostatistics. Graduates find positions in pharmaceutical, health care, and research companies and institutions; in universities and government agencies; and as consultants. The department also provides training for non-biostatistics students.

Biostatistics faculty members work closely with both clinical and basic science investigators on the University of Iowa health sciences campus in the design and analysis of research projects. The department has research expertise representing a broad array of methodological areas of statistics and biostatistics, including clinical trials, computational statistics, Bayesian modeling and inference, high-dimensional data analysis, statistical genetics and genomics, bioinformatics, informatics, statistical and machine learning, spatial and spatio-temporal modeling, time series analysis, survival data analysis, longitudinal data analysis, network analysis, causal inference, comparative effectiveness studies, model selection, epidemic modeling, and syndromic surveillance. Many of these areas represent current, cutting-edge areas of disciplinary focus in a rapidly evolving field.

In addition to the M.S. and the Ph.D. degrees in biostatistics, the department offers a subprogram for the Master of Public Health (M.P.H.) degree in biostatistics. See "M.P.H. Subprogram" below.

## M.P.H. Subprogram

The Department of Biostatistics offers the biostatistics subprogram for the Master of Public Health degree. The subprogram is designed to train public health professionals for leadership in the analysis of public health data and the design of studies for public health investigations. See the Master of Public Health, M.P.H. [p. 2078] in the Catalog.

## Programs

### Graduate Programs of Study

#### Majors

- Biostatistics subprogram for the Master of Public Health [p. 2078] degree
- Master of Science in Biostatistics [p. 2096]
- Doctor of Philosophy in Biostatistics [p. 2099]

#### Certificate

- Certificate in Biostatistics [p. 2102]

## Facilities

Department of Biostatistics resources and activities include three centers. The Biostatistics Consulting Center provides opportunities for students to gain valuable experience working with faculty and staff in the health sciences at the

University of Iowa. The Clinical Trials Statistical and Data Management Center serves the statistical design, data management, and analysis needs of a variety of multicenter clinical trials, and among those are Acute to Chronic Pain Signatures (A2CPS) Consortium, Network of Excellence in Neuroscience Clinical Trials (NeuroNEXT), and the Parkinson's Progression Markers Initiative (PPMI). The Center for Public Health Statistics facilitates the collection, analysis, and dissemination of health data in support of the research, teaching, and service missions of the College of Public Health. This includes collaborative relationships in the area of public health statistics including data management and statistical analysis services.

## Courses

### Biostatistics Courses

#### **BIOS:4110 General Biostatistics** **3 s.h.**

Biostatistics and biostatistical computation; biostatistical aspects of health-related problems; clinical trials; statistical issues in big data problems; disease modeling; disease mapping; genetics and epidemiology; brief introduction to survival and longitudinal analyses.

#### **BIOS:4120 Introduction to Biostatistics** **3 s.h.**

Application of statistical techniques to biological data including descriptive statistics, probability and distributions, sampling distributions, nonparametric methods, hypothesis tests, confidence intervals, analysis of categorical data, and simple linear regression; designed for non-biostatistics majors and M.P.H. students. Requirements: college algebra or ALEKS score of 65% or higher.

#### **BIOS:5120 Regression Modeling and ANOVA in the Health Sciences** **3 s.h.**

Continuation of BIOS:4120; correlation, simple and multiple linear regression, confounding, interactions, model selection, single and multiple factor ANOVA (analysis of variance) models, contrasts, multiple comparisons, nested and block designs; introduction to mixed models; for non-biostatistics majors. Offered spring semesters. Prerequisites: BIOS:4120. Same as IGPI:5120, STAT:5610.

#### **BIOS:5130 Applied Categorical Data Analysis** **3 s.h.**

Analysis of proportions, risk measures, and measures of association; Mantel-Haenszel method; logistic regression for binary responses and for matched data; logistic regression for multi-category responses; analysis of count data (Poisson regression and negative binomial regression); analysis of clustered data (generalized estimating equations and generalized linear mixed effects model); special topics include the application of propensity score methods; designed for non-biostatistics majors. Offered fall semesters. Prerequisites: BIOS:5120. Same as IGPI:5130.

#### **BIOS:5310 Research Data Management** **3 s.h.**

Introduction to data management techniques and problems encountered in gathering and processing data from biomedical investigations; introduction to SAS, techniques taught in SAS; designed for non-biostatistics majors. Offered fall and spring semesters. Recommendations: prior programming experience with C, C++, Python, Java, or other. Same as IGPI:5310, STAT:5810.

- BIOS:5510 Biostatistical Computing** 2 s.h.  
Introduction to computer programming using SAS and R statistical software packages; programming language syntax, constructs, procedures, and techniques for data management, data analysis, and statistical programming commonly encountered in biostatistics; designed for first-year biostatistics majors. Offered fall semesters. Corequisites: BIOS:5710. Same as IGPI:5510.
- BIOS:5710 Biostatistical Methods I** 4 s.h.  
Probability distributions, moments, estimation, parametric and nonparametric inference for one-sample and two-sample problems, analysis of frequency data; emphasis on use of computers; designed for first-year biostatistics majors. Offered fall semesters. Requirements: two semesters of calculus. Same as IGPI:5710.
- BIOS:5720 Biostatistical Methods II** 4 s.h.  
Continuation of BIOS:5710; multi-factor ANOVA (analysis of variance), multiple comparisons, orthogonal contrasts, linear regression and correlation, regression diagnostics and remedial measures, model selection, and mixed models; designed for first-year biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5710. Requirements: one semester of linear algebra. Same as IGPI:5720.
- BIOS:5730 Biostatistical Methods in Categorical Data** 3 s.h.  
Estimation of proportions, rates, risks, relative risks, and odds ratios; Mantel-Haenszel method; logistic regression (including ordinal logistic regression and multi-category nominal logistic regression); Poisson regression and negative binomial regression; methods for correlated or clustered data (conditional logistic regression, generalized estimating equations, and mixed effects models); special topics include an introduction to generalized linear models and likelihood-based inferential techniques in this framework; designed for first-year biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5510 and BIOS:5710. Corequisites: BIOS:5720. Same as IGPI:5730.
- BIOS:6210 Applied Survival Analysis** 3 s.h.  
Nonparametric, parametric, and semi-parametric methods for time-to-event data; types of censoring; Kaplan-Meier estimation; Cox proportional hazards models, including methods for assessing adequacy of the proportional hazards assumption; time varying covariates; sample size calculations for comparison of two or more groups; focus on analysis of real data sets and examples using statistical software. Offered spring semesters. Prerequisites: BIOS:5120 or BIOS:5720. Same as IGPI:6210.
- BIOS:6310 Introductory Longitudinal Data Analysis** 3 s.h.  
Introduction to statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; focus on applications and computer software methods for ANOVA based methods, hierarchical linear models, linear mixed models, correlated regression models, generalized estimating equations, and generalized linear mixed models. Offered fall semesters. Prerequisites: BIOS:5120 or STAT:3200. Same as IGPI:6310, STAT:6550.
- BIOS:6420 Survey Design and Analysis** 3 s.h.  
Methodological issues regarding design, sampling approach, implementation, analysis, and interpretation of surveys and questionnaires in public health research. Offered spring semesters of even years. Prerequisites: EPID:4400 and BIOS:5120. Same as EPID:6420.
- BIOS:6610 Statistical Methods in Clinical Trials** 3 s.h.  
Survey of statistical methods commonly used in clinical trials; primary focus on methodologic perspective for the design, conduct, analysis, and interpretation of all phases of clinical trials; logistical and operational aspects of conducting multisite clinical trials; designed for biostatistics majors. Offered spring semesters. Prerequisites: BIOS:5720. Requirements: familiarity with SAS and R programming. Same as IGPI:6610.
- BIOS:6650 Causal Inference** 3 s.h.  
Concepts of causal inference, counterfactuals, confounding, causal graphs, internal/external validity, and heterogeneity of treatment effect; methods include propensity score matching (i.e., optimal pair, multiple control and full matching; near-exact, fine-balance, risk set matching) and stratification; covariate balance checks; sensitivity analysis; inverse probability of treatment weighted estimation; doubly robust estimators; mediation analysis; marginal structural models. Prerequisites: BIOS:5720 and BIOS:5730 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as IGPI:6650.
- BIOS:6720 Statistical Machine Learning for Biomedical and Public Health Data** 3 s.h.  
Statistical machine learning techniques for analysis of biomedical and public health data; methodology and application of unsupervised learning, supervised learning for regression and classification, ensemble learning, model assessment, feature selection, and high-dimensional inference. Prerequisites: BIOS:5510 and BIOS:5720 and (STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101). Requirements: BIOS:5510 with topic of programming with R.
- BIOS:6810 Bayesian Methods and Design** 3 s.h.  
Theory and application of Bayesian methods in biomedical research; foundations of Bayesian statistics including decision theory, study design, model development, inference and implementation of computational algorithms; designed for biostatistics majors. Offered fall semesters of even years. Prerequisites: BIOS:5510 and BIOS:5720 and BIOS:5730 and STAT:4100 and STAT:4101.
- BIOS:7110 Likelihood Theory and Extensions** 4 s.h.  
Theoretical foundations of inferential methods based on likelihood and its extensions (e.g., profile, conditional, partial, marginal, pseudo likelihood). Prerequisites: (BIOS:5720 and STAT:5100 and STAT:5101) or (STAT:4100 and STAT:4101).
- BIOS:7210 Survival Data Analysis** 3 s.h.  
Types of censoring and truncation; survival function estimation; parametric inference using exponential, Weibull, and accelerated failure time models; nonparametric tests; sample size calculation; Cox regression with stratification and time-dependent covariates; regression diagnostics; competing risks; topics may include analysis of correlated survival data and/or recurrent events; designed for biostatistics and statistics majors. Offered fall semesters of odd years. Prerequisites: BIOS:5720 and ((STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101)). Same as IGPI:7210, STAT:7570.
- BIOS:7230 Advanced Clinical Trials** 3 s.h.  
Modules that address advanced topics and issues encountered when conducting a clinical trial; discussions of recent publications and FDA guidance documents dealing with current topics in clinical trials. Prerequisites: (STAT:4101 or STAT:5101) and BIOS:6610. Requirements: familiarity with SAS and R programming.

- BIOS:7240 High-Dimensional Data Analysis** 3 s.h.  
Analysis of high-dimensional data with emphasis on use of penalized regression models such as lasso, elastic net, minimax concave penalty (MCP), smoothly clipped absolute deviation (SCAD), and group lasso; large-scale hypothesis testing and false discovery rate estimation; inference for penalized likelihoods. Prerequisites: (STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101) and BIOS:5510 and BIOS:5720. Requirements: BIOS:5510 with section subtitle of programming with R.
- BIOS:7250 Theory of Linear and Generalized Linear Models** 4 s.h.  
Theoretical foundations of traditional linear models and generalized linear models; emphasis on modeling structures, estimability and identifiability, estimation and testing. Prerequisites: STAT:5100 and STAT:5101 and BIOS:5720.
- BIOS:7270 Scholarly Integrity in Biostatistics** 1 s.h.  
Responsible conduct of research training; emphasis on issues of particular relevance to biostatisticians including authorship, communication, student/mentor relationships, plagiarism, fabrication and falsification of data, bias, Type I/II errors, reproducible research, data confidentiality and security, conflicts of interest, and human/animal subjects. Requirements: graduate standing in biostatistics.
- BIOS:7310 Longitudinal Data Analysis** 3 s.h.  
Statistical models and estimation methods for outcome variables (normal and non-normal) clustered or measured repeatedly in time or space; includes ANOVA based methods, hierarchical linear models, linear mixed models, error structures, generalized estimating equations, and generalized linear mixed models; may include Bayesian approaches; designed for biostatistics and statistics majors. Offered spring semesters of odd years. Prerequisites: (BIOS:5720 and STAT:4100 and STAT:4101) or (STAT:5100 and STAT:5101). Same as IGPI:7310.
- BIOS:7330 Advanced Biostatistical Computing** 3 s.h.  
Advanced topics in biostatistical computing and large or complicated data/models; matrix decomposition, optimization, Bayesian computing, parallel programming, working with campus high performance computing (HPC) resources; topics are explored in R, including package development and efficient R code. Prerequisites: MATH:2700 and BIOS:5510 and STAT:4101. Requirements: BIOS:5510 with section subtitle of programming with R.
- BIOS:7410 Analysis of Categorical Data** 3 s.h.  
Models for discrete data, distribution theory, maximum likelihood and weighted least squares estimation for categorical data, tests of fit, models selection. Offered spring semesters. Prerequisites: (BIOS:5720 or STAT:5200) and (STAT:5101 or STAT:4101). Same as STAT:7510.
- BIOS:7500 Preceptorship in Biostatistics** arr.  
Work experience using knowledge and skill acquired in classroom; arranged in conjunction with ongoing departmental or collegiate activities or with governmental agencies or private industry; preparation of prospectus and presentation of research results in a department seminar.
- BIOS:7600 Advanced Biostatistics Seminar** 0-3 s.h.  
Current topics; supervised experience in reading and interpreting biostatistical literature. Same as IGPI:7600.
- BIOS:7604 Scholarly Integrity in Biostatistics for Postdocs** 0 s.h.  
Responsible conduct of research training; emphasis on issues of particular relevance to biostatisticians and statisticians including authorship, communication, student/mentor relationships, plagiarism, fabrication and falsification of data, bias, Type I/II errors, reproducible research, data confidentiality and security, conflicts of interest, human/animal subjects. Requirements: postdoctoral research scholar/fellow standing in biostatistics or statistics.
- BIOS:7700 Problems/Special Topics in Biostatistics** arr.  
Didactic material in biostatistics; may include tutorials, seminars, faculty-directed independent work (e.g. literature search, project, short research project).
- BIOS:7800 Independent Study in Biostatistics** arr.  
In-depth pursuit of an area of special interest in biostatistics requiring substantial creativity and independence.
- BIOS:7850 Research in Biostatistics** arr.  
Research that may lead to a dissertation.
- BIOS:7900 Thesis/Dissertation** arr.

# Biostatistics, M.S.

## Learning Outcomes

Students will:

- demonstrate a broad knowledge and understanding of current statistical theory, methods, and practices in the health sciences;
- effectively collaborate on a research team;
- develop statistical designs and implement analyses for health science investigations;
- develop computer programs for the management and analysis of data sets;
- prepare reports and publications resulting from health science studies; and
- effectively communicate key statistical principles to a nonstatistical audience.

## Requirements

The Master of Science program in biostatistics requires a minimum of 38 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of coursework may be dismissed from the program.

The program provides training in the design of experiments and in analysis of data related to biomedical or public health problems. It emphasizes mathematical, statistical, and computer methods for dealing with quantitative information and provides opportunities for students to gain statistical consulting experience with a variety of problems.

M.S. students are required to complete an in-depth preceptorship under the direction of a departmental faculty member and a final comprehensive-style examination.

The M.S. with a major in biostatistics requires the following coursework.

## Core Courses

Code	Title	Hours
All of these:		
BIOS:5510	Biostatistical Computing (taken twice for 2 s.h. each; topics should be programming with R and programming with SAS)	4
BIOS:5710 & BIOS:5720	Biostatistical Methods I-II	8
BIOS:5730	Biostatistical Methods in Categorical Data	3
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:7500	Preceptorship in Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
One of these sequences:		
STAT:4100-STAT:4101	Mathematical Statistics I-II	6
STAT:5100-STAT:5101	Statistical Inference I-II (required for students who intend to earn a Ph.D.)	6

## Public Health Requirement

Code	Title	Hours
This course:		
CPH:6100	Essentials of Public Health	2

## Responsible Conduct of Research Training

Code	Title	Hours
This course:		
BIOS:7270	Scholarly Integrity in Biostatistics	1

## Electives

Students complete a minimum of 5-6 s.h. of electives with at least 3 s.h. in quantitative coursework (statistics or biostatistics). It is recommended that students consider a biology/public health course as the other elective, particularly for those who have not had prior exposure to these areas. Electives must be approved by the advisor and the director of graduate studies.

Code	Title	Hours
BIOS:6210	Applied Survival Analysis	3
BIOS:6310/STAT:6550	Introductory Longitudinal Data Analysis	3
BIOS:6420	Survey Design and Analysis	3
BIOS:6650	Causal Inference	3
BIOS:6720	Statistical Machine Learning for Biomedical and Public Health Data	3
BIOS:6810	Bayesian Methods and Design	3
BIOS:7110	Likelihood Theory and Extensions	4
BIOS:7210/STAT:7570	Survival Data Analysis	3
BIOS:7230	Advanced Clinical Trials	3
BIOS:7240	High-Dimensional Data Analysis	3
BIOS:7250	Theory of Linear and Generalized Linear Models	4
BIOS:7310	Longitudinal Data Analysis	3
BIOS:7330	Advanced Biostatistical Computing	3
BIOS:7410/STAT:7510	Analysis of Categorical Data	3
BIOS:7600	Advanced Biostatistics Seminar (topics include statistical methods in bioinformatics, model selection, spatial modeling, statistical analysis of network data)	1-3
BIOS:7700	Problems/Special Topics in Biostatistics	1
BIOL:4213	Bioinformatics	4
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CPH:5100	Introduction to Public Health	3
CS:5110	Introduction to Informatics	3



GENE:7191	Human Molecular Genetics	3
HMP:4000	Introduction to the U.S. Health Care System	3
ISE:4172	Big Data Analytics	3
OEH:4240	Global Environmental Health	3
PATH:5270	Pathogenesis of Major Human Diseases	3
PATH:8133	Introduction to Human Pathology for Graduate Students	3-4
STAT:4520	Bayesian Statistics	3
STAT:6560	Applied Time Series Analysis	3
STAT:7400	Computer Intensive Statistics	3

## Admission

Applicants to the M.S. program in biostatistics must apply through the Schools of Public Health Application Service (SOPHAS). After the SOPHAS application is verified, the applicant pays a supplemental Graduate College admission fee to the University of Iowa Office of Admissions. For detailed application information, visit Requirements and How to Apply to Biostatistics on the Department of Biostatistics website.

The biostatistics faculty considers several factors when evaluating applications for admission, including grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests.

All applicants must hold a bachelor's degree and have a cumulative g.p.a. of at least 3.00.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). They must score at least 100 (internet-based) on the TOEFL. Applicants with lower scores are not considered for admission. In place of TOEFL scores, the department accepts IELTS scores of 7.0 or higher, with no subscore below 6.0, and the Duolingo English Test (DET) with a score of at least 105.

All biostatistics applicants are required to have strong written and oral communication skills.

All applicants must be competent in at least one computer programming language. They also must have mathematical sciences training in methods and techniques of single variable and multivariable differential and integral calculus, and in linear algebra. Previous coursework or experience in statistical methods or data analysis is preferred.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students may enter in the fall; the priority application deadline is December 1.

## Financial Support

A limited number of teaching and research assistantships are available. Assistantships offer financial support and tuition assessed at the resident tuition rate along with a tuition scholarship. They also provide valuable on-the-job training experience.

For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

## Career Advancement

Graduates find career opportunities in many areas, including pharmaceuticals, health care, research companies and institutions, consulting firms, universities, and government agencies.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Biostatistics, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
38 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Maintain at least a 3.00 cumulative GPA.		
Exam: (substitutes for the Final Exam) Written Master's Core Exam focused on required biostatistics and statistics coursework; taken in summer of Year 1 after completion of BIOS:5710 Biostatistical Methods I, BIOS:5720 Biostatistical Methods II, BIOS:5730 Biostatistical Methods Categorical Data and STAT:4100 Mathematical Statistics I, STAT:4101 Mathematical Statistics II		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
STAT:5100 or STAT:4100	Statistical Inference I <sup>b</sup> or Mathematical Statistics I	3
BIOS:5710	Biostatistical Methods I	4
BIOS:5510	Biostatistical Computing <sup>c</sup>	2
BIOS:5510	Biostatistical Computing <sup>c</sup>	2
CPH:6100	Essentials of Public Health	2
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
STAT:4101 or STAT:5101	Mathematical Statistics II <sup>d</sup> or Statistical Inference II	3
BIOS:5720	Biostatistical Methods II	4
BIOS:5730	Biostatistical Methods in Categorical Data	3
BIOS:7270	Scholarly Integrity in Biostatistics <sup>e</sup>	1
<b>Hours</b>		<b>11</b>
<b>Summer</b>		
Exam: Master's Core Exam		
<b>Hours</b>		<b>0</b>
<b>Second Year</b>		
<b>Fall</b>		
EPID:4400	Epidemiology I: Principles	3

BIOS:7500	Preceptorship in Biostatistics	3
	Approved biostatistics elective <sup>f</sup>	3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
BIOS:6610	Statistical Methods in Clinical Trials	3
	Approved biostatistics elective <sup>f</sup>	3
	Approved biostatistics elective <sup>f</sup>	2 - 3
	Final Exam - verify results from Master's Core Exam	
<b>Hours</b>		<b>8-9</b>
<b>Total Hours</b>		<b>41-42</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b STAT:5100 is required if pursuing a PhD.

c Complete two sections of BIOS:5510, Programming in R and Programming in SAS.

d STAT:5101 is required if pursuing a PhD.

e Required for Graduate Research Assistants (GRA) or potential GRAs.

f Work with faculty advisor to select appropriate graduate elective coursework. More information can be found in the General Catalog and department website.

# Biostatistics, Ph.D.

## Learning Outcomes

Students will:

- describe current statistical theory, methods, and practices used in health sciences;
- analyze data from experimental and observational studies;
- design new statistical methods;
- communicate research findings to various audiences in writing and through oral presentation; and
- Interpret analytical results from health science studies.

## Requirements

The Doctor of Philosophy program in biostatistics requires a minimum of 79 s.h. of graduate credit, including credit from a master's degree. Students must maintain a cumulative g.p.a. of at least 3.00. Those who receive a grade of C on 7 s.h. of coursework may be dismissed from the program.

All students must successfully complete a comprehensive examination and a dissertation. The research topic and content, which vary depending on the program of study, must be approved by a student's dissertation committee. Other degree requirements include approved electives chosen from Department of Biostatistics and other University of Iowa courses.

The Ph.D. with a major in biostatistics requires the following work.

## Master of Science Background

Ph.D. students must take the following courses required for the Master of Science in biostatistics. Students who have completed equivalent coursework at other institutions may request waivers and/or transfers of credit. Students who earned a Master of Science with a major in biostatistics at the University of Iowa automatically receive credit for these courses.

Code	Title	Hours
This sequence:		
STAT:5100- STAT:5101	Statistical Inference I-II	6
All of these:		
BIOS:5510	Biostatistical Computing (taken twice for 2 s.h. each; topics should be programming with R and programming with SAS)	4
BIOS:5710 & BIOS:5720	Biostatistical Methods I-II	8
BIOS:5730	Biostatistical Methods in Categorical Data	3
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:7500	Preceptorship in Biostatistics	3
EPID:4400	Epidemiology I: Principles	3

## Public Health Requirement

Code	Title	Hours
This course:		
CPH:6100	Essentials of Public Health	2

## Responsible Conduct of Research Training

Code	Title	Hours
This course:		
BIOS:7270	Scholarly Integrity in Biostatistics	1

## Core Courses

Code	Title	Hours
All of these:		
BIOS:6810	Bayesian Methods and Design	3
BIOS:7110	Likelihood Theory and Extensions	4
BIOS:7210/ STAT:7570	Survival Data Analysis	3
BIOS:7250	Theory of Linear and Generalized Linear Models	4
BIOS:7310	Longitudinal Data Analysis	3

## Electives

With approval of their advisor, students choose 16-23 s.h. of courses according to their interest in biostatistics, statistics, genetics, computing, public health, or in other areas. No more than 5 s.h. in nonquantitative courses (e.g., epidemiology, environmental health) may count toward the electives requirement. Courses required for the M.S. degree that are not listed above also may be used to satisfy the electives requirement, although BIOS:7800 Independent Study in Biostatistics does not generally count as an elective. At least 6 s.h. of elective coursework must be taken with grades awarded.

These courses are recommended, but other coursework may be selected; students should consult their advisor.

Code	Title	Hours
BIOS:6420	Survey Design and Analysis	3
BIOS:6650	Causal Inference	3
BIOS:6720	Statistical Machine Learning for Biomedical and Public Health Data	3
BIOS:7230	Advanced Clinical Trials	3
BIOS:7240	High-Dimensional Data Analysis	3
BIOS:7330	Advanced Biostatistical Computing	3
BIOS:7410/ STAT:7510	Analysis of Categorical Data	3
BIOS:7600	Advanced Biostatistics Seminar (topics include model selection, spatial biostatistics, statistical methods in genetics/genomics, analysis of network data)	1-3
STAT:6560	Applied Time Series Analysis	3

STAT:7400 Computer Intensive Statistics 3

## Dissertation

Students must enroll in the following dissertation course for at least two semesters in residence.

Code	Title	Hours
BIOS:7900	Thesis/Dissertation	6-13

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in biostatistics in a combined degree program offered by the Carver College of Medicine and the College of Public Health. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Applicants to the Ph.D. program in biostatistics must apply through the Schools of Public Health Application Service (SOPHAS). After the SOPHAS application is verified, the applicant pays a supplemental Graduate College admission fee to the University of Iowa Office of Admissions. For detailed application information, visit Requirements and How to Apply to Biostatistics on the Department of Biostatistics website.

The biostatistics faculty considers several factors when evaluating applications for admission, including grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests.

All applicants must hold a bachelor's degree and have a cumulative g.p.a. of at least 3.00.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS). They must score at least 100 (internet-based) on the TOEFL. Applicants with lower scores are not considered for admission. In place of TOEFL scores, the department accepts IELTS scores of 7.0 or higher, with no subscore below 6.0, and the Duolingo English Test (DET) with a score of at least 105.

All biostatistics applicants are required to have strong written and oral communication skills.

Completion of an M.S. program in statistics or biostatistics generally is required for admission to the Ph.D. program. However, full consideration is given to baccalaureate degree recipients.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Ph.D. application deadlines are posted on the Department of Biostatistics website. Application deadline is December 1. Visit Requirements and How to Apply to Biostatistics on the department's website.

## Financial Support

A limited number of teaching and research assistantships are available. Assistantships offer financial support and tuition assessed at the resident tuition rate along with a tuition scholarship. They also provide valuable on-the-job training experience.

For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

## Career Advancement

The program prepares students for professional and academic careers in biostatistics, especially for positions that emphasize developing and applying statistical methodology to solve important biological and public health problems.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Biostatistics, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
79 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
STAT:5100	Statistical Inference I	3
BIOS:5710	Biostatistical Methods I	4
BIOS:5510	Biostatistical Computing <sup>b</sup>	2
BIOS:5510	Biostatistical Computing <sup>b</sup>	2
CPH:6100	Essentials of Public Health	2
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
STAT:5101	Statistical Inference II	3
BIOS:5720	Biostatistical Methods II	4
BIOS:5730	Biostatistical Methods in Categorical Data	3
BIOS:7270	Scholarly Integrity in Biostatistics	1
<b>Hours</b>		<b>11</b>
<b>Summer</b>		
Exam: Master's Core Exam if entering the program without a MS in statistics or biostatistics		
<b>Hours</b>		<b>0</b>
<b>Second Year</b>		
<b>Fall</b>		
EPID:4400	Epidemiology I: Principles	3
BIOS:7500	Preceptorship in Biostatistics <sup>c, d</sup>	3
BIOS:7110	Likelihood Theory and Extensions <sup>e</sup>	4

BIOS:6810 or BIOS:7210	Bayesian Methods and Design <sup>e</sup> or Survival Data Analysis	3
<b>Hours</b>		<b>13</b>
<b>Spring</b>		
BIOS:6610	Statistical Methods in Clinical Trials <sup>c</sup>	3
BIOS:7310	Longitudinal Data Analysis <sup>e, f, g</sup>	3
BIOS:7250	Theory of Linear and Generalized Linear Models <sup>e, h</sup>	4
<b>Hours</b>		<b>10</b>
<b>Summer</b>		
Comprehensive Exam		
<b>Hours</b>		<b>0</b>
<b>Third Year</b>		
<b>Fall</b>		
BIOS:7210 or BIOS:6810	Survival Data Analysis <sup>e</sup> or Bayesian Methods and Design	3
PhD Elective Course <sup>f, g</sup>		3
PhD Elective Course <sup>f, g</sup>		3
<b>Hours</b>		<b>9</b>
<b>Spring</b>		
BIOS:7310	Longitudinal Data Analysis <sup>e, f, g</sup>	3
PhD Elective Course <sup>f, g</sup>		3
PhD Elective Course <sup>f, g</sup>		3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Fall</b>		
PhD Elective Course <sup>f, g</sup>		3
BIOS:7900	Thesis/Dissertation <sup>i</sup>	3
<b>Hours</b>		<b>6</b>
<b>Spring</b>		
PhD Elective Course <sup>f, g</sup>		3
BIOS:7900	Thesis/Dissertation <sup>i</sup>	3
<b>Hours</b>		<b>6</b>
<b>Fifth Year</b>		
<b>Fall</b>		
BIOS:7900	Thesis/Dissertation <sup>i</sup>	1 - 4
Dissertation prospectus presentation		
<b>Hours</b>		<b>1-4</b>
<b>Spring</b>		
BIOS:7900	Thesis/Dissertation <sup>i</sup>	1 - 4
Final Exam: Dissertation Defense		
<b>Hours</b>		<b>1-4</b>
<b>Total Hours</b>		<b>79-85</b>

e Required BIOS PhD Core Course. Additional information can be found in the General Catalog and department website.

f 16-23 s.h. of biostatistics, statistics, genetics, computing, public health, etc. courses; no more than 5 s.h. of credit in non-quantitative courses; 6 s.h. of electives must be taken for a letter grade; work with faculty advisor to determine appropriate graduate level electives and sequence.

g Refer to the Biostatistics Student Handbook, PhD in Biostatistics section, for sequencing of PhD elective courses.

h Typically this course is offered in spring semesters only. Check MyUI for course availability since offerings are subject to change.

i Must register for at least two semesters; minimum of 6 s.h. required overall.

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Complete two sections of BIOS:5510, Programming in R and Programming in SAS.

c To fulfill MS degree requirements by the end of 4th semester, an approved PhD elective may substitute for BIOS:6610 or BIOS:7500. The substituted MS requirement would transfer to a PhD requirement. Contact the Grad Program Administrator to pursue this option.

d Course may also be completed in spring of second year.

# Biostatistics, Graduate Certificate

for admission. Visit the Certificate in Biostatistics on the department's website for an application form.

## Requirements

The graduate Certificate in Biostatistics requires a minimum of 15 s.h. of graduate credit. Students must earn a grade of at least B-minus in each certificate course and must maintain a cumulative g.p.a. of at least 3.00 in order to earn the certificate. The certificate is designed for students who would like to add a formal biostatistics emphasis to their graduate programs.

The program is open to students enrolled in a University of Iowa graduate degree program outside the Department of Biostatistics. It is also open to individuals who hold graduate degrees in science disciplines or professional degrees in the health sciences and are admitted to the Graduate College as nondegree students.

The certificate requires two core courses (6 s.h.) and three electives (9 s.h.). Students should work with an advisor to plan their coursework carefully, since some certificate courses have prerequisites, require permission for enrollment, or are not offered every year. They must complete at least 6 s.h. of the required coursework after being admitted to the certificate program, and may count a maximum of 6 s.h. of certificate credit toward a degree or another certificate earned at the University. At least 6 s.h. of the certificate plan of study must be exclusively applied to the certificate.

The Certificate in Biostatistics requires the following coursework.

## Core Courses

Code	Title	Hours
Both of these:		
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120/ STAT:5610	Regression Modeling and ANOVA in the Health Sciences	3

## Electives

Code	Title	Hours
Three of these (total of 9 s.h.):		
BIOS:5130	Applied Categorical Data Analysis	3
BIOS:5310/ STAT:5810	Research Data Management	3
BIOS:6210	Applied Survival Analysis	3
BIOS:6310/ STAT:6550	Introductory Longitudinal Data Analysis	3
BIOS:6420	Survey Design and Analysis	3

Other courses may be approved as electives by the Department of Biostatistics director of graduate studies. Contact the Department of Biostatistics for more information.

## Admission

Enrollment is limited; applicants who have completed at least one of the certificate's required courses and whose research will be advanced by biostatistics training are given priority

# Community and Behavioral Health

## Head

- Mark W. Vander Weg

**Graduate degree:** Ph.D. in community and behavioral health  
**Faculty:** <https://www.public-health.uiowa.edu/cbh-faculty-list/>  
**Website:** <https://www.public-health.uiowa.edu/cbh/>

The Department of Community and Behavioral Health examines the relationship between human behavior and community health and focuses on creating effective strategies for change. Community and behavioral health students learn how to design, implement, and evaluate interventions directed toward identified public health problems in communities.

The Department of Community and Behavioral Health advances teaching, research, and practice in four strategic areas: rural health; community engagement and participatory approaches; theory-based culturally informed intervention development, implementation, and evaluation; and social justice, health equity, and health disparities.

Department faculty members come from a variety of disciplines within the social and health sciences, drawn together by an interest in health behavior and promoting healthy communities.

In addition to the Ph.D. degree in community and behavioral health, the department offers a subprogram for the Master of Public Health (M.P.H.) degree. see "M.P.H. Subprogram" below.

## M.P.H. Subprogram

The Department of Community and Behavioral Health offers a subprogram for the Master of Public Health degree.

The M.P.H. subprogram in community and behavioral health prepares public health practitioners for a variety of positions related to intervention development, implementation, and evaluation using community participatory approaches with a focus on decreasing health disparities and inequities.

For detailed information about the M.P.H. degree, see the Master of Public Health, M.P.H. [p. 2078] in the Catalog.

## Programs

### Graduate Programs of Study

#### Majors

- Community and behavioral health subprogram for the Master of Public Health [p. 2078] degree
- Doctor of Philosophy in Community and Behavioral Health [p. 2105]

## Facilities

The department houses two centers. The Prevention Research Center focuses on improving the health of rural Iowans. The National American Indian and Alaska Native Addiction Technology Transfer Center disseminates culturally legitimate evidence-based practice in substance abuse and behavioral health, and provides technical assistance, training, and

systems change assistance to urban as well as tribal providers across the country.

Graduate students may have opportunities to work with ongoing research projects in the centers.

## Courses

### Community and Behavioral Health Courses

#### CBH:3150 Media and Health 3 s.h.

Potential and limits of mass media's ability to educate the public about health; research and theory on the influence of information and entertainment media; theories, models, assumptions of mass communication in relation to public health issues. Same as GHS:3150, JMC:3150.

#### CBH:4105 Introduction to Health Promotion and Disease Prevention 3 s.h.

Basic concepts, strategies, and methods of health promotion and disease prevention; health promotion in the context of public health, theories and principles that underpin health promotion; overview of policy formation and health promotion planning, implementation, evaluation.

#### CBH:4140 Feminist Activism and Global Health 3 s.h.

How female gender intersects with culture, environment, and political economy to shape health and illness; reproductive health, violence, drug use, cancer; readings in anthropology, public health. Prerequisites: ANTH:1101 or GWSS:1001 or CPH:1400 or GHS:2000. Same as ANTH:4140, GHS:4140, GWSS:4140.

#### CBH:4350 Maternal and Child Health Seminar 1 s.h.

Historical and applied perspective on maternal and child health problems and programs aimed at reducing morbidity, mortality, and health disparities across the life span. Same as EPID:4350.

#### CBH:5220 Health Behavior and Health Education 3 s.h.

Common theories of health behavior and health education and their application to varied public health problems and settings.

#### CBH:5230 Public Health Issues in Overweight Management 3 s.h.

Overview of overweight and obesity from a public health perspective, including epidemiology, measurement issues, and intervention approaches at individual, community, and policy levels. Prerequisites: CPH:5100 or CBH:4105.

#### CBH:5235 Community-Based Participatory Research 3 s.h.

How community-based participatory research (CBPR) has emerged as a critical approach to conduct research and produce scholarship; opportunities, challenges, needed skills, and methods by which researchers and community members partner to conduct research that leads to community well-being and health; students share their experiences, explore, and learn through case studies, guest lectures, and interactive activities; application of research methods through a CBPR approach.

**CBH:5305 Evaluation: Approaches and Applications****3 s.h.**

Focus on program evaluation methods for use in public health and related educational and social service programs; exploration of methods and approaches, as well as planning strategies for conducting program evaluations; exposure to all components of evaluation from planning to dissemination of findings. Prerequisites: CBH:5220 and BIOS:4120 and EPID:4400. Requirements: enrollment in College of Public Health.

**CBH:5310 Qualitative Research for Public Health****3 s.h.**

Introduction to methods and theories of qualitative research that facilitate description and explanation of social phenomena related to health behavior, illness, prevention, and treatment in the public health domain.

**CBH:5350 Foundations of Maternal and Child Health****3 s.h.**

Life course approach to understanding determinants, mechanisms, and systems that promote and maintain health, safety, and well-being of mothers and their children. Prerequisites: EPID:4350. Same as EPID:5350.

**CBH:5435 Substance Abuse Prevention and Early Intervention****3 s.h.**

Prevalence and characteristics of several substance use disorders and the impact of such disorders on the individual, the community, and public health workers; how prevalence of substance use disorders varies among different ethnic and cultural groups, between men and women, across the life span, and through different socio-economic levels; how outcomes of substance abuse disorders vary at both the individual and community level as a function of these factors.

**CBH:5440 Prevention and Early Intervention of Mental Health Disorders****3 s.h.**

Prevalence and characteristics of mental health disorders; differences between ethnicity and culture, gender, age, and socioeconomic background; primary and secondary prevention; assessment and tertiary treatment approaches to mental health disorders.

**CBH:6115 Ethnographic Field Methods****3 s.h.**

Basic data-gathering techniques for field research in sociocultural anthropology. Same as ANTH:6115.

**CBH:6205 Designing and Implementing Interventions****3 s.h.**

Theoretical foundations, phases, and skills necessary to plan, design, and implement a public health intervention program; techniques and strategies for designing and implementing public health interventions; emphasis on community engagement; evidence-based, culturally and contextually situated methods and skills to plan, design, and implement public health intervention program; analysis of case studies, individual and small group work on assignments and development of a data-driven program. Prerequisites: CBH:5220. Requirements: admission to College of Public Health.

**CBH:6220 Health Communication Campaigns****3 s.h.**

Intervention design and analysis of health campaigns; theory, practice, methods; mass media, community, organization, and interpersonal approaches. Same as COMM:6220.

**CBH:6230 Health Equity, Disparities, and Social Justice****3 s.h.**

Introduction to the concept of health equity and an overview of U.S. health disparities; students gain a better understanding of research and interventions through readings, lectures, reflection papers, in-class exercises, and research assignments. Same as EPID:6075.

**CBH:6335 Research Methods in Community and Behavioral Health****3 s.h.**

Overview of quantitative and qualitative research methods for community and behavioral health; major elements of behavioral and social science research, critical evaluation of research related to community and behavioral health, application of research methods in public health practice; opportunities for students to build skills for evaluation of research and application of quantitative and qualitative research methods.

**CBH:6405 Global Maternal, Newborn, and Child Health****3 s.h.**

Overview of global demographic trends in maternal, newborn, and child health; focus on low- and middle-income countries as well as programs, interventions, and policies that have successfully improved the health of women and children around the globe.

**CBH:6410 Special Topics****arr.**

Didactic material in community and behavioral health that may include tutorial, seminar, or faculty-directed independent work (e.g., literature search, project, short research project).

**CBH:6415 Independent Study in Community and Behavioral Health****arr.**

Pursuit of an interest in community and behavioral health requiring substantial creativity and independence.

**CBH:7100 Community and Behavioral Health Doctoral Seminar****1 s.h.**

Introduction to the Department of Community and Behavioral Health; essential skills for success in academia, individual faculty member's work, and doctoral program requirements; for incoming Ph.D. students.

**CBH:7200 Advanced Intervention Research****3 s.h.**

Intervention research development and implementation including conceptualization, design, development of research team and intervention approaches, statistical power, and research ethics. Prerequisites: CBH:6205.

**CBH:7300 Advanced Behavioral Theories****3 s.h.**

Seminar on behavioral theory in public health; builds on student's previous training in theory with an emphasis on applications to guide research and thereby ensuring skills necessary to function as an independent scientist; examination of general principles of behavioral theory and several behavioral theories at different ecological levels; current state of theory development (i.e., gaps, future directions for research); emphasis on critical analysis and application of theory; students gain a better understanding of the role of behavioral theory in population health research. Prerequisites: CBH:5220. Requirements: doctoral standing.

**CBH:7505 CBH Thesis/Dissertation****arr.**

Work on M.S. thesis or Ph.D. dissertation in community and behavioral health, with thesis/dissertation advisor.



# Community and Behavioral Health, Ph.D.

## Learning Outcomes

Graduates will be able to:

- apply social and behavioral science theories in public health research;
- produce effective scientific writing;
- demonstrate grant-writing skills;
- participate in interdisciplinary research;
- communicate research findings to various audiences, including policy makers and community members;
- design a research study that incorporates knowledge of pertinent cultural, social, behavioral, and biological factors;
- design a theory-informed, community-based intervention research project;
- design an implementation and evaluation plan for a theory-informed, community-based intervention;
- formulate focused research questions to address gaps in community and behavioral health knowledge;
- evaluate social and behavioral science research design, methodology, and analysis related to public health; and
- evaluate how structural bias, social inequities, and racism undermine health and create challenges to achieving health equity at organizational, community, and societal levels.

## Requirements

The Ph.D. program in community and behavioral health requires at least 75 s.h. of graduate credit, including approved credit earned from a master's degree. Students must maintain a cumulative g.p.a. of at least 3.00.

Students must successfully complete a qualifying exam, a comprehensive exam, and a dissertation. The research topic must be approved by a student's dissertation committee.

During the first semester, students work with their academic advisor to develop a plan of study that satisfies their interests and professional goals as well as the program's requirements.

## College of Public Health Core

Students complete the following (13 s.h.).

Code	Title	Hours
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CBH:7100	Community and Behavioral Health Doctoral Seminar	1
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3

## Behavioral and Social Sciences Core

Students complete the following (21 s.h.).

Code	Title	Hours
All of these:		
CBH:5220	Health Behavior and Health Education	3
CBH:5235	Community-Based Participatory Research	3
CBH:6205	Designing and Implementing Interventions	3
CBH:6220	Health Communication Campaigns	3
CBH:6230	Health Equity, Disparities, and Social Justice	3
CBH:7200	Advanced Intervention Research	3
CBH:7300	Advanced Behavioral Theories	3

## Research Methods Core

Students complete the following (15 s.h.).

Code	Title	Hours
Both of these:		
CBH:5305	Evaluation: Approaches and Applications	3
CBH:5310	Qualitative Research for Public Health	3
9 s.h. from these:		
CBH:6115	Ethnographic Field Methods	3
CBH:6335	Research Methods in Community and Behavioral Health	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
BIOS:5130	Applied Categorical Data Analysis	3
EPLS:6209	Survey Research and Design	3
EPLS:6370	Quantitative Methods for Policy Analysis	3
HMP:7940	Primary Data and Mixed Methods	3
PSQF:6243	Intermediate Statistical Methods	3
PSQF:6244	Correlation and Regression	4
PSQF:6249	Factor Analysis and Structural Equation Models	3
PSQF:6252	Introduction to Multivariate Statistical Methods	3
PSQF:7375	Topics in Educational Measurement and Statistics	1-3
SOC:5160	Research Design and Methods	3
SOC:6170	Introduction to Sociological Data Analysis	3
SOC:6180	Linear Models in Sociological Research	3

SOC:7170	Advanced Statistical Modeling of Data	3
SOC:7180	Structural Equation Modeling	3

## Content Area Electives

Students complete 14 s.h. of elective coursework in consultation with their advisor. The following is a list of suggested coursework; however, other courses may be approved with consent of the advisor.

Code	Title	Hours
CBH:4140	Feminist Activism and Global Health	3
CBH:5230	Public Health Issues in Overweight Management	3
CBH:5350	Foundations of Maternal and Child Health	3
CBH:5435	Substance Abuse Prevention and Early Intervention	3
CBH:5440	Prevention and Early Intervention of Mental Health Disorders	3
CBH:6405	Global Maternal, Newborn, and Child Health	3
CBH:6410	Special Topics	arr.
CBH:6415	Independent Study in Community and Behavioral Health	arr.
GEOG:4150	Health and Environment: GIS Applications	3
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:7940	Primary Data and Mixed Methods	3
HMP:7950	Design Issues in Health Service Research	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965	Analytic Issues in Health Services Research II	3

## Dissertation

Students complete 12 s.h. in the following.

Code	Title	Hours
CBH:7505	CBH Thesis/Dissertation	12

## Admission

Ph.D. applicants must apply through the Schools of Public Health Application Service (SOPHAS). Applications must include academic transcripts, three letters of recommendation, statement of purpose, and a writing sample. International transcripts should be evaluated by the World Education Service (WES) and submitted to SOPHAS. For detailed application information, visit How to Apply to the Ph.D. in Community and Behavioral Health on the Department of Community and Behavioral Health website.

The community and behavioral health admission committee considers several factors when evaluating applications for admission, including grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area

may be admitted if all other components of their application are very strong.

Applicants must have a graduate g.p.a. of at least 3.40 and have earned a graduate degree from an accredited college or university in a related public health, social science, or clinical health field. Applicants who do not hold a graduate degree should apply to a master's program prior to application for the Ph.D. program. Ph.D. program applicants also must submit their master's thesis, or if no thesis is available, a sample of their scholarly writing.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or Duolingo. An acceptable TOEFL score is a minimum of 600 (250 computer-based test or 100 internet-based test), a minimum IELTS score of 7.0 (with no subscore lower than 6.0) or a Duolingo score over 105. Automatic waivers of this requirement are granted for persons who have, or will have, completed a bachelor's degree or more advanced degree at an accredited university in the United States, United Kingdom, Canada (excluding French Quebec), Africa (English speaking), Australia, or New Zealand.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

The application deadline is January 15 for the fall semester. Applications are not accepted for spring or summer semesters.

## Financial Support

The graduate program coordinator and advisor works with admitted students to explore funding opportunities. A limited number of teaching and research assistantships are available. Assistantships offer financial support and tuition assessed at the resident tuition rate along with a tuition scholarship. They also provide valuable on the job training experience.

For more information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

## Career Advancement

The program prepares individuals for academic, research, and policy-making work in the social and behavioral health sciences. This academic specialty offers many career opportunities in academic and research institutions.

## Academic Plans

## Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Community and Behavioral Health, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
75 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
CBH:7100	Community and Behavioral Health Doctoral Seminar	1
CPH:6100	Essentials of Public Health	2
CBH:5220	Health Behavior and Health Education	3
EPID:4400	Epidemiology I: Principles	3
BIOS:4120	Introduction to Biostatistics	3
CPH:7270	Principles of Scholarly Integrity: Public Health	0
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CBH:6230	Health Equity, Disparities, and Social Justice	3
CBH:5235	Community-Based Participatory Research	3
CPH:7270	Principles of Scholarly Integrity: Public Health	1
Content Area Elective <sup>b</sup>		3
<b>Hours</b>		<b>13</b>
<b>Second Year</b>		
<b>Fall</b>		
Qualifying Exam <sup>c</sup>		
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6205	Designing and Implementing Interventions	3
CBH:7300	Advanced Behavioral Theories	3
Content Area Elective <sup>b</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
CBH:7200	Advanced Intervention Research	3
CBH:5310	Qualitative Research for Public Health	3
Research Methods Core course <sup>d</sup>		3
Content Area Elective <sup>b</sup>		3
<b>Hours</b>		<b>12</b>
<b>Third Year</b>		
<b>Fall</b>		
CBH:6220	Health Communication Campaigns	3
Research Methods Core course <sup>d</sup>		3
Content Area Elective <sup>b</sup>		3
Content Area Elective <sup>b</sup>		2
<b>Hours</b>		<b>11</b>

<b>Spring</b>		
Research Methods Core course <sup>d</sup>		3
CBH:7505	CBH Thesis/Dissertation	3
Comprehensive Exam <sup>e</sup>		
<b>Hours</b>		<b>6</b>
<b>Fourth Year</b>		
<b>Fall</b>		
CBH:7505	CBH Thesis/Dissertation	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
CBH:7505	CBH Thesis/Dissertation	3
<b>Hours</b>		<b>3</b>
<b>Fifth Year</b>		
<b>Fall</b>		
CBH:7505	CBH Thesis/Dissertation	3
Final Exam <sup>f</sup>		
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>75</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b See General Catalog and website for list of suggested courses and specifics; work with faculty advisor to determine appropriate coursework and sequence.

c Taken at the end of first year second semester if entering with a relevant master's degree; taken at the end of second year first semester if entering without a relevant master's degree or enrolled part-time. See General Catalog and website for specifics.

d See General Catalog and website for list of approved methods courses; work with faculty advisor to determine appropriate coursework and sequence.

e Usually completed after most required coursework has been completed; see General Catalog and website for specifics.

f Oral dissertation defense.

# Emerging Infectious Disease Epidemiology

## Head, Department of Epidemiology

- Elizabeth A. Chrischilles

**Graduate certificate:** emerging infectious disease epidemiology

**Website:** <https://www.public-health.uiowa.edu/certificate-in-emerging-infectious-disease-epidemiology/>

Emerging infectious diseases increasingly are recognized as global and regional issues. Some infectious diseases are controlled effectively with the help of modern technology. But new diseases—such as SARS, West Nile, and avian influenza virus infections—appear frequently, and older ones, including malaria, tuberculosis, and bacterial pneumonia, are now appearing in forms that are resistant to drug treatments. All of them have the potential to seriously affect human and animal health as well as economies locally and worldwide. They pose novel and unceasing challenges for professionals in health care, government, and private agencies.

The Certificate in Emerging Infectious Disease Epidemiology is administered by the Department of Epidemiology [p. 2110]. The Graduate College grants the certificate.

## Programs

### Graduate Program of Study Certificate

- Certificate in Emerging Infectious Disease Epidemiology

# Emerging Infectious Disease Epidemiology, Graduate Certificate

## Requirements

The graduate Certificate in Emerging Infectious Disease Epidemiology requires 12-13 s.h. of graduate credit. Students must complete the certificate's required coursework within five years of entering the program and must maintain a g.p.a. of at least 2.75 in work toward the certificate. Three of the required courses must be completed on campus: EPID:5570 Zoonotic Diseases, EPID:5580 Public Health Laboratory Techniques, and EPID:5590 Applied Infectious Disease Epidemiology or EPID:6550 Epidemiology of Infectious Diseases. The remaining courses may be completed on campus or by distance education.

The certificate program provides basic information and training related to infectious diseases. It is designed for a broad range of individuals, including graduate students, international public health professionals, laboratory professionals, physicians, nurses, veterinarians, and medical technologists.

The Certificate in Emerging Infectious Disease Epidemiology requires the following coursework.

Code	Title	Hours
Both of these:		
EPID:5570	Zoonotic Diseases	3
EPID:5580	Public Health Laboratory Techniques	1
One of these:		
EPID:5590	Applied Infectious Disease Epidemiology	2
EPID:6550	Epidemiology of Infectious Diseases	3
Two of these:		
BIOS:4120	Introduction to Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
EPID:5550	Diagnostic Microbiology for Epidemiology	3
OEH:4240	Global Environmental Health	3

For more information about the program, visit the Certificate in Emerging Infectious Disease Epidemiology on the Department of Epidemiology website.

## Admission

Applications are only being accepted from current University of Iowa degree-seeking graduate students.

Applicants to the certificate program must hold a baccalaureate degree from an accredited college or university and must have a g.p.a. of at least 2.75 (or international equivalent). For more information about how to apply, visit Certificate in Emerging Infectious Disease Epidemiology on the Department of Epidemiology website.

# Epidemiology

## Head

- Elizabeth A. Chrischilles

**Graduate degrees:** M.S. in clinical investigation; M.S. in epidemiology; Ph.D. in epidemiology

**Faculty:** <https://www.public-health.uiowa.edu/epi-faculty-list/>

**Website:** <https://www.public-health.uiowa.edu/epi/>

The Department of Epidemiology focuses on surveillance for disease, risk factors for disease in the general population, behavioral factors in disease, use and outcome of health interventions and care, and the establishment and evaluation of disease control measures in the community. Students are guided by faculty members whose research interests include pharmacoepidemiology, cancer epidemiology, infectious disease epidemiology, adverse reproductive outcome epidemiology, anatomic pathology, genetics, cardiovascular disease, nutrition, maternal and child health, clinical epidemiology, psychiatric epidemiology, social epidemiology, neuroepidemiology, meta-analysis, intervention trials, international health, and effects of aging.

In addition to the M.S. in epidemiology, the M.S. in clinical investigation, and the Ph.D. in epidemiology, the department offers the epidemiology subprogram for the Master of Public Health degree; see Master of Public Health, M.P.H. [p. 2078] in the Catalog. The subprogram focuses on fundamental concepts and methods, and provides training in the use of data and methods for disease assessment and for evaluation of programs and interventions.

The M.S. in epidemiology and the M.P.H. with an epidemiology subprogram are offered as part of the Undergraduate to Graduate (U2G) program which provides an opportunity for University of Iowa students interested in health science to earn both their undergraduate and graduate degrees in five years. For more information about the U2G program that combines an undergraduate degree with the M.S. in epidemiology or the M.P.H. (epidemiology subprogram), visit M.S. in Epidemiology—Undergraduate to Graduate on the Department of Epidemiology website or M.P.H. in Epidemiology—Undergraduate to Graduate on the College of Public Health website.

## Certificates

### Emerging Infectious Disease Epidemiology

The Department of Epidemiology offers the graduate Certificate in Emerging Infectious Disease Epidemiology. The certificate program provides basic information and training related to infectious diseases. It is designed for a broad range of individuals, including graduate students, international public health professionals, laboratory professionals, physicians, nurses, veterinarians, and medical technologists. To learn more, see the Certificate in Emerging Infectious Disease Epidemiology [p. 2109] in the Catalog.

### Translational and Clinical Investigation

The Department of Epidemiology and the Institute for Clinical and Translational Science offer the graduate certificate program in translational and clinical investigation; see the Certificate in Translational and Clinical Investigation [p. 2151] in the Catalog.

## Programs

### Graduate Programs of Study

#### Majors

- Epidemiology subprogram for the Master of Public Health [p. 2078] degree
- Master of Science in Clinical Investigation [p. 2114]
- Master of Science in Epidemiology [p. 2117]
- Doctor of Philosophy in Epidemiology [p. 2121]

## Facilities and Resources

The State Health Registries of Iowa, which encompasses the Iowa Cancer Registry and the Iowa Registry for Congenital and Inherited Disorders, works in cooperation with the Iowa Department of Public Health to collect medical data on Iowans. The Iowa Cancer Registry is one of 18 registries nationwide that report data to the National Cancer Institute.

The Preventive Intervention Center conducts population-based intervention trials to prevent occurrence and recurrence of disease and to promote wellness, with a focus on the elderly. It also specializes in research promoting prevention of cardiovascular disease and provides an interdisciplinary approach to risk factor interventions. The Health Effectiveness Research Center is a collaborative research enterprise with the College of Pharmacy that studies whether particular health care treatments or services are over- or underutilized. The Center for Emerging Infectious Diseases employs epidemiological methods, laboratory technologies, and clinical evaluations to achieve a better understanding of emerging infectious diseases. The Nutrition Center provides expertise in nutrition and dietary assessment, dietary interventions, and nutrition lifestyle change strategies.

## Courses

### Epidemiology Courses

**EPID:4314 Field Experiences in Public Health 1 s.h.**

Direct involvement in actions being taken at local community level; topics include environmental health, infectious diseases, chronic diseases, and pediatric health; practical examples and hands-on experiences during site visits for topic-specific field investigations. Offered spring semesters. Prerequisites: BIOL:1140 or BIOL:1141 or BIOL:1411. Requirements: biology or microbiology coursework. Same as CPH:4250.

**EPID:4350 Maternal and Child Health Seminar 1 s.h.**

Historical and applied perspective on maternal and child health problems and programs aimed at reducing morbidity, mortality, and health disparities across the life span. Same as CBH:4350.

**EPID:4400 Epidemiology I: Principles 3 s.h.**

Epidemiological concepts and methods; design of descriptive and analytic studies, such as aggregate, case series, cross-sectional, case-control, cohort studies, clinical trials; application of epidemiology to public health practice; communication and dissemination of epidemiological findings.

**EPID:4510 Injury and Violence Prevention 3 s.h.**

Theory, research, and practice of injury control; unintentional and intentional injuries; local, national, international injury issues. Same as CPH:4230, OEH:4510.

**EPID:4990 Practicing Evidence-Based Public Health****3 s.h.**

How epidemiologic and other scientific studies underlie public health practice; relationship between evidence and action; controversies at interface of science and policy.

**EPID:5200 Principles of Public Health Informatics****3 s.h.**

Systematic applications of information science, computer science, and technology to public health practice, research, and learning; methods of disease surveillance, data collection, analysis, and reporting with health informatics. Offered fall semesters. Same as IGPI:5220.

**EPID:5214 Meta-Analysis of Epidemiologic Studies****3 s.h.**

Methods for quantitative pooling of analytic study associations (cohort and case-control) between exposure and a dichotomous outcome; literature searches, data abstraction, test of homogeneity, publication bias and consideration of adjusted risk ratios (effects of confounding). Offered spring semesters of odd years. Prerequisites: BIOS:5120 and EPID:4400.

**EPID:5241 Statistical Methods in Epidemiology****4 s.h.**

Overview of methods to analyze data from epidemiologic investigations; estimation of relative measures of risk, attributable risk, stratified analysis; model-fitting approaches using linear, logistic, and Poisson regression analysis; confounding and effect modification; analysis of epidemiologic data sets. Offered spring semesters.

**EPID:5300 Food Safety****3 s.h.**

Current issues and concepts of food safety in the United States, from plant to table; foodborne illness from microbial agents, food toxins, adulterants; disease investigation, risk analysis, risk mitigation, prevention. Offered summer sessions.

**EPID:5320 Exotic and Emerging Diseases of Animals****1 s.h.**

Major exotic and emerging animal diseases; veterinarian's role in recognizing and diagnosing such diseases; how outbreaks affect economies and veterinary medicine; public health concerns; responding agencies and their roles in control and eradication.

**EPID:5350 Foundations of Maternal and Child Health****3 s.h.**

Life course approach to understanding determinants, mechanisms, and systems that promote and maintain health, safety, and well-being of mothers and their children. Prerequisites: EPID:4350. Same as CBH:5350.

**EPID:5470 Applied Veterinary Epidemiology/ Biostatistics****3 s.h.**

Epidemiology and biostatistics applied to veterinary public health; outbreak investigations, surveillance, analyzing and evaluating diagnostic tests, translation methodology, risk assessment, data analysis software programs. Offered summer sessions. Prerequisites: EPID:4400.

**EPID:5500 Introduction to Clinical Epidemiology****3 s.h.**

Epidemiologic applications and methods used in clinical settings to evaluate clinical medicine and other health profession disciplines including health measurement, health outcome determination, diagnostic process, risk assessment and communication, prognosis, study design, patient surveys, clinical trials, decision analysis and meta-analysis, health services research. Offered fall semesters. Corequisites: EPID:4400, if not taken as a prerequisite.

**EPID:5540 Public Health Surveillance Mechanisms, Applications, and Data****3 s.h.**

Introduction to fundamentals of public health surveillance with emphasis on cancer registration; use of resulting surveillance-based databases and information systems available to public health practitioners and researchers. Offered fall semesters. Prerequisites: EPID:4400.

**EPID:5550 Diagnostic Microbiology for Epidemiology****3 s.h.**

Introduction to microbiological culture, antigen detection, immunological and molecular amplification laboratory techniques for bacteria, viruses, parasites, fungi. Offered spring semesters. Prerequisites: MICR:2157 or MICR:3164.

**EPID:5560 Introduction to Molecular Epidemiology****3 s.h.**

Introduction to basic techniques of molecular biology (DNA, RNA, protein techniques) and their use in epidemiological research (e.g., diagnosis of disease, biomarker discovery, validation). Offered spring semesters of odd years. Corequisites: EPID:4400, if not taken as a prerequisite.

**EPID:5570 Zoonotic Diseases****3 s.h.**

Introduction to epidemiology and control of zoonotic diseases; zoonoses endemic to the midwestern United States. Offered summer sessions. Prerequisites: EPID:5550 or EPID:6550 or MICR:2157 or MICR:3164.

**EPID:5580 Public Health Laboratory Techniques****1 s.h.**

Common laboratory techniques in emerging infectious respiratory disease research and epidemiologic surveillance laboratories; emphasis on techniques for culturing, characterization, and serological surveillance of exposure to influenza viruses. Offered spring semesters. Requirements: completion of online Basic Biological Safety and Blood-Borne Pathogens courses; completed certificates must be brought to class.

**EPID:5590 Applied Infectious Disease Epidemiology****2 s.h.**

Introduction to infectious disease surveillance, outbreak investigations, interventions, biodefense, emerging infectious diseases, subject recruitment, mathematical modeling, and analytic approaches pertaining to infectious disease prevention and control; emphasis on practical knowledge and how to apply basic infectious disease epidemiology to real-life scenarios and research projects.

**EPID:5600 Introduction to Epidemiology Data Management and Analysis****3 s.h.**

Organization, collection, management, and analysis of epidemiological data using computer programs. Offered fall semesters. Corequisites: EPID:4400, if not taken as a prerequisite.

**EPID:5610 Intermediate Epidemiology Data Analysis with SAS and R****3 s.h.**

Basic principles of data analysis and collaborative research; SAS fundamentals; data manipulation and interpretation techniques. Offered spring semesters.

**EPID:5900 Problems and Special Topics in Epidemiology****arr.**

Didactic material in epidemiology; may include tutorial, seminar, faculty-directed independent work (e.g. literature search, project, short research project); topics may include comparative effectiveness and patient-centered outcomes, neuroepidemiology, and epidemiology of aging.

- EPID:5925 Epidemiology Journal Club: Evaluating the Literature** 0-1 s.h.  
Critical evaluation of primary epidemiologic methods and research papers; informative, challenging, and current topics from scientific literature. Requirements: epidemiology M.S., M.P.H., or Ph.D. standing.
- EPID:5950 Preceptorship in Epidemiology** arr.  
Quantitative research-oriented project performed with a preceptor; preparation of prospectus, presentation of research results in a publication-quality report and a scientific poster session.
- EPID:6000 Independent Study in Epidemiology** arr.  
In-depth pursuit of an area of special interest in epidemiology requiring substantial creativity and independence.
- EPID:6050 Research in Epidemiology** arr.  
Research that may lead to a dissertation.
- EPID:6071 Theory and Methods in Social Epidemiology** 3 s.h.  
Application of social theory and methodological approaches to investigate relationships between social factors and health. Prerequisites: EPID:4400.
- EPID:6075 Health Equity, Disparities, and Social Justice** 3 s.h.  
Introduction to the concept of health equity and an overview of U.S. health disparities; students gain a better understanding of research and interventions through readings, lectures, reflection papers, in-class exercises, and research assignments. Same as CBH:6230.
- EPID:6100 Writing a Grant Proposal** 3 s.h.  
Small group projects to develop grant proposals using epidemiological study designs; presentation and defense of proposals before faculty site visitors. Offered fall semesters.
- EPID:6150 Writing for Medical Journals** 1 s.h.  
Skill development in writing medical journal articles for publication. Offered spring semesters.
- EPID:6200 Environmental and Occupational Epidemiology** 3 s.h.  
Overview of methods to interpret and perform environmental and occupational epidemiologic studies with focus on exposure assessment; valuable insights into identifying regional, national, global environmental, and occupational health-related issues. Prerequisites: EPID:4400. Same as OEH:6510.
- EPID:6250 Genetics and Epidemiology** 3 s.h.  
Basic human molecular genetics and population genetics principles; methods of integrating genetic principles into epidemiological studies; advancing genomic technologies, hot topics in genetics research. Offered fall semesters of odd years. Prerequisites: EPID:4400.
- EPID:6330 Global Nutrition Policy** 2-3 s.h.  
Concepts and methods used in setting public health nutrition policy; evidence-based aspects of nutrition policy formation in public health settings; evaluation of nutritional public health policy implementation and ways of changing policy in China, Korea, Micronesia, Hawaii, Italy, and the United States. Offered spring semesters.
- EPID:6350 Nutritional Epidemiology** 2 s.h.  
Application of epidemiology study designs to nutrition variables and chronic disease; analysis of nutrition epidemiology studies; research protocol design. Offered spring semesters. Recommendations: a basic nutrition course.
- EPID:6360 Nutrition Intervention in Clinical Trials Research** 2 s.h.  
Nutrition interventions in clinical trials; disease related to nutrition variables; research that links effects of diet on chronic diseases. Offered fall semesters. Recommendations: a basic nutrition course.
- EPID:6370 Nutrition Intervention in Research Lab** 3 s.h.  
Development and demonstration of group counseling skills in ongoing nutrition research projects at the University of Iowa. Offered fall semesters. Corequisites: EPID:6360, if not taken as a prerequisite.
- EPID:6400 Epidemiology II: Advanced Methods** 4 s.h.  
Epidemiologic study design and analysis; bias, confounding, and effect modification; case-control studies; cohort studies; field methods; measurement principles; exposure and disease classification; acute and chronic disease examples. Offered spring semesters. Prerequisites: EPID:4400 and EPID:5600.
- EPID:6420 Survey Design and Analysis** 3 s.h.  
Methodological issues regarding design, sampling approach, implementation, analysis, and interpretation of surveys and questionnaires in public health research. Offered spring semesters of even years. Prerequisites: EPID:4400 and BIOS:5120. Same as BIOS:6420.
- EPID:6510 Injury Epidemiology** 3 s.h.  
How epidemiology can be applied to injury prevention and control: epidemiology literature, specific methodological problems involved in the epidemiology of injuries, critical evaluation of research articles. Offered spring semesters of odd years. Prerequisites: EPID:4400. Same as OEH:6520.
- EPID:6550 Epidemiology of Infectious Diseases** 3 s.h.  
Underlying epidemiological concepts of infection disease, including causation and surveillance; prevention and control; case studies. Offered fall semesters. Prerequisites: EPID:4400. Same as GHS:6550.
- EPID:6560 Hospital Epidemiology** 2 s.h.  
Health care associated infections; surveillance, investigative methods, resistant organisms, and molecular epidemiology; methods for preventing spread of pathogens, including isolation precautions; environmental issues, construction, and sterilization; interactive exercises. Offered spring semesters of odd years. Prerequisites: EPID:4400.
- EPID:6570 Infectious Causes of Chronic Disease** 3 s.h.  
Evidence linking various infectious agents with the development of different types of chronic disease. Offered spring semesters of even years. Corequisites: EPID:4400, if not taken as a prerequisite.
- EPID:6600 Epidemiology of Chronic Diseases** 3 s.h.  
Chronic disease epidemiology; survey of leading chronic diseases including measurement of disease, lifestyle, nutrition, occupation, and family history. Offered spring semesters of even years. Prerequisites: EPID:4400.
- EPID:6620 Neuroepidemiology** 2 s.h.  
Basic epidemiologic concepts of neurologic disease; concepts, methods, examples of neuroepidemiology; varied diseases, methods. Prerequisites: EPID:4400 and EPID:5600.
- EPID:6900 Design of Intervention and Clinical Trials** 3 s.h.  
Methodologic introduction to rationale and design of clinical trials; basics of clinical trial design, variety of designs, and examples from clinical trials. Offered fall semesters.



**EPID:6910 Pharmacoepidemiology and Comparative Effectiveness Research 3 s.h.**

Drug approval process, methods for identification and attribution of adverse drug events, and current understanding of the epidemiology of adverse drug events; study designs and data sources for pharmacoepidemiology and pharmacoconomics. Offered fall semesters of even years. Prerequisites: EPID:4400.

**EPID:6920 Applied Administrative Data Analysis 2 s.h.**

Concepts and methods for analysis of administrative health insurance claims data; focus on understanding types and sources of data, useful resources for classifying data, and applying SAS programming skills and common analytic approaches to studies using such data. Offered fall semesters. Prerequisites: EPID:5610 or BIOS:5310 or BIOS:5510. Requirements: EPID:5610 or BIOS:5310 or BIOS:5510 or SAS programming experience; and (concurrent or prior enrollment in BIOS:5120 and BIOS:5730) or (EPID:5241 and EPID:5610) or prior equivalent biostatistical coursework or experience.

**EPID:6950 Clinical Research Ethics 2-3 s.h.**

Ethical and regulatory aspects of clinical research; historical background, current regulations, and Institutional Review Board (IRB) requirements related to human subjects protection issues. Offered spring semesters. Requirements: K30 training grant or enrollment in degree program with clinical research project.

**EPID:7000 Thesis/Dissertation arr.****EPID:7200 Teaching in Epidemiology 3 s.h.**

Teaching methods in epidemiology; guided practicum experience in teaching epidemiology, in preparation for academic careers. Prerequisites: EPID:4400 and EPID:5600 and EPID:6400.

**EPID:7400 Epidemiology III: Theories 3 s.h.**

How epidemiology fits into the wider context of scientific inquiry. Offered fall semesters of odd years. Prerequisites: EPID:4400 and EPID:5241 and EPID:6400.

# Clinical Investigation, M.S.

## Learning Outcomes

Graduates will be able to:

- discuss issues related to biomedical informatics impacting clinical research;
- summarize requirements for building and maintaining a multidisciplinary research team;
- describe health and disease measurement in clinical and community populations;
- describe how to implement a clinical research study;
- develop a clinical research question;
- apply principles of responsible research and clinical research ethics to a research project;
- use computers to collect, manage, and analyze data for evaluation of hypotheses;
- determine a study aim, objectives, and appropriate design to address a hypothesis;
- analyze data using appropriate statistical techniques;
- analyze literature to identify gaps in knowledge; and
- communicate clinical research findings effectively in writing and oral presentation.

## Requirements

The Master of Science program in clinical investigation requires 37 s.h. of graduate credit. In addition to completing the program's required coursework, students must write a thesis in the form of a manuscript, or a grant proposal for a National Institutes of Health (NIH) career award or its equivalent, with oral defense. Graduate students must maintain a cumulative g.p.a. of at least 3.00. Those who receive a grade of C in 7 s.h. of coursework may be dismissed from the program.

The program, which is offered in collaboration with the University's Institute for Clinical and Translational Science, is designed for clinicians interested in pursuing careers in clinical research. It includes in-depth training in biostatistics, epidemiology, research ethics, and academic survival skills as well as didactic training applicable to clinical research careers. Graduates of the program are able to critically evaluate clinical literature, write competitive grant proposals, design and conduct clinical research projects, work effectively with other researchers and support staff, and disseminate research results through manuscripts and presentations.

## Prerequisites

The M.S. program requires at least 6 s.h. of prerequisite coursework in the disciplines of pathology, physiology, and/or pharmacology. Students accepted into the degree program who have not completed at least 6 s.h. from those disciplines may meet the requirement while they are enrolled.

The M.S. with a major in clinical investigation requires the following coursework.

## Core Courses

Students must take CPH:7270 Principles of Scholarly Integrity: Public Health during their first year in the fall semester (enroll for 0 s.h.) and in the spring semester (enroll for 1 s.h.). They

must retake CPH:7270 if they completed the course more than four years ago or if they have changed degree programs.

Code	Title	Hours
All of these:		
EPID:4400	Epidemiology I: Principles	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:6150	Writing for Medical Journals	1
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6950	Clinical Research Ethics	2
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health (taken first year in the fall and spring semesters for 0 s.h. and 1 s.h. respectively)	1
<b>Total Hours</b>		<b>26</b>

## Capstone Requirement

While a student does not take a final examination of courses, the evaluation of the student for graduation is based upon a positive review of a mentored K or R grant or a mentored publishable research paper. The grant or paper is completed in the second year of the program and based on the area of focus. The capstone is a mentored activity which requires approval by a clinical mentor and a Department of Epidemiology primary faculty member. Successful completion of the course is denoted with a satisfactory (S) grade. The complete grant or paper will be due no later than one month prior to graduation for review.

Code	Title	Hours
EPID:6000	Independent Study in Epidemiology	2

## Electives

Students must earn a minimum of 9 s.h. in elective coursework, including at least 6 s.h. in a research interest area. The following elective courses are recommended.

Code	Title	Hours
EPID:5214	Meta-Analysis of Epidemiologic Studies	3
EPID:6100	Writing a Grant Proposal	3
EPID:6900	Design of Intervention and Clinical Trials	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3

## Research Interest Areas

### Community Studies

Code	Title	Hours
CBH:5235	Community-Based Participatory Research	3

CBH:5305	Evaluation: Approaches and Applications	3
CBH:6205	Designing and Implementing Interventions	3
EPLS:5165	Introduction to Program and Project Evaluation	3

## Epidemiology

Code	Title	Hours
EPID:5560	Introduction to Molecular Epidemiology	3
EPID:5570	Zoonotic Diseases	3
EPID:6250	Genetics and Epidemiology	3
EPID:6510	Injury Epidemiology	3
EPID:6550	Epidemiology of Infectious Diseases	3
EPID:6560	Hospital Epidemiology	2
EPID:6600	Epidemiology of Chronic Diseases	3
DPH:6004	Principles of Oral Epidemiology	3
GEOG:3110	Geography of Health	3

## Health Services Epidemiology

Code	Title	Hours
EPID:4990	Practicing Evidence-Based Public Health	3
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6900	Design of Intervention and Clinical Trials	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3
EPID:6920	Applied Administrative Data Analysis	2
BIOS:6610	Statistical Methods in Clinical Trials	3
BIOS:7600	Advanced Biostatistics Seminar	3
CBH:6205	Designing and Implementing Interventions	3
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1

## Informatics

Code	Title	Hours
EPID:5200	Principles of Public Health Informatics	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
HMP:5315	Health Information Systems	3
HMP:5370	Health Informatics	3

## Nutrition Science

Code	Title	Hours
EPID:6330	Global Nutrition Policy	2-3
EPID:6350	Nutritional Epidemiology	2
EPID:6360	Nutrition Intervention in Clinical Trials Research	2

EPID:6370	Nutrition Intervention in Research Lab	3
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## Outcomes and Health Services Research

Code	Title	Hours
HMP:5410	Health Economics I	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965	Analytic Issues in Health Services Research II	3

## Pharmacy Science

Code	Title	Hours
PHAR:5310	Health Services Research Seminar	1
PHAR:5350	Introduction to Research Methods	3
PHAR:6305	Foundation Literature in Health Services Research	3

## Statistical Methods

Code	Title	Hours
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3

## Translational Biomedicine

Code	Title	Hours
TBM:5001	Introduction to Translational Biomedicine	3

## Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must pay the required application fee to the Graduate College through the University of Iowa Office of Admissions when prompted. For detailed application information, visit How to Apply to the Department of Epidemiology on the department's website.

Applicants must hold a doctoral-level degree in a clinical discipline (e.g., M.D., D.O., D.D.S., Ph.D., Pharm.D., D.V.M.) or be enrolled in the Medical Scientist Training Program [p. 1888] (Carver College of Medicine). They must hold a baccalaureate degree with a cumulative g.p.a. of at least 3.00; foreign-trained applicants must have an outstanding doctoral training record evidenced by research publications.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

Applicants are considered based on their credentials, prior training, and research training plans. Applicants with deficiencies in one area may be admitted if all other components of their application are strong. Individuals must have a sponsoring department.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Application deadlines for fall admission are June 1 for U.S. citizens, April 15 for international applicants. For summer admission, the deadline is April 1; for spring admission, December 1.

## Financial Support

A limited number of graduate research assistantships are available for advanced students; for information, consult the department. For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Opportunities for funded predoctoral fellowships are available. Funded positions sponsored by federal agencies are available only to U.S. citizens.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Clinical Investigation, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
37 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
A program GPA of at least 3.00 is required.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
BIOS:4120	Introduction to Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
EPID:5500	Introduction to Clinical Epidemiology	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>b</sup>	0
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
EPID:5241	Statistical Methods in Epidemiology	4
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>b</sup>	1
<b>Hours</b>		<b>12</b>
<b>Second Year</b>		
<b>Fall</b>		
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
Elective course <sup>c</sup>		3
<b>Hours</b>		<b>9</b>

### Spring

Capstone Requirement <sup>d</sup>		
EPID:6150	Writing for Medical Journals	1
EPID:6950	Clinical Research Ethics	2
EPID:6000	Independent Study in Epidemiology <sup>e</sup>	2
<b>Hours</b>		<b>5</b>
<b>Total Hours</b>		<b>37</b>

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Taken in the fall and spring of first year for 0 s.h. and 1 s.h., respectively.
- c A minimum of 9 s.h. of graduate level coursework is required with at least 6 s.h. in a research interest area; see General Catalog and website for coursework and specifics. Work with faculty advisor to select appropriate coursework and to determine sequence.
- d While no final examination of courses will be taken, the evaluation of the student for graduation is based upon a positive review by the student's faculty mentor of 1) a mentored K or R grant, or 2) a mentored publishable paper.
- e The Capstone Requirement is completed under the Independent Study mentorship; work with faculty advisor for approval.

# Epidemiology, M.S.

## Learning Outcomes

Graduates will be able to:

- define the concepts and content of epidemiology;
- formulate a research hypothesis;
- determine a study aim, objectives, and appropriate design to address a hypothesis;
- apply concepts of ethics to research practice;
- develop study procedures and data collection instruments for conducting a study;
- collect data and manage data quality;
- use existing databases to provide supportive data to address a research question;
- analyze data for a research study; and
- compose an understandable and presentable report of research results.

## Requirements

The Master of Science program in epidemiology requires at least 39 s.h. of graduate credit and is offered with or without thesis. Students who choose to complete the degree without thesis are required to pass a comprehensive examination. All students must maintain a cumulative g.p.a. of at least 3.00. Those who receive a grade of C in 7 s.h. of coursework may be dismissed from the program.

Students are required to attend 80 percent of all Department of Epidemiology seminar meetings and journal club meetings for three semesters. They must present one scientific poster at the departmental level before they may graduate, and the department recommends that they present at the international, national, regional, state, or University level before graduating.

The Master of Science with a major in epidemiology requires the following coursework.

## Core Courses

Students must take CPH:7270 Principles of Scholarly Integrity: Public Health during their first year in the fall semester (enroll for 0 s.h.) and in the spring semester (enroll for 1 s.h.). They must retake CPH:7270 if they completed the course more than four years ago or if they have changed degree programs.

Students enrolled part-time (less than 9 s.h.) who have a graduate research assistantship appointment may choose to register in EPID:5925 Epidemiology Journal Club: Evaluating the Literature for 1 s.h.; however, the credit earned for this course will not be applied toward the minimum semester hours required for the M.S. in epidemiology.

Students with a strong biosciences background may choose to substitute PATH:5270 Pathogenesis of Major Human Diseases in place of PATH:8133 Introduction to Human Pathology for Graduate Students if it better complements their training plan. This is an advanced course that requires a strong foundation in molecular biology and related disciplines, but may be suitable for some students.

Code	Title	Hours
All of these:		
EPID:4400	Epidemiology I: Principles	3

EPID:5241	Statistical Methods in Epidemiology	4
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:5925	Epidemiology Journal Club: Evaluating the Literature	0-1
EPID:6400	Epidemiology II: Advanced Methods	4
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health (taken first year in the fall semester for 0 s.h. and in the spring semester for 1 s.h.)	0-1

One of these:		
PATH:5270	Pathogenesis of Major Human Diseases	3
PATH:8133	Introduction to Human Pathology for Graduate Students	3-4
One of these:		
EPID:6550	Epidemiology of Infectious Diseases	3
EPID:6600	Epidemiology of Chronic Diseases	3
One of these:		
EPID:5950	Preceptorship in Epidemiology (for nonthesis students)	3
EPID:7000	Thesis/Dissertation (for thesis students; may be taken twice)	3

## Electives

Students must earn a minimum of 5 s.h. in elective coursework from Department of Epidemiology courses (prefix EPID) and 2 s.h. in additional graduate coursework pertinent to a student's educational goals and background (the additional 2 s.h. may be earned in an epidemiology course or in another graduate course, with the advisor's approval). The following courses are recommended.

Code	Title	Hours
BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
CBH:5220	Health Behavior and Health Education	3
HMP:4000	Introduction to the U.S. Health Care System	3
OEH:4240	Global Environmental Health	3

Students may need additional elective coursework in order to complete the minimum 39 s.h. required for the degree.

## Other Requirements

### Department of Epidemiology Seminar

Every week during the academic year, the Department of Epidemiology seminar provides a forum for speakers to present information or research pertaining to diverse topics in epidemiology. Contact information for the seminar coordinators is located on the Department of Epidemiology website under Preceptorship, Journal Club, and Seminar Contacts. Information about the schedule is distributed each semester and also is available on the University of Iowa Events Calendar. Students are expected to achieve at least 80 percent attendance at the seminar during each semester of enrollment.

### Journal Club for First-Year Students

Journal Club for first-year students is for those who are new to the department and is offered in the fall semester. The focus is for students to gain experience reading, in interpretation, and in critically evaluating recently published journal articles. Students should register in EPID:5925 Epidemiology Journal Club: Evaluating the Literature, section 1.

### Journal Club

Every other week during the academic year, the Journal Club meets to discuss articles of interest in the field. Contact information for the Journal Club coordinators can be found on the Department of Epidemiology website under Preceptorship, Journal Club, and Seminar Contacts. Information about the schedule is distributed to students each semester. Students are required to achieve at least 80 percent attendance at Journal Club for three semesters during their time in the program.

### Scientific Poster Requirement

Every student is required to present at least one scientific poster at the department level, and is encouraged to present at the international, national, regional, state, or university level at some point prior to graduation. A student's advisor or thesis/preceptorship mentor can help determine the suitability and timeline for the poster presentation.

For nonthesis students, this poster requirement takes the place of an oral seminar presentation as part of the preceptorship requirement. Nonthesis students would typically formulate preceptorship research into a poster presentation, though the requirement may be met by a poster presentation of other research, such as from an independent study or research related to employment.

For thesis students, the poster requirement is in addition to the oral seminar presentation requirement for the thesis. Thesis students would typically formulate thesis research into a poster presentation, though the requirement may be met by a poster presentation of other research, such as from an independent study or research related to employment. The poster must be submitted for review to the student's advisor or thesis/preceptorship mentor a minimum of 10 days before the poster session. A Department of Epidemiology poster session is held at the end of the fall and spring semesters.

### Master's Final Examination for the M.S. Without Thesis

The master's examination is a written in-class exam that measures learning of epidemiological concepts and knowledge

of epidemiological thoughts as presented in required courses. This exam is offered twice per year.

### Master's Thesis Defense for the M.S. with Thesis

The master's thesis defense is an oral presentation of the purpose, methods, and results of the thesis research. A specially formed committee thoroughly examines a student's area of knowledge associated with the context of the work. The goal of the thesis is a document that is publishable in a peer-reviewed journal.

## Combined Programs

### Undergraduate Degree/M.S.

The Undergraduate to Graduate (U2G) program provides an opportunity for University of Iowa students interested in health science to earn their undergraduate and graduate degrees in five years. Undergraduate students should apply to the program by February 1 of their junior year.

For additional information, visit M.S. in Epidemiology —Undergraduate to Graduate on the Department of Epidemiology website.

## Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must pay the required application fee to the Graduate College through the University of Iowa Office of Admissions when prompted. For detailed application information, visit How to Apply to the Department of Epidemiology on the department's website.

The epidemiology faculty considers several factors when evaluating applications for admission, including Graduate Record Exam (GRE) General Test scores, grade-point average, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area may be admitted if all other components of their application are very strong.

All applicants must hold a baccalaureate degree and have a cumulative g.p.a. of at least 3.00. Undergraduate preparation must include two semesters of biological sciences and mathematics through algebra. Coursework in statistics is highly recommended.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

All applicants and students are required to have strong written and oral communication skills.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Application deadlines for fall admission are June 1 for U.S. citizens, April 15 for international applicants.

## Financial Support

A limited number of graduate research assistantships are available for advanced students; for information, consult the department. For information on financing education through

jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Opportunities for funded predoctoral fellowships are available. Funded positions sponsored by federal agencies are available only to U.S. citizens.

## Career Advancement

The program prepares graduate students for professional careers in which specialized knowledge of epidemiological methods and analytic techniques are essential. Graduates find employment in local, state, and federal health agencies; academic institutions; and private enterprise, such as hospitals, pharmaceutical and device companies, insurance companies, and foundations.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Epidemiology, M.S.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
39 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Graduate College program GPA of at least 3.00 is required. <sup>b</sup>		
<b>Hours</b>		<b>0</b>

#### First Year

##### Any Semester

Students must attend the Epidemiology department seminar; students are expected to achieve at least 80% attendance at the Department of Epidemiology Seminar during each semester of enrollment.

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>c</sup>	0
EPID:4400	Epidemiology I: Principles	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:5925	Epidemiology Journal Club; Evaluating the Literature <sup>d</sup>	0 - 1
<b>Hours</b>		<b>11-12</b>
<b>Spring</b>		
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>c</sup>	1
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3

EPID:5925	Epidemiology Journal Club; Evaluating the Literature <sup>d</sup>	0 - 1
EPID:6400	Epidemiology II: Advanced Methods	4
<b>Hours</b>		<b>12-13</b>

#### Second Year

##### Any Semester

Every student is required to present at least 1 scientific poster at the department level, and is encouraged to present at the international, national, regional, state, or university level at some point before graduation. A student's advisor or thesis/preceptorship mentor can help determine the suitability and timeline for the poster presentation.

Students must attend the Epidemiology department seminar; students are expected to achieve at least 80% attendance at the Department of Epidemiology Seminar during each semester of enrollment.

<b>Hours</b>		<b>0</b>
<b>Fall</b>		
EPID:5925	Epidemiology Journal Club; Evaluating the Literature <sup>d</sup>	0 - 1
EPID:6550	Epidemiology of Infectious Diseases <sup>e</sup>	3
PATH:8133 or PATH:5270	Introduction to Human Pathology for Graduate Students <sup>f</sup> or Pathogenesis of Major Human Diseases	3 - 4
Elective course <sup>g</sup>		2
<b>Hours</b>		<b>8-10</b>
<b>Spring</b>		
Final Exam <sup>h</sup>		
EPID:5950	Preceptorship in Epidemiology	3
EPID:6600	Epidemiology of Chronic Diseases <sup>e</sup>	3
Elective course <sup>g</sup>		2
Elective course <sup>g</sup>		3
<b>Hours</b>		<b>11</b>
<b>Total Hours</b>		<b>42-46</b>

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Graduate College program GPA is comprised of all courses that are approved degree requirements. If a student takes more than the minimum required number of semester hours to complete the degree, but all courses taken are eligible to count toward the degree, those courses will be included in the Graduate College program GPA.

c Taken in the fall and spring of first year for 0 s.h. and 1 s.h., respectively.

d If taken for 1 s.h., the credit will not be applied toward the minimum semester hours required for the MS in Epidemiology.

e Students are required to take either EPID:6550 or EPID:6600. EPID:6550 is offered every fall semester, and EPID:6600 is offered in the spring semesters of even numbered years.

f Students with a strong biosciences background may choose to substitute PATH:5270 for PATH:8133 if it fits better with their training plan. PATH:5270 is an advanced course that

requires a strong foundation in molecular biology and related disciplines, but may be suitable for some students.

g A minimum of 5 s.h. of electives must be selected from Department of Epidemiology courses (prefix EPID); see General Catalog and website for coursework and specifics. Work with faculty advisor to select at least 2 s.h. of additional graduate coursework pertinent to educational goals and background.

h Written in-class exam that measures learning of epidemiological concepts and knowledge of epidemiological thoughts as presented in required courses; offered twice per year.



# Epidemiology, Ph.D.

## Learning Outcomes

Graduates will be able to:

- summarize specific risk factor and disease processes in a specialized area;
- describe methods for primary data collection including quality assurance and quality control;
- use advanced statistical analysis methods appropriate for the study design and controlling for confounding variables;
- develop data collection instruments for research purposes;
- develop hypotheses that build upon literature and theoretical models of disease and causation;
- conduct an independent research project;
- compose a proposal for grant funding;
- communicate epidemiological concepts and methods in both writing and orally; and
- defend the methods, results, and implications of a research study.

## Requirements

The Doctor of Philosophy program in epidemiology requires a minimum of 78 s.h. of graduate credit. Graduate students in epidemiology must maintain a cumulative g.p.a. of at least 3.00. Those who receive a grade of C in 7 s.h. of coursework may be dismissed from the program.

The Doctor of Philosophy with a major in epidemiology requires the following coursework.

## Core Courses

Students must take CPH:7270 Principles of Scholarly Integrity: Public Health during their first year in the fall semester (enroll for 0 s.h.) and in the spring semester (enroll for 1 s.h.). They must retake CPH:7270 if they completed the course more than four years ago or if they have changed degree programs.

Students enrolled part-time (less than 9 s.h.) who have a graduate research assistantship appointment may choose to register in EPID:5925 Epidemiology Journal Club: Evaluating the Literature for 1 s.h.; however, the credit earned for this course will not be applied toward the minimum semester hours required for the Ph.D. in epidemiology.

Students with a strong biosciences background may choose to substitute PATH:5270 Pathogenesis of Major Human Diseases in place of PATH:8133 Introduction to Human Pathology for Graduate Students if it better complements their training plan. This is an advanced course that requires a strong foundation in molecular biology and related disciplines, but may be suitable for some students.

Code	Title	Hours
All of these:		
EPID:4400	Epidemiology I: Principles	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3

EPID:5925	Epidemiology Journal Club: Evaluating the Literature	0-1
EPID:6050	Research in Epidemiology	3
EPID:6100	Writing a Grant Proposal	3
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:7400	Epidemiology III: Theories	3
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health (taken first year in the fall semester for 0 s.h. and in the spring semester for 1 s.h.)	0-1

One of these:

PATH:5270	Pathogenesis of Major Human Diseases	3
PATH:8133	Introduction to Human Pathology for Graduate Students	3-4

One of these:

BIOS:6210	Applied Survival Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3

One of these:

HHP:3500	Human Physiology	3
MPB:5153	Graduate Physiology	4

## Electives

### Research Interest Area Electives

Students are encouraged to choose a recommended Epidemiology Research Interest Area to fulfill the research interest area elective requirement (23-25 s.h.). In consultation with their advisor, a student may propose a modified research interest area of the same name. If there is not a good fit with one of the recommended plans, students may propose a new research interest area plan of study in consultation with their advisor. Students must prepare a proposed name for the new plan and a brief rationale. Modified and new research interest areas will be reviewed and approved by a majority decision by the Plan of Study committee.

### Additional Epidemiology Electives

In addition, students must select at least 3 s.h. from Department of Epidemiology courses (prefix EPID) outside their research interest area.

## Dissertation

Students must successfully complete a Ph.D. thesis.

Code	Title	Hours
EPID:7000	Thesis/Dissertation	10-18

## Other Requirements

### Preceptorship Requirement

Doctoral students who did not complete the M.S. program in epidemiology at the University of Iowa are required to take EPID:5950 Preceptorship in Epidemiology or demonstrate that an equivalent course has been completed, such as a completed master's thesis at another institution. This

requirement must be fulfilled within one year of admission to the Ph.D. program.

## Department of Epidemiology Seminar

Every week during fall and spring semesters, the Department of Epidemiology seminar provides a forum for speakers to present information or research pertaining to diverse topics in epidemiology. Students are expected to achieve at least 80 percent attendance at the seminar during each semester of enrollment.

## Journal Club for First-Year Students

Journal Club for first-year students is for those who are new to the department. The focus is for students to gain experience reading, in interpretation, and in critically evaluating recently published journal articles. Students should register in EPID:5925 Epidemiology Journal Club: Evaluating the Literature. Ph.D. students who have experience with journal reviews may ask to participate in the regular Journal Club.

## Journal Club

Every other week during the academic year, the Journal Club meets to discuss articles of interest in the field. Contact information for the Journal Club coordinators can be found on the Department of Epidemiology website under Preceptorship, Journal Club, and Seminar Contacts. Information about the schedule is distributed to students each semester. Students are required to achieve at least 80 percent attendance at Journal Club for five semesters during their time in the program. Attendance earned while enrolled as a M.S. student does not count towards the required five semesters.

## Scientific Poster Requirement

Every student is required to present at least one scientific poster at the department level and one poster at the international, national, regional, state, or University level, at some point prior to graduation. A student's advisor or dissertation mentor can help determine the suitability and timeline for the poster presentation.

## Seminar Presentation

In addition to the dissertation defense, students are required to make a presentation at a Department of Epidemiology seminar. It is recommended that students complete the seminar presentation and dissertation defense in the same semester, with the seminar presentation scheduled before the defense so the seminar can serve as preparation for the defense.

## Human Subjects Protections (IRB) Certification

Students are required to provide evidence that they have completed an approved education program in human subjects protections. This should be done at the time of appointment to a graduate research assistantship position, at the start of the preceptorship, or at the start of thesis/dissertation research. More information is available about the human subjects protections certification on the University of Iowa's Human Subjects Office website.

## Examinations

All doctoral students must successfully complete a qualifying examination, a comprehensive examination, a dissertation prospectus, and a dissertation. The research topic and

content, which vary depending on the program of study, must be approved by a student's dissertation committee.

## Combined Programs

### Ph.D./M.D.

Students may work toward the Doctor of Medicine degree and a Ph.D. in epidemiology in a combined degree program offered by the Carver College of Medicine and the College of Public Health. Applicants must be admitted to both programs before they may be admitted to the combined degree program. See the Medical Scientist Training Program [p. 1888] (Carver College of Medicine) in the Catalog.

## Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must pay the required application fee to the Graduate College through the University of Iowa Office of Admissions when prompted. For detailed application information, visit How to Apply to the Department of Epidemiology on the department's website.

The epidemiology faculty considers several factors when evaluating applications for admission, including Graduate Record Exam (GRE) General Test scores, grade-point average, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area may be admitted if all other components of their application are very strong.

All applicants must hold a baccalaureate degree (an M.S. or M.P.H. usually is required) and must have a cumulative g.p.a. of at least 3.00. Courses in the biological, physical, and mathematical sciences provide important background; one semester of calculus, one semester of statistics or biostatistics, and two semesters of biological sciences are highly recommended. Computing skills also are desirable.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL) or the International English Language Testing System (IELTS).

All applicants and students are required to have strong written and oral communication skills.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

The application deadline for fall admission is April 1.

## Financial Support

A limited number of graduate research assistantships are available for advanced students; for information, consult the department. For information on financing education through jobs, grants, and loans, contact the University's Office of Student Financial Aid.

Scholarships for incoming students are available; for information, visit the Department of Epidemiology website.

Opportunities for funded predoctoral fellowships are available. Funded positions sponsored by federal agencies are available only to U.S. citizens.

## Career Advancement

The program prepares graduate students for careers as scientists, teachers, and practitioners of epidemiologic methods. Employment opportunities exist in academic institutions; local, state, and federal health agencies; and in private enterprises.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Epidemiology, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
78 s.h. must be graduate level coursework; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
A program GPA of at least 3.00 is required.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Any Semester</b>		
Preceptorship Requirement <sup>b</sup>		
PhD Qualifying Exam <sup>c</sup>		
Department Seminar <sup>d</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
BIOS:4120	Introduction to Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>e</sup>	0
EPID:5925	Epidemiology Journal Club: Evaluating the Literature <sup>f</sup>	0 - 1
<b>Hours</b>		<b>11-12</b>
<b>Spring</b>		
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:6400	Epidemiology II: Advanced Methods	4
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>e</sup>	1
EPID:5925	Epidemiology Journal Club: Evaluating the Literature <sup>f</sup>	0 - 1
<b>Hours</b>		<b>12-13</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Department Seminar <sup>d</sup>		
<b>Hours</b>		<b>0</b>

### Fall

MPB:5153 or HHP:3500	Graduate Physiology or Human Physiology	3 - 4
EPID:6100	Writing a Grant Proposal	3
EPID:7400	Epidemiology III: Theories	3
PATH:8133 or PATH:5270	Introduction to Human Pathology for Graduate Students <sup>g</sup> or Pathogenesis of Major Human Diseases	3 - 4
EPID:5925	Epidemiology Journal Club: Evaluating the Literature <sup>f</sup>	0 - 1

**Hours 12-15**

### Spring

BIOS:6210	Applied Survival Analysis <sup>h, i</sup>	3
EPID:6050	Research in Epidemiology	3
Elective <sup>h</sup>		3 - 4
Elective <sup>h</sup>		3 - 4
EPID:5925	Epidemiology Journal Club: Evaluating the Literature <sup>f</sup>	0 - 1

**Hours 12-15**

### Third Year

#### Any Semester

Comprehensive Exam <sup>j</sup>		
Prospectus Defense		
Department Seminar <sup>d</sup>		

**Hours 0**

### Fall

BIOS:6310	Introductory Longitudinal Data Analysis <sup>h, i</sup>	3
Elective <sup>h</sup>		3
Elective <sup>h</sup>		3 - 4
Elective <sup>h</sup>		3 - 4
EPID:5925	Epidemiology Journal Club: Evaluating the Literature <sup>f</sup>	0 - 1

**Hours 12-15**

### Spring

Elective <sup>h</sup>		3 - 4
Elective <sup>h</sup>		3 - 4
Elective <sup>h</sup>		3 - 4

**Hours 9-12**

### Fourth Year

#### Any Semester

Department Seminar <sup>d</sup>		
<b>Hours</b>		<b>0</b>

### Fall

EPID:7000	Thesis/Dissertation	9
<b>Hours</b>		<b>9</b>

### Spring

EPID:7000	Thesis/Dissertation	1 - 9
Final Exam <sup>k</sup>		

**Hours 1-9**

**Total Hours 78-100**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Students who did not complete the Epidemiology MS program at UI are required to take EPID:5950 Preceptorship

- or receive program approval to substitute a previously completed equivalent course; must be completed by end of the first year.
- c Taken during spring semester of the first year (or after completion of epidemiology core coursework); same as the MS final examination with the addition of an essay exam.
  - d Students must attend the Epidemiology department seminar and are expected to achieve at least 80% attendance during each semester of enrollment; PhD students are required to make one presentation at Department Seminar preferably during the semester of the dissertation defense.
  - e Taken in the fall and spring of first year for 0 s.h. and 1 s.h., respectively.
  - f PhD students are required to achieve at least 80% attendance for five semesters; prior MS attendance does not count. If taken for 1 s.h., the credit will not be applied toward the minimum semesters hours required for the PhD in Epidemiology.
  - g Students with a strong biosciences background may substitute PATH:5270 for PATH:8133 if it fits better with their training plan. PATH:5270 is an advanced course that requires a strong foundation in molecular biology and related disciplines, but may be suitable for some students.
  - h At least 3 s.h. of electives must be from the Epidemiology department (prefix EPID) and outside of Research Interest Area; see General Catalog and website for coursework and specifics. Work with faculty advisor to select appropriate graduate elective coursework in Research Interest Area.
  - i Students must complete either BIOS:6210 (typically during second year fall semester) or BIOS:6310 (typically during third year fall semester).
  - j Taken after the majority of coursework for the PhD degree has been completed.
  - k Dissertation defense.

# Health Management and Policy

## Head

- George L. Wehby

**Graduate degrees:** M.H.A.; M.S. in health policy; M.S. in health services and policy research; Ph.D. in health services and policy

**Faculty:** <https://www.public-health.uiowa.edu/hmp-faculty-list/>

**Website:** <https://www.public-health.uiowa.edu/hmp/>

The Department of Health Management and Policy educates health care professionals for leadership roles in an increasingly complex and dynamic health care system. Graduates hold key executive, academic, research, government, and consulting positions in all areas of health management and policy, both in the United States and abroad.

The department offers the M.H.A. in a traditional program track and an executive track. It also collaborates with the Tippie College of Business and the College of Law to provide concurrent and combined M.H.A./graduate and professional degree programs. In addition, the M.S. in health policy, the M.S. in health services and policy research, the policy subprogram for the Master of Public Health (M.P.H.), the Ph.D. in health services and policy, and the graduate Certificate in Healthcare Management [p. 2138] are offered.

The department's degree programs rank among the foremost in the field. The M.H.A. is accredited by the Commission on Accreditation of Healthcare Management Education. The Ph.D. program, established in 1950, was the nation's first doctoral program in health care management.

## M.P.H. Subprogram

The subprogram prepares individuals for careers in health policy analysis, system and organizational planning, and program evaluation. Graduates find positions in federal, state, and local government as well as in professional associations and private agencies. See the Master of Public Health, M.P.H. [p. 2078] in the Catalog.

## Alumni Relations

An active alumni association with more than 1,000 members supports the M.H.A. program in a number of ways including scholarships, consultation on curriculum, continuing education, research, and fund development. Alumni serve as visiting faculty, consultants, mentors, and preceptors for summer internships, residencies, and fellowships. The alumni association also provides a network for graduates entering the profession.

Graduates maintain their Iowa connection and learn about news of their classmates, the department, and faculty members and students through the website and social media.

## Samuel Levey Healthcare Leadership Symposium

The Department of Health Management and Policy and its alumni association jointly sponsor the annual Samuel Levey Healthcare Leadership Symposium, which is held in the spring. Renowned speakers from across the country present

a variety of symposium topics. Health care leaders, alumni, educators, students, and friends of the department attend the symposium, which offers students a high quality educational experience in addition to the opportunity to network with faculty and alumni.

## Programs

### Graduate Programs of Study

#### Majors

- Master of Health Administration [p. 2128]
- Master of Science in Health Policy [p. 2131]
- Master of Science in Health Services and Policy Research [p. 2132]
- Doctor of Philosophy in Health Services and Policy [p. 2134]

## Facilities

The Center for Health Policy and Research, the research arm of the Department of Health Management and Policy, is a University-wide interdisciplinary research facility. Faculty members from the Carver College of Medicine, the Tippie College of Business, and the Colleges of Dentistry, Liberal Arts and Sciences, Nursing, Pharmacy, and Public Health serve as investigators in a variety of studies at the center. Graduate students assist with ongoing research projects.

Primary project funding for the center comes from the National Institutes of Health, the State of Iowa, the Agency for Healthcare Research and Quality, and the Patient-Centered Outcomes Research Initiative, as well as from foundations and private organizations.

The center also sponsors educational activities and promotes collaboration among health organizations through frequent exchanges with professional and provider associations, policy and planning groups, insurance organizations, health delivery institutions, and other members of the health services research community.

## Courses

### Health Management and Policy Courses

**HMP:3055 International Development: India Winterim** 2-3 s.h.  
Exploration of issues in India through varied disciplinary lenses. Winter session.

**HMP:4000 Introduction to the U.S. Health Care System** 3 s.h.  
The U.S. health care system; socioeconomic, political, and environmental forces that influence the organization, financing, and delivery of personal and public health services; health services, policy, concepts, terminology.

**HMP:5000 Professional Development Seminar** 0-1 s.h.  
Development of critical foundational management skills: business writing, personal presentation, teamwork, providing feedback, self-assessment, engaging other professionals, and organizational ethics.

- HMP:5001 Interprofessional Health Care Administration I** 3 s.h.  
 Concepts and methods related to developing and leading interprofessional teams; emphasis on roles and responsibilities in health care teams, communication, and conflict management; team development.
- HMP:5002 Interprofessional Health Care Administration II** 3 s.h.  
 Concepts and methods related to developing and leading interprofessional teams with an emphasis on values and ethics, including human resources concepts and skills, and building an organizational culture that supports interprofessional collaborative practice. Prerequisites: HMP:5001.
- HMP:5005 Introduction to Healthcare Organization and Policy** 3 s.h.  
 Organization of U.S. healthcare system, health policies that shape its development; historical, socioeconomic, political, environmental forces that influence the organization, financing, and delivery of personal and public health services; health services, policy concepts, and terminology, including health determinants, access to care, system integration, policy development, federalism.
- HMP:5200 Healthcare Management** 3 s.h.  
 Application of basic management principles such as leadership, goal setting, decision making, and human resource management to healthcare organizations.
- HMP:5230 Managerial Epidemiology** 1-2 s.h.  
 Relationship between health care needs and utilization; emphasis on epidemiological concepts related to presence of disease and health care needs in a community; approaches to forecasting need and utilization of services.
- HMP:5291 Performance Improvement in Healthcare** 1-3 s.h.  
 General lean and six sigma principles; application to health care solutions; examples from University of Iowa Hospitals & Clinics, other institutions.
- HMP:5310 Healthcare Quality Management** 2-3 s.h.  
 Fundamentals of patient safety, quality improvement techniques, performance measurement approaches, and analytical tools including data collection methodologies used by managers in healthcare and public health settings.
- HMP:5315 Health Information Systems** 2-3 s.h.  
 Conceptual, practical aspects of analysis, development, and use of computer-based information systems; emphasis on application to the health sciences environment.
- HMP:5320 Analytics for Healthcare Management** 3 s.h.  
 Introduction to analytical techniques for making business decisions with emphasis on health care; using Excel and associated tools in practical problem solving; probability and statistical concepts and applications in strategic settings.
- HMP:5342 Lean Six Sigma in Health Care** 2-3 s.h.  
 Managerial approach combining Six Sigma methods and tools with lean manufacturing enterprise philosophy; eliminating waste of physical resources, time, effort, and talent while assuring quality in production and organizational processes; provides basic understanding of Six Sigma and Lean and DMAIC process (Six Sigma structure); application of basic tools to reduce waste while augmenting satisfaction among health care customers.
- HMP:5350 Hospital Organization and Management** 2-3 s.h.  
 Role of hospitals, governance, organizational structure, medical staff organization, departmental operations. Prerequisites: HMP:5005 and HMP:5200.
- HMP:5370 Health Informatics** 3 s.h.  
 Technological tools that support health care administration, management, and decision making. Same as IGPI:5200, ISE:5860, MED:5300, SLIS:5900.
- HMP:5402 Corporate Financial Reporting** arr.  
 Introduction to accounting concepts, principles, and analyses; contemporary financial reporting practices with emphasis on preparation, analysis, and use of financial statement information for management decisions; fundamentals of accounting measurement and disclosure.
- HMP:5410 Health Economics I** 3 s.h.  
 Microeconomic principles applied to health care, health insurance, information and uncertainty, models of physician and hospital behavior, theory of the firm, market structure, regulation, competitive reform, managed care.
- HMP:5450 Health Insurance and Managed Care** 3 s.h.  
 History and theory of insurance, comparative health systems, health systems and networks, HMOs, public health insurance, care for uninsured; emphasis on public policy. Prerequisites: HMP:5005. Corequisites: PHAR:6330 or HMP:5410. Same as GHS:5455.
- HMP:5610 Health Policy** 1-3 s.h.  
 Policy process, policies and programs that shape provision of health care in the United States; health policies such as Medicare, Medicaid, Older Americans Act.
- HMP:5650 Health Policy Analysis** 3 s.h.  
 Introduction to analysis of contemporary health policy issues; frameworks for conducting analysis of health policy process and content; qualitative and quantitative methods for policy analysis; how to present policy-relevant information effectively. Prerequisites: HMP:5005.
- HMP:5750 Medicare and Medicaid Policy** 3 s.h.  
 Health policies most pertinent to Americans over age of 65. Same as ASP:5750.
- HMP:5810 M.H.A. Internship** arr.
- HMP:6055 Topics in Health Administration** 1-3 s.h.  
 Topics related to contemporary problems that concern health care students, administrators.
- HMP:6110 Strategic Planning and Marketing** 3-4 s.h.  
 Strategy in health care including role of mission, vision, values, environmental analysis, strategic alternatives, organizational design, and evaluation of strategic decisions. Prerequisites: HMP:5200.
- HMP:6150 M.H.A. Integrative Capstone** 2-3 s.h.  
 Integration and application of theories, concepts, principles; case studies. Prerequisites: HMP:5200 and HMP:6110.
- HMP:6310 Human Resources Management in Healthcare** 1-3 s.h.  
 Overview of human resource management theories and practices for health care organizations; strategic human resource management, equal employment, staffing, training and development, appraisal, compensation. Prerequisites: HMP:5200.

- HMP:6315 Healthcare Ethics** 1-2 s.h.  
Biomedical and organization ethics in the contemporary healthcare environment; ethical concepts and principles, ethical issues that confront executive, clinical, and governance leaders in context of complex health organizations.
- HMP:6350 Medical Practice Administration** 3 s.h.  
Survey of medical practice culture, operations, governance, financials, role(s) in health care system, and future. Prerequisites: HMP:5005 and HMP:5200.
- HMP:6355 Leadership of Healthcare Organizations** 2-3 s.h.  
Management and leadership concepts and their application in healthcare organizations. Prerequisites: HMP:5200.
- HMP:6360 Nonprofit Organizational Effectiveness I** 3 s.h.  
Operational and financing aspects of nonprofit management; mission and governance of organization; strategic planning for effective management, including finance, budget, income generation, fund-raising. Same as MGMT:9150, PBAF:6278, RELS:6070, SPST:6010, SSW:6247, URP:6278.
- HMP:6365 Nonprofit Organizational Effectiveness II** 3 s.h.  
Qualities for leadership of nonprofit organizations, including relationships with staff and volunteers; relationship of nonprofit and outside world; marketing, public relations, advocacy strategies for nonprofits. Requirements: for HMP:6365—HMP:6360 or MGMT:9150. Same as MGMT:9160, PBAF:6279, RELS:6075, SPST:6020, SSW:6248, URP:6279.
- HMP:6410 Healthcare Financial Management** 3 s.h.  
Issues in working capital management, capital financing, cost analysis and rate setting, budgeting, reimbursement, managed care contracting and health reform initiatives; emphasis on use of information from accounting, financial management systems.
- HMP:6610 Legal Aspects of Healthcare** 3 s.h.  
Statutory and common law frameworks applicable to healthcare system; court decisions that illustrate applications of general legal doctrines in hospital and health settings.
- HMP:6710 Federalism and Health Policy** 3 s.h.  
How American government's organization shapes development and implementation of health policy, programs, services.
- HMP:6750 Seminar in Health Policy** 2-3 s.h.  
Contemporary health policy issues; theoretical and applied perspectives; social justice and health care for vulnerable populations (e.g., mental health, nursing homes); readings, discussion. Prerequisites: HMP:5610.
- HMP:6850 Independent Study and Research** arr.  
Supervised tutorial.
- HMP:6855 Administrative Practicum** 2-3 s.h.  
Experience with operational and planning matters in a health care setting. Requirements: second-year standing and g.p.a. of at least 3.00 for two consecutive semesters.
- HMP:6860 Administrative Residency/Fellowship** arr.
- HMP:7250 Organizational Behavior and Theory in Health Care** 3 s.h.  
Key concepts of organizational behavior and organizational theory and their application to health care organizations and health services; perspectives from theoretical writings and empirical studies. Requirements: Ph.D. standing and knowledge of human services organizations.
- HMP:7550 Cost Effectiveness and Decision Analysis** 3 s.h.  
Methods of cost-effectiveness analysis and decision analysis; applications to resource allocation decisions in public health and medicine.
- HMP:7910 Seminar in Contemporary Health Issues** 0 s.h.  
Review of relevant literature on methodological substantive issues in health care, presentations by researchers on health services and policy research.
- HMP:7930 Ph.D. Independent Research** 1-3 s.h.  
Experience in empirical research through one or more substantive research experiences, with faculty mentor; authorship or coauthorship of at least one manuscript suitable for publication in peer review journal. Requirements: Ph.D. in health services and policy and satisfactory completion of Ph.D. preliminary exams.
- HMP:7940 Primary Data and Mixed Methods** 3 s.h.  
Overview of research design and methods used to address health services research questions; collection of primary data and use of qualitative and mixed methods approaches.
- HMP:7950 Design Issues in Health Service Research** 3 s.h.  
Design and causal inference reliability and validity in measurement; rules of evidence; research design for randomized-control trials, observational studies, meta-analysis.
- HMP:7960 Analytic Issues in Health Services Research I** 3 s.h.  
Analytic tools used in health services research; focus on applications in nonexperimental research settings, such as analyses using administrative claims data or preexisting public use data sets.
- HMP:7965 Analytic Issues in Health Services Research II** 3 s.h.  
Continuation of HMP:7960; advanced applications, including panel data and qualitative response models. Prerequisites: HMP:7960. Same as PHAR:7331.
- HMP:7970 Seminar in Instruction and Professional Development** 1-3 s.h.  
Opportunity for Ph.D. students to develop research and teaching skills through presentations, readings, and workshops on professional development topics. Requirements: satisfactory completion of Ph.D. preliminary exams.
- HMP:7990 Thesis/Dissertation** arr.  
Research for preparation of dissertation; seminar presentation.

# Master of Health Administration, M.H.A.

## Learning Outcomes

The M.H.A. program prepares graduates for their initial positions as health care managers and provides a solid foundation for executive career development in a variety of health organizations.

## Core Competencies

### Leading People

#### Professionalism

- Demonstrate effective verbal communication, including but not limited to formal individual and team presentations; and prepare effective written business communications.
- Think critically and assess the potential impact and consequences of decisions in a broad variety of situations.
- Commit to ethical professional behavior.
- Commit to the personal pursuit of professional development.

#### Team Development

- Use leadership practices that support team effectiveness.
- Perform effectively on teams and in different team roles as appropriate to the situation.
- Support effective conflict management approaches in interpersonal and team situations.
- Integrate the knowledge and experiences of other professions, as appropriate, to inform and implement decisions.

## Managing Resources

### Finances

- Interpret balance sheets and income statements.
- Compile and analyze financial information to develop a business plan for a new service or program.
- Explain revenue cycle and its impact on financial stability.
- Summarize the process for strategic capital formation.

### Operations

- Distinguish different approaches to organizational design for the organization and delivery of health care.
- Use various improvement tools to address quality, safety, and efficiency goals, including lean techniques and performance monitoring tools.
- Develop an evaluation plan based on operational or strategic goals.
- Use organizational behavior concepts to solve problems and make decisions in the day-to-day management of health care organizations.
- Apply concepts and techniques related to the management of human resources in health care organizations.
- Interpret ethical issues and legal concerns and use appropriate approaches to analyze and resolve them, including recognizing when to seek counsel.

## Information

- Explain the roles of, and relationship between, electronic medical records and financial data systems for clinical and strategic decision-making and for evaluating the quality and efficiency of care.
- Analyze data and use the results to address strategic, operational, financial, and quality performance indicators for health care organizations.

## Setting Strategic Direction

- Value the roles and relationships of governance, executive leadership, and external stakeholders in strategically addressing the health needs of a community or target population.
- Conduct an environmental assessment to identify changing needs/demands of a community, including an analysis of demographics, epidemiological data, organizational capacity, competitor strategies, technological changes, regulatory issues, and payment methods.
- Develop a business plan to propose a new service or program, addressing strategic objectives, financial analysis, structural and staffing implications, and evaluation.

## Improving Population Health

- Appreciate the impact of social and behavioral determinants of health and their interrelationships on health and health care delivery.
- Distinguish and compare the major settings for, and types of, health care services, including individual and population health, and payers.
- Explain the process for developing and implementing new policies and regulations at the state and federal levels.
- Analyze new health care regulations/laws to determine the likely impact on different stakeholders, including care delivery organizations, payers, and individuals.
- Analyze the impact of changes to payment mechanisms on health care delivery and health outcomes using economic and insurance concepts.
- Relate the roles of health care and public health in contributing to the health of a defined population.
- Assess health care workforce need projections and critical issues related to workforce needs for the future.

## Requirements

The Master of Health Administration (M.H.A.) requires 60 s.h. of graduate credit earned in two academic years of full-time study. Transfer credit and course waivers may be accepted, but all students are expected to complete a minimum of 54 s.h. at the University of Iowa during their course of study. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

The program prepares students for a wide variety of positions in health care management. It is designed to provide a comprehensive understanding of issues encountered by health care delivery organizations and strong business skills. Graduates are well prepared to advance to senior executive roles in a variety of health care organizations.

Students work with their advisors to create a plan of study that incorporates required and elective coursework that supports their career goals in areas such as operations management, managed care, or financial management.



Required courses in management, economics, law, managerial finance, and financial accounting focus on health care applications. Students also may take coursework in other University of Iowa departments and programs, such as business, planning and public affairs, and aging and longevity studies.

During the first year, students are introduced to the social, political, economic, and financial environments of health care organizations. The concepts, tools, and techniques necessary for effective management also are presented. During the second year, courses focus on in-depth health care applications of management concepts that integrate prior coursework and develop skills in areas relating to students' special interests and career objectives.

The Master of Health Administration requires the following coursework.

## Core Courses

Code	Title	Hours
All of these:		
HMP:5000	Professional Development Seminar (taken four times for 1 s.h. each)	4
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:5200	Healthcare Management	3
HMP:5230	Managerial Epidemiology	2
HMP:5291	Performance Improvement in Healthcare	2
HMP:5310	Healthcare Quality Management	2
HMP:5315	Health Information Systems	2
HMP:5320	Analytics for Healthcare Management	3
HMP:5402	Corporate Financial Reporting	3
HMP:5410	Health Economics I	3
HMP:5610	Health Policy	3
HMP:5810	M.H.A. Internship	1
HMP:6055	Topics in Health Administration (when topic is health care payment methods)	1
HMP:6110	Strategic Planning and Marketing	3
HMP:6150	M.H.A. Integrative Capstone	3
HMP:6310	Human Resources Management in Healthcare	2
HMP:6315	Healthcare Ethics	1
HMP:6355	Leadership of Healthcare Organizations	2
HMP:6410	Healthcare Financial Management	3
HMP:6610	Legal Aspects of Healthcare	3
CPH:6100	Essentials of Public Health	2
<b>Total Hours</b>		<b>51</b>

## Electives

Students choose 9 s.h. of elective coursework; they may count a maximum of 6 s.h. of elective credit earned outside the

Department of Health Management and Policy toward the M.H.A. degree.

## Summer Internships, Fellowships, Residencies

The department facilitates placement of M.H.A. students in required summer internships between the first and second years of study. Internships offer opportunities for practical experience interacting with executives in a health care setting. Internships are full-time positions that usually last 10-12 weeks. Students normally receive a salary or stipend, and in some cases, assistance with living arrangements.

Most M.H.A. students complement their academic training with a postgraduate fellowship or residency. Such experiences provide opportunities to observe, develop, and demonstrate management skills and to develop connections with colleagues. The department takes an active role in helping students identify and secure fellowship and residency positions.

## Executive M.H.A. Subprogram

The executive Master of Health Administration subprogram (EMHA) requires 45 s.h. of graduate credit and typically is completed in two years. The plan of study is designed for working professionals who wish to advance their knowledge and skills in order to become effective health care administrators. The EMHA objectives are to:

- provide working professionals with advanced knowledge and skills in health care management;
- position experienced professionals to become effective health care administrators; and
- meet the need for leadership in transforming health care financing and delivery in dynamic environments.

The EMHA's curricular emphases are administrative skills specific to health care, population health administration, and interprofessional health care administration.

Students complete three courses each fall and spring semester and one course in each of two summer sessions. Courses are taught in person on Iowa City and Des Moines campuses by combinations of expert executives and faculty. Instruction is case- and team-focused.

The Master of Health Administration (executive M.H.A. subprogram) requires the following coursework.

Code	Title	Hours
All of these:		
HMP:5001	Interprofessional Health Care Administration I	3
HMP:5002	Interprofessional Health Care Administration II	3
HMP:5200	Healthcare Management	3
HMP:5230	Managerial Epidemiology	1
HMP:5310	Healthcare Quality Management	2
HMP:5315	Health Information Systems	2
HMP:5320	Analytics for Healthcare Management	3
HMP:5342	Lean Six Sigma in Health Care	3
HMP:5402	Corporate Financial Reporting	3
HMP:5410	Health Economics I	3

HMP:5610	Health Policy	3
HMP:6110	Strategic Planning and Marketing	3
HMP:6150	M.H.A. Integrative Capstone	2
HMP:6355	Leadership of Healthcare Organizations	3
HMP:6410	Healthcare Financial Management	3
HMP:6610	Legal Aspects of Healthcare	3
CPH:6100	Essentials of Public Health	2
<b>Total Hours</b>		<b>45</b>

For more information, visit Executive M.H.A. Track on the College of Public Health website.

## Combined Programs

Students interested in combining an M.H.A. with a master's or professional degree in another field should discuss their plans with both academic units and indicate their interest when they apply to the M.H.A. program.

### M.H.A. (Law Subprogram)/J.D.

The combined Master of Health Administration with a law subprogram/Juris Doctor requires 123 s.h. of postbaccalaureate credit. The program allows students to gain training in both health care management and law. Students typically complete the program in four years; they enroll only in law courses during the first year.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined degree program. For information about the J.D., see Juris Doctor, J.D. [p. 1821] (College of Law) in the Catalog.

## Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS) or the Health Administration, Management & Policy Centralized Application Service (HAMPCAS). All applicants also must submit the supplemental University of Iowa application fee. For detailed application information, visit HMP Degree Programs on the Department of Health Management and Policy website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students begin the program in fall semester. Personal interviews are required before admission; the admissions committee conducts Skype interviews with applicants unable to visit campus.

## Financial Support

A variety of financial assistance is available, including scholarships and awards, student loans, and graduate research assistantships. Every effort is made to provide financial support to students who demonstrate need and maintain satisfactory academic standards. Some awards are offered in recognition of outstanding academic performance and experience, regardless of need.

Graduate research assistantships generally are awarded on the basis of student merit and the department's need.

Assistantships afford valuable experience in health services research and management projects. Graduate research assistants work 10 hours per week and must apply for reappointment each year. Assistantships provide a stipend, some tuition assistance, and entitle students to the resident tuition rate.

Opportunities also exist for part-time employment both on and off campus. For information and financial aid application forms, contact the University's Office of Student Financial Aid.

# Health Policy, M.S.

## Requirements

The Master of Science program in health policy requires 48 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students learn how to quickly identify, evaluate, and formulate policies, and conduct quantitative and qualitative health policy research. These skills are developed through a combination of coursework and applied learning opportunities, including special lectures and conferences.

The M.S. with a major in health policy requires the following coursework.

## Core Courses

Code	Title	Hours
All of these (39 s.h.):		
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:5410	Health Economics I	3
HMP:5610	Health Policy	3
HMP:5650	Health Policy Analysis	3
HMP:6610	Legal Aspects of Healthcare	3
HMP:6710	Federalism and Health Policy	3
HMP:6750	Seminar in Health Policy	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7950	Design Issues in Health Service Research	3
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health (taken twice; once for 0 s.h. and once for 1 s.h.)	1
EPID:4400	Epidemiology I: Principles	3

## Electives

Students choose 6 s.h. of elective coursework.

## Thesis

Students complete 3 s.h. of thesis work in the following course.

Code	Title	Hours
HMP:7990	Thesis/Dissertation	3

## Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS). All applicants also must submit the supplemental University of Iowa application fee. For detailed application information, visit HMP Degree Programs on the Department of Health Management and Policy website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students begin the program in fall semester. Campus visits are encouraged.

## Financial Support

A variety of financial assistance is available, including scholarships and awards, student loans, and graduate research assistantships. Every effort is made to provide financial support to students who demonstrate need and maintain satisfactory academic standards. Some awards are offered in recognition of outstanding academic performance and experience, regardless of need.

Graduate research assistantships generally are awarded on the basis of student merit and the department's need. Assistantships afford valuable experience in health policy research and management projects. Graduate research assistants work 10 hours per week and must apply for reappointment each year. Assistantships provide a stipend, some tuition assistance, and entitle students to the resident tuition rate.

Opportunities also exist for part-time employment both on and off campus. For information and financial aid application forms, contact the University's Office of Student Financial Aid.

## Career Advancement

Graduates will have acquired the subject matter expertise and methodological skills sought by academic institutions, government agencies, and private and nonprofit organizations engaged in health policy analysis, development, and implementation. Additionally, graduates will be prepared to pursue doctoral studies in health policy, health services research, and other closely related fields.

# Health Services and Policy Research, M.S.

## Learning Outcomes

Upon completion of the M.S. in health services and policy research, students will be able to:

- evaluate the organization, financing, and delivery of U.S. health services;
- evaluate policies for their impact on public health and health equity;
- analyze the behavior of health care market stakeholders using the principles of health economics;
- select the appropriate study design and statistical models for health services research questions and outcomes;
- use statistical computing programs to analyze quantitative data; and
- conduct a study using health services research methods.

## Requirements

The Master of Science program in health services and policy research requires a minimum of 30 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 to earn the degree.

Students are provided with content knowledge and methodological skills pertaining to the practice of health services research. Evaluating the organization, delivery, and outcomes of health services and the impacts of health policies on health services use and health outcomes is intrinsically interdisciplinary. As such, students will acquire both theoretical knowledge of U.S. health policy, health economics, and the organization and delivery of health services as well as a range of analytic skills that will allow them to design and execute health services research studies.

The M.S. includes coursework in health services research design, statistical methods, health policy, health economics, and the organization and delivery of health care services. Additionally, students will be required to complete a final research project. Students have the opportunity to work with faculty mentors on research projects and participate in cocurricular learning opportunities that focus on health services research, such as seminars, journal clubs, and conferences. The M.S. will be a pathway to the Ph.D. in health services and policy.

The M.S. with a major in health services and policy research requires the following coursework.

## Core Courses

Code	Title	Hours
All of these (21 s.h.):		
HMP:5005	Introduction to Healthcare Organization and Policy	3
or HMP:4000	Introduction to the U.S. Health Care System	
HMP:5410	Health Economics I	3
HMP:5610	Health Policy	3
HMP:7950	Design Issues in Health Service Research	3
BIOS:4120	Introduction to Biostatistics	3

BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health (taken in the fall and spring semesters for 0 s.h. and 1 s.h.)	1

## Electives

Students choose 6 s.h. of elective coursework. The following are possible elective choices.

Code	Title	Hours
HMP:5650	Health Policy Analysis	3
HMP:6610	Legal Aspects of Healthcare	3
HMP:6710	Federalism and Health Policy	3
HMP:6750	Seminar in Health Policy	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7940	Primary Data and Mixed Methods	3
HMP:7950	Design Issues in Health Service Research	3
HMP:7960	Analytic Issues in Health Services Research I	3
BIOS:4120	Introduction to Biostatistics	3
EPID:4400	Epidemiology I: Principles	3

## Thesis

Students complete 3 s.h. of thesis work in the following course.

Code	Title	Hours
HMP:7990	Thesis/Dissertation	3

## Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS). All applicants also must submit the supplemental University of Iowa application fee. For detailed application information, visit HMP Degree Programs on the Department of Health Management and Policy website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students begin the program in fall semester. Campus visits are encouraged.

## Financial Support

A variety of financial assistance is available, including scholarships and awards, student loans, and graduate research assistantships. Every effort is made to provide financial support to students who demonstrate need and maintain satisfactory academic standards. Some awards are offered in recognition of outstanding academic performance and experience, regardless of need.

Graduate research assistantships generally are awarded on the basis of student merit and the department's need. Assistantships afford valuable experience in health policy research and management projects. Graduate research

assistants work 10 hours per week and must apply for reappointment each year. Assistantships provide a stipend, some tuition assistance, and entitle students to the resident tuition rate.

Opportunities also exist for part-time employment both on and off campus. For information and financial aid application forms, contact the University's Office of Student Financial Aid.

## Career Advancement

The M.S. in health services and policy research prepares graduates for research careers in a variety of applied settings including academia, think tanks, government agencies, private sector organizations and other settings where health services research skills are sought.

The program is designed to provide clinicians with the skills needed to work as health services researchers in a wide variety of settings. Given the program's strong emphasis on research design, evaluation, and quantitative methods, it is a pathway for students who desire to prepare themselves to be competitive applicants for doctoral studies in health services research, health policy, health economics, and other closely related fields at the University of Iowa or other leading institutions.

The program also is designed in a way that allows students in the department's Ph.D. in health services and policy program to earn the M.S. degree as they complete coursework and exam requirements for the Ph.D. program en passant.

# Health Services and Policy, Ph.D.

## Learning Outcomes

Students will be able to:

- demonstrate breadth of health services research theoretical and conceptual knowledge by applying alternative models from a range of relevant disciplines;
- apply in-depth disciplinary knowledge and skills relevant to health services research;
- apply knowledge of the structures, performance, quality, policy, and environmental context of health and health care to formulate solutions for health policy problems;
- pose innovative and important health service research questions, informed by systematic reviews of the literature, stakeholder needs, and relevant theoretical and conceptual models;
- select appropriate interventional, observational, or qualitative study designs to address specific health services research questions;
- know how to collect primary health and health care data obtained by survey, qualitative, or mixed methods;
- know how to assemble secondary data from existing public and private sources;
- use conceptual models and operational measures to specify study constructs for a health services research question and develop variables that reliably and validly measure these constructs;
- implement research protocols with standardized procedures that ensure reproducibility of the science;
- use appropriate analytical methods to clarify associations between variables and to delineate causal inferences;
- ensure the ethical and responsible conduct of research in the design, implementation, and dissemination of health services research;
- work collaboratively in multidisciplinary teams;
- effectively communicate the findings and implications of health services research through multiple modalities to technical and lay audiences;
- understand the importance of collaborating with stakeholders, such as policymakers, organizations, and communities to plan, conduct, and translate health services research into policy and practice; and
- demonstrate hands-on teaching experience.

## Requirements

The Doctor of Philosophy program in health services and policy requires a minimum of 72 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.25 to earn the degree. Those who enter with a master's degree can apply to use transfer credit toward their doctorate degree with approval of the health services and policy program.

The Ph.D. program is oriented toward applied, interdisciplinary research and scholarly inquiry. Students develop mastery of theories and research methodologies necessary to study the complex American health system. They work closely with faculty mentors on research projects and develop research design and methodology skills through coursework and an apprenticeship model of training.

Individual plans of study allow students to prepare for specific careers, and small class size encourages frequent student-faculty interaction, including participation in research projects as well as scholarly publications.

The Ph.D. program provides students flexibility to create a plan of study that allows them to either specialize in one of three research interest areas—health economics, health management and organization, or health policy—or to create a plan of study that includes elective courses from multiple research interest areas. Students work with a faculty advisor and a mentorship team of faculty members from their interest area(s). The advisor and mentorship team participate in initial planning with students during orientation and in annual professional development reviews. Students conduct required independent study and thesis research in their interest area(s); their comprehensive exam and dissertation committees include faculty members from their chosen research interest area(s).

## Research Interest Areas

The health economics research interest area provides students with in-depth training in economic theory and its applications to health and health care. Students in this area acquire advanced theoretical knowledge and state-of-the-art analytical and econometric skills that enable them to build careers as health economists in academic departments, research organizations, and health care industries. The health economics interest area provides comprehensive coursework covering all main areas in health and health care economics, including demand for health and health care, economic determinants and consequences of health behaviors, health insurance, economic organization of health care markets, impact of government policy and regulation, econometric methods, and economic evaluation methods.

The health management and organization research interest area prepares students to conduct research on organizational, strategic, and operational issues that confront health institutions and systems. Emphasis is placed on health care applications of theories, concepts, and models from the fields of organizational theory (macro), organizational behavior (micro), strategic management, and operations management. Students in this area may conduct research on topics such as effectiveness of health care organizations; improving the organization and management of health delivery processes; measuring performance and productivity of health care organizations; examining the relative influence of mission, culture, and financial incentives in hospitals and health organizations; and management of professional groups. Graduates of the health management and organization research interest area should find employment in academic and research organizations, integrated delivery systems, and governmental units that are interested in the impact of organizational structures and managerial practices on performance.

The health policy research interest area prepares students to undertake health services and policy research aimed at improving care and management of illness and disability and enhancing individual and community health outcomes. Students develop the skills necessary to conduct health services and policy research. They take courses in the basic disciplines that contribute to the fields of public and social policy (e.g., law, political science, public affairs) and courses that focus on the structure and organization of health policy making in the United States. They study the formation and implementation of health policies; the effect of health policies on the organization, financing, and delivery of health

services; the effect of health policies on access to, use of, and costs of health services; and approaches to improve access and effectiveness of care for vulnerable populations. Students who complete the health policy research interest area are prepared for employment in academic research institutions, policy organizations, and governmental agencies and departments.

The Ph.D. with a major in health services and policy requires the following.

## Coursework

Students take coursework in core content areas covering health care systems, health economics, health management and organizations, and health policy and courses in research design and statistical analysis. Credit may be awarded for guided and independent research project work. Students may waive specific courses, depending on their background. For more detailed information about Ph.D. and focus area curricula, see the Ph.D. in Health Services and Policy on the Department of Health Management and Policy website.

### Core Courses

Code	Title	Hours
All of these:		
HMP:5450	Health Insurance and Managed Care	3
CPH:6100	Essentials of Public Health	2

### Foundation Courses in Research Interest Areas

Code	Title	Hours
All of these:		
HMP:5005	Introduction to Healthcare Organization and Policy	3
HMP:5410	Health Economics I	3
HMP:5610	Health Policy	3
HMP:5750	Medicare and Medicaid Policy	3
HMP:7250	Organizational Behavior and Theory in Health Care	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7930	Ph.D. Independent Research	3

### Design and Analysis Courses

Code	Title	Hours
All of these:		
HMP:7940	Primary Data and Mixed Methods	3
HMP:7950	Design Issues in Health Service Research	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965	Analytic Issues in Health Services Research II	3
HMP:7990	Thesis/Dissertation	8-15
BIOS:4120	Introduction to Biostatistics	3
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3

CPH:7270	Principles of Scholarly Integrity: Public Health (must be taken twice; in the first semester for 0 s.h., in the second semester for 1 s.h.)	1
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## Advanced Research Interest Area Courses

### Health Economics

Code	Title	Hours
At least three of these:		
ECON:4140	Labor Economics	3
ECON:5100	Microeconomics I	3
ECON:5115	Fundamentals of Microeconomics	3
ECON:5800	Econometrics	3
ECON:5810	Applied Econometrics	3
ECON:6310	Industrial Organization	3
ECON:6900	Contemporary Topics in Economics	3

### Health Management and Organization

Code	Title	Hours
At least three of these:		
MGMT:7340	Group Processes (Ph.D.)	3
MGMT:7350	Leadership (Ph.D.)	3
MGMT:7360	Motivation and Attitudes (Ph.D.)	3
SOC:6610	Complex Organizations	3

### Health Policy

Code	Title	Hours
Both of these:		
HMP:5650	Health Policy Analysis	3
HMP:6750	Seminar in Health Policy	3
At least one of these:		
HMP:6710	Federalism and Health Policy	3
POLI:5100	American Politics	4
POLI:7202	Public Opinion and Electoral Behavior	4
SOC:6810	Social Stratification	3

### Electives

Students take elective coursework so that they are exposed to other areas or to gain greater depth within their area of interest.

## Examinations

Students must pass a preliminary examination that tests mastery of core material covered during the first year in the department, including American health systems, health services research methods, and foundation courses in their research interest area.

Students take the comprehensive examination at or near the end of their formal coursework. The comprehensive exam focuses on a student's specific area of research and theoretical interest.

## Dissertation

Doctoral candidates prepare dissertations based on original research that tests, extends, or applies concepts or principles to a health care problem related to their chosen research interest area(s). Students may complete a traditional dissertation or a dissertation based on three publishable papers.

### Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS). All applicants also must submit the supplement University of Iowa application fee. For detailed application information, visit HMP Degree Programs on the Department of Health Management and Policy website.

Applicants must meet the admission requirements of the Graduate College; see the Manual of Rules and Regulations on the Graduate College website.

Students begin the program in fall semester. Personal interviews are required before admission; the admissions committee conducts video interviews with applicants.

### Financial Support

A variety of financial assistance is available, including scholarships and awards, student loans, and graduate research assistantships. Every effort is made to provide financial support to students who demonstrate need and maintain satisfactory academic standards. Some awards are offered in recognition of outstanding academic performance and experience, regardless of need.

Graduate research assistantships generally are awarded on the basis of student merit and the department's need. Assistantships afford valuable experience in health services research and management projects. Graduate research assistants work 10-20 hours per week and must apply for reappointment each year. Assistantships provide a stipend, some tuition assistance, and entitle students to the resident tuition rate.

Opportunities also exist for part-time employment both on and off campus. For information and financial aid application forms, contact the University's Office of Student Financial Aid.

### Career Advancement

The program prepares students for careers in health services research, education, and policy leadership in universities, government agencies, and health organizations.



# Healthcare Management

## Head, Department of Health Management and Policy

- Keith Mueller

**Graduate certificate:** healthcare management

**Website:** <https://www.public-health.uiowa.edu/healthcare-management-certificate/>

The graduate Certificate in Healthcare Management provides physicians, nurses, other clinicians, and managers the foundational business and leadership skills specific to health care. The certificate is administered by the Department of Health Management and Policy [p. 2125]. The Graduate College grants the certificate.

### Programs

## Graduate Program of Study Certificate

- Certificate in Healthcare Management [p. 2138]

# Healthcare Management, Graduate Certificate

## Requirements

The graduate Certificate in Healthcare Management requires a minimum of 15 s.h. of graduate credit. Students must maintain a cumulative g.p.a. of at least 3.00 in order to earn the certificate. Enrollment is limited to 10 students.

The required courses provide foundational business and leadership skills specific to health care. They are offered in five-week blocks at University of Iowa campuses in Iowa City and Des Moines. Students complete the five health care courses over a period of 15 months; all 15 s.h. earned in the certificate program may be used toward degree requirements for the Master of Health Administration, M.H.A. [p. 2128] executive subprogram (EMHA).

The Certificate in Healthcare Management requires the following coursework.

Code	Title	Hours
HMP:5200	Healthcare Management	3
HMP:5402	Corporate Financial Reporting	3
HMP:5610	Health Policy	3
HMP:6355	Leadership of Healthcare Organizations	3
HMP:6410	Healthcare Financial Management	3

For more information, visit Graduate Certificate in Healthcare Management on the Department of Health Management and Policy website.

# Occupational and Environmental Health

## Interim Head

- Thomas M. Peters

**Graduate degrees:** M.S. in occupational and environmental health; Ph.D. in occupational and environmental health

**Faculty:** <https://www.public-health.uiowa.edu/oeh-faculty-list/>

**Website:** <https://www.public-health.uiowa.edu/oeh/>

The Department of Occupational and Environmental Health focuses on assessment of risk factors in the physical environment and their relationship to disease—particularly health problems of agricultural and industrial workers. Students are guided by faculty members whose research interests include rural health care delivery, agricultural health, environmental health, occupational medicine, occupational lung disease, mammalian toxicology, inhalation toxicology, ergonomics, indoor air quality, occupational injury, injury epidemiology, injury prevention programs, aerosol physics, air and water quality, environmental chemistry, analytical toxicology, and environmental health in developing countries.

In addition to the M.S. and Ph.D. degrees in occupational and environmental health, the department offers a subprogram for the Master of Public Health (M.P.H.) degree in occupational and environmental health. The subprogram provides students with a broad perspective on public health and career preparation for a variety of professional positions in occupational and environmental health. Students have the option of selecting focused coursework in the following areas: global environmental health, occupational health, rural health and safety, and injury and violence prevention. For more information, see the Master of Public Health [p. 2078] in the Catalog.

The department also offers the College of Public Health's graduate Certificate in Agricultural Safety and Health; see Agricultural Safety and Health [p. 2091] in the Catalog.

## Programs

### Graduate Programs of Study

#### Majors

- Occupational and environmental health subprogram for the Master of Public Health [p. 2078] degree
- Master of Science in Occupational and Environmental Health [p. 2142]
- Doctor of Philosophy in Occupational and Environmental Health [p. 2147]

## Facilities

The Department of Occupational and Environmental Health is housed in the College of Public Health Building, on the University's health sciences campus, and at the Institute for Rural and Environmental Health, at the University of Iowa Research Park. College of Public Health-based laboratory facilities give researchers and students access to cutting-edge technologies for the study of occupational and environmental health.

## Pulmonary Toxicology Facility

The Pulmonary Toxicology Facility provides a full array of inhalation toxicology, aerosol science, and bioaerosol assay services. A primary focus of the facility is the study of toxicants found in the agricultural environment and related exposure situations. The facility is particularly well-equipped for studying organic dusts and bioaerosols.

## Industrial Hygiene Laboratory

The Industrial Hygiene Laboratory provides expertise and equipment for exposure assessment in occupational settings. The laboratory offers a range of sample collection capabilities and an extensive inventory of sampling equipment. Field and laboratory services are available through laboratory support exposure-response studies and control technology development studies in a variety of occupational arenas, including agriculture, construction, and indoor environments (home and office).

A computer laboratory is available for student use, and a library collection is located at the Institute for Rural and Environmental Health.

## Heartland Center for Occupational Health and Safety

The Heartland Center for Occupational Health and Safety, one of 18 education and research centers funded by the National Institute of Occupational Safety and Health, provides training, education, and outreach. Its program areas are industrial hygiene, occupational safety, ergonomics, agricultural safety and health, occupational injury prevention, and continuing education.

## Courses

### Occupational and Environmental Health Courses

#### **OEH:4240 Global Environmental Health 3 s.h.**

Environmental health comprised of aspects of human health determined by interactions with physical, chemical, biological, and social factors in global environment; worldview and survey; focus on issues most relevant today; sustainability; air, water, and soil pollution and remediation; occupational health; injury prevention; food safety and security; risk assessment; environmental health policy.

#### **OEH:4260 Global Water and Health 3 s.h.**

Overview of global water and health; microbial and toxicant identification, water-related adverse health effects, risk assessment, approaches to reduce water-related disease, distal water-related influences (e.g., global warming), and historic cases. Same as GHS:4260.

#### **OEH:4310 Occupational Ergonomics: Principles 3 s.h.**

Fundamental topics of occupational ergonomics important to future industrial hygienists, engineers, and other occupational safety and health practitioners; introduction to principles of ergonomics with focus on physiological and anatomical capabilities of the worker and interaction of workers with their environments; topics include anthropometry, physiological and biomechanical basis of work, occupational musculoskeletal disorders, risk factors for musculoskeletal disorders, workplace and tool design, manual materials handling, workplace environment, job analysis, and elements of ergonomics process to improve job design.

- OEH:4510 Injury and Violence Prevention** 3 s.h.  
Theory, research, and practice of injury control; unintentional and intentional injuries; local, national, international injury issues. Same as CPH:4230, EPID:4510.
- OEH:4530 Global Road Safety** 3 s.h.  
Road safety problem, data sources, research methods used in field, and how intervention and prevention programs are developed and evaluated; lecture, hands-on approaches. Same as CPH:4220, GHS:4530.
- OEH:4540 Statistics for Experimenters** 3 s.h.  
Application of statistical techniques to evaluate data derived from experimental samples designs; use of spreadsheets, statistical software; design and analysis of experiments; regression analysis; model building; practical applications. Same as CEE:4187.
- OEH:4920 Solid and Hazardous Wastes** 3 s.h.  
Sources, characteristics, collection, disposal of solid and hazardous wastes; environmental impacts of hazardous waste management; resource recovery systems. Requirements: for OEH:4920—OEH:4240. Same as CEE:4158.
- OEH:5010 Occupational and Environmental Health Seminar** 0-1 s.h.  
Contemporary topics in occupational health, agricultural and comparative medicine, environmental health.
- OEH:5110 Managing and Sharing Your Research Data** 1 s.h.  
Overview of essential practices in managing the data you collect and generate during research. Topics include file organization; documenting your work and lab notebooks; optimizing spreadsheet data and cleanup tools; reproducibility; funder and publisher requirements; and conclude with how and where to share and publish data, from choosing a repository to creating a data record, including licensing, ownership, preservation of access, reuse, and citation. Applicable for any student currently doing research, or planning to do so. Same as CEE:5110.
- OEH:5410 Occupational Safety** 3 s.h.  
Principles and practices of occupational safety; applications in industrial and other occupational settings; interactions with other disciplines.
- OEH:5620 Occupational Health** 3 s.h.  
Introduction to occupational health and safety; for graduate students in agricultural health and safety, environmental health, ergonomics, industrial hygiene, injury prevention, occupational epidemiology, and occupational medicine.
- OEH:6110 Rural Health and Agricultural Medicine** 3 s.h.  
Clinical orientation of specific health problems of rural residents, agricultural workers; rural health care delivery, socioeconomic issues in agriculture and their effects on health and safety of the agricultural population; occupational health problems, environmental health hazards in rural areas.
- OEH:6120 Current Topics in Agriculture and Rural Health** 0-1 s.h.  
Current issues that affect the health of rural populations including agricultural hazards, pesticide exposure, mental health, global agricultural health, and food safety.
- OEH:6420 Methods in Exposure Science** 3 s.h.  
Principles, with emphasis on recognition of chemical health hazards, physical health hazards at work. Corequisites: OEH:5620, if not taken as a prerequisite.
- OEH:6431 Assessing Noise Hazards** 1 s.h.  
Scientific methods to measure noise, assess human noise exposure, and implement technology to control noise exposure.
- OEH:6432 Assessing Nonionizing Radiation Hazards** 1 s.h.  
Scientific methods to measure nonionizing, assess human nonionizing exposure, and implement technology to control nonionizing exposure.
- OEH:6433 Assessing Ionizing Radiation Hazards** 1 s.h.  
Scientific methods to measure ionizing radiation, assess human ionizing radiation exposure, and implement technology to control ionizing radiation exposure.
- OEH:6440 Control of Occupational Hazards** 3 s.h.  
Physical science concepts applied to control of occupational hazards ranging from dusts to mists to vapors; strategies, management issues, personal protective equipment, implementation skills; in-depth instruction on local exhaust ventilation system design.
- OEH:6450 Aerosol Technology** 3 s.h.  
Particle statistics and physics of aerosols, including inertia, diffusion, nucleation, evaporation, condensation, optics, electrical properties; relationship to fields such as agriculture, nanotechnology, environmental and occupational health, atmospheric chemistry, drug delivery.
- OEH:6460 Quantitative Exposure Assessment: Study Design and Evaluation** 1,3 s.h.  
Principles of designing occupational and environmental exposure assessment studies, analyzing exposure data, and conducting exposure-response evaluations. Requirements: prior experience in statistics.
- OEH:6510 Environmental and Occupational Epidemiology** 3 s.h.  
Overview of methods to interpret and perform environmental and occupational epidemiologic studies with focus on exposure assessment; valuable insights into identifying regional, national, global environmental, and occupational health-related issues. Prerequisites: EPID:4400. Same as EPID:6200.
- OEH:6520 Injury Epidemiology** 3 s.h.  
How epidemiology can be applied to injury prevention and control: epidemiology literature, specific methodological problems involved in the epidemiology of injuries, critical evaluation of research articles. Offered spring semesters of odd years. Prerequisites: EPID:4400. Same as EPID:6510.
- OEH:6710 Human Toxicology and Risk Assessment** 3 s.h.  
Sources, routes of absorption, effects of environmental toxicants affecting man; pathophysiology of toxicant actions, including those of air and water pollutants, metals, pesticides, solvents, food toxicants, chemicals. Requirements: college chemistry and biology.
- OEH:6720 Advanced Toxicology** 4 s.h.  
Hepatic metabolism and toxification mechanisms, pulmonary and immunotoxicology, nervous system poisons and their mechanisms of action, general and molecular concepts of chemical carcinogenesis. Prerequisites: OEH:6710 or PHAR:6501.
- OEH:7000 Thesis/Dissertation** arr.

**OEH:7010 Problems in Occupational and Environmental Health** arr.

Didactic material in occupational and environmental health; may include tutorial, seminar, faculty-directed independent work (e.g., literature search, project, short research project).

**OEH:7020 Independent Study in Occupational and Environmental Health** arr.

In-depth pursuit of an area in occupational and environmental health requiring substantial creativity and independence.

**OEH:7040 Preceptorship in Occupational and Environmental Health** arr.

Work experience using knowledge and skills acquired in the classroom; arranged in conjunction with departmental or collegiate activities or with governmental agencies or private industry.

**OEH:7050 Occupational and Environmental Health Internship** 0,3 s.h.

Comprehensive and integrated application of knowledge acquired in a workplace setting; structured approach to demonstrate skills and knowledge obtained through a workplace experience. Corequisites: OEH:5620 or OEH:4240, if not taken as a prerequisite.

**OEH:7060 Research Design in Occupational and Environmental Health** 3 s.h.

Development of a research grant proposal based on student's independent research aims and hypotheses, preparation of accompanying documents for a grant proposal submission, and development of a comprehensive dissemination plan that articulates how academic and lay audiences will be reached with research findings.

**OEH:7070 Interpreting Occupational and Environmental Health Research** 3 s.h.

Systematic evaluation of methodological strengths and weaknesses of published research studies in occupational and environmental health. Prerequisites: (OEH:5620 or OEH:4240) and (BIOS:4120 or OEH:4540) and EPID:4400.

# Occupational and Environmental Health, M.S.

An M.S. degree in occupational and environmental health (OEH) is offered with optional subprograms in agricultural safety and health and industrial hygiene.

## Learning Outcomes

### Occupational and Environmental Health General Outcomes

Students will be able to:

- describe major environmental hazards that adversely affect human health,
- demonstrate the use of regulatory guidelines that seek to control occupational health and injury issues,
- apply epidemiological principles used to assess associations between exposure to occupational health and injury hazards on health outcomes,
- use computer software and statistical methods to test a hypothesis, and
- use intervention and evaluation theory to prevent occupational health and injury hazards.

### M.S. in OEH Outcomes (Agricultural Safety and Health Subprogram)

Students will be able to:

- describe the basic concepts of agricultural safety and health,
- summarize epidemiological principles that can be used to determine health outcomes associated with exposure to occupational hazards,
- explain appropriate research design and methodology related to the field of agricultural safety and health,
- communicate agricultural safety and health concepts both orally and in writing,
- interpret the significance of occupationally derived data relative to an exposure or health outcome,
- analyze agricultural safety and health intervention programs, and
- design and implement a research project relative to peer-reviewed literature in agricultural safety and health.

### M.S. in OEH Outcomes (Industrial Hygiene Subprogram)

- anticipate and recognize occupational and environmental hazards (i.e., physical, chemical, and biological agents, factors, and stressors) generated by or associated with defined sources, unit operations, and/or processes;
- describe qualitative and quantitative aspects of generation of hazards;
- apply scientific principles, instrumentation, and methods to adequately assess exposures to hazards;
- organize and interpret exposure data using qualitative and quantitative methods in the context of physiological, epidemiological, and toxicological knowledge of the response of the human body to hazards;

- recommend and evaluate controls to reduce or eliminate hazards with regard to traditional hierarchy considerations;
- understand applicable business, managerial, and leadership practices with emphasis on program and project management;
- communicate effectively and appropriately to advocate for continuous improvement in worker health and safety to pertinent audiences, including workforce, management, the public, and professional peers;
- interpret and apply applicable and emerging regulations, consensus standards, and best practices affecting occupational and environmental health;
- demonstrate an understanding of the professional code of ethics; and
- understand the value of and path to attain professional certification in industrial hygiene and allied fields.

## Requirements

The Master of Science in occupational and environmental health requires 38-43 s.h. of graduate credit. The degree program is offered with three options—the M.S. in occupational and environmental health (38 s.h.) without a subprogram, the M.S. with an agricultural safety and health subprogram (42 s.h.), or the M.S. with an industrial hygiene subprogram (43 s.h.).

### M.S. Without Subprogram

The Master of Science with a major in occupational and environmental health without a subprogram requires a minimum of 38 s.h. and includes the following coursework.

#### Core Courses

Code	Title	Hours
All of these (16 s.h.):		
OEH:4240	Global Environmental Health	3
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5620	Occupational Health	3
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3
At least 6 s.h. from these:		
OEH:4260	Global Water and Health	3
OEH:4310	Occupational Ergonomics: Principles	3
OEH:4510	Injury and Violence Prevention	3
OEH:5410	Occupational Safety	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6710	Human Toxicology and Risk Assessment	3

#### Electives

Credit earned in elective coursework and the thesis completes the 38 s.h. required for the degree. Students work with their

advisor to select courses appropriate for their professional goals.

## Thesis

A thesis is required. Students may earn a maximum of 6 s.h. for the thesis.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.

## M.S. with Agricultural Safety and Health Subprogram

The program prepares students for careers in education, health care, insurance, and agribusiness as specialists in agricultural safety and health.

The Master of Science with a major in occupational and environmental health with an agricultural safety and health subprogram requires a minimum of 42 s.h. and includes the following coursework.

### Core Courses

Code	Title	Hours
All of these (29 s.h.):		
OEH:4240	Global Environmental Health	3
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5410	Occupational Safety	3
OEH:5620	Occupational Health	3
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6120	Current Topics in Agriculture and Rural Health (taken three times for 1 s.h. each)	3
OEH:6710	Human Toxicology and Risk Assessment	3
OEH:7040	Preceptorship in Occupational and Environmental Health	1
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3

### Electives

Credit earned in elective coursework and the thesis completes the 42 s.h. required for the degree. Students work with their advisor to select courses appropriate for their professional goals.

### Recommended Elective Courses

This is a recommended list of elective coursework; however, any occupational and environmental health course (prefix OEH) may be taken as an elective.

Code	Title	Hours
OEH:4260	Global Water and Health	3
OEH:4310	Occupational Ergonomics: Principles	3
OEH:4510	Injury and Violence Prevention	3

OEH:6420	Methods in Exposure Science	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Radiation Hazards	1
OEH:6433	Assessing Ionizing Radiation Hazards	1
OEH:6440	Control of Occupational Hazards	3
OEH:6520	Injury Epidemiology	3
OEH:6720	Advanced Toxicology	4
CPH:4200	Agriculture, Food Systems, and Sustainability	3

### Approved Elective Courses From Other Departments

Courses not on this list may be used as elective credit with advisor approval.

Code	Title	Hours
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CBH:5235	Community-Based Participatory Research	3
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6220	Health Communication Campaigns	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:6400	Epidemiology II: Advanced Methods	4
ISE:3400	Human Factors	3

### Thesis

A thesis is required. Students may earn a maximum of 4 s.h. for the thesis.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.

## M.S. with Industrial Hygiene Subprogram

The program prepares students for careers in industrial hygiene as well as the broad field of occupational and environmental health. Career opportunities are available in health and safety departments of industries; in consulting firms; in academic institutions; and in local, state, and federal public health agencies.

Students choose either the thesis (research option) or nonthesis (internship option). Those that select the thesis option conduct a research project and write a thesis. Those that select the nonthesis option complete an internship.

The Master of Science with a major in occupational and environmental health with an industrial hygiene subprogram requires a minimum of 43 s.h. and includes the following coursework.

## Required Courses

Code	Title	Hours
All of these (22 s.h.):		
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5620	Occupational Health	3
OEH:6420	Methods in Exposure Science	3
OEH:6440	Control of Occupational Hazards	3
OEH:6710	Human Toxicology and Risk Assessment	3
BIOS:4120	Introduction to Biostatistics	3
CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3
At least 12 s.h. from these:		
OEH:4240	Global Environmental Health	3
OEH:4310	Occupational Ergonomics: Principles	3
OEH:4510	Injury and Violence Prevention	3
OEH:5410	Occupational Safety	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Radiation Hazards	1
OEH:6433	Assessing Ionizing Radiation Hazards	1
OEH:6450	Aerosol Technology	3
OEH:6520	Injury Epidemiology	3

## Thesis or Nonthesis Option

### Thesis (Research Option)

#### Research Project and Thesis

Completion of a research project and thesis is required. A maximum of 6 s.h. is allowed for thesis credit in OEH:7000.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.

### Electives

Thesis option students complete additional elective coursework to earn at least 43 s.h. required for the major. Students work with their advisor to select courses most appropriate for their professional goals.

### Nonthesis (Internship Option)

#### Internship and Internship Report

Completion of an internship and an internship report is required. A maximum of 3 s.h. is allowed for internship credit in OEH:7050. Students are required to complete a minimum 150-hour internship.

Code	Title	Hours
OEH:7050	Occupational and Environmental Health Internship	0,3

## Electives

Nonthesis option students complete additional elective coursework to earn at least 43 s.h. required for the major. Students work with their advisor to select courses most appropriate for their professional goals.

## Combined Programs

### M.S./M.S. in Urban and Regional Planning

The combined Master of Science in occupational and environmental health/Master of Science in urban and regional planning program requires 65 s.h. of graduate credit. For information about the graduate program in urban and regional planning, see the M.S. in urban and regional planning [p. 1787] (Graduate College) in the Catalog.

Separate application to each degree program is required; applicants must be admitted to both programs before they may be admitted to the combined degree program.

## Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must apply for admission to the Graduate College through the University of Iowa Office of Admissions. For detailed application information and admission requirements, visit How to Apply to Occupational and Environmental Health on the department's website.

The occupational and environmental health faculty takes several factors into consideration when evaluating applications for admission, including grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area may be admitted if all other components of their application are very strong.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

M.S. applicants must hold a bachelor's degree and have a cumulative g.p.a. of at least 3.00. Undergraduate preparation for applicants should include coursework in mathematics, biology, chemistry, and either physical sciences or engineering, depending on the applicant's chosen specialty area.

Students may enter in the fall. May 1 is the final application deadline.

## Financial Support

Most students receive financial support through traineeships, graduate research assistantships, and teaching assistantships.

Students accepted to programs with a focus on occupational health and safety, including agricultural safety and health, ergonomics, industrial hygiene, and occupational injury prevention, may receive traineeships and financial support in the form of fully paid tuition and a monthly stipend. These traineeships are offered through the Heartland Center for



Occupational Health and Safety, and are only available for U.S. citizens and U.S. permanent residents.

Students with a focus on environmental health, global health, or environmental toxicology are generally funded by graduate research assistantships or teaching assistantships.

## Career Advancement

The program prepares students for professional and academic careers in environmental and occupational health. Graduates will be qualified for a career in a range of private, public, and academic positions; consulting firms; state and federal occupational and environmental agencies; chemical and consumer products areas; pharmaceutical industries; and universities.

## Academic Plans

### Sample Plans of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Occupational and Environmental Health, M.S.

- Agricultural Safety and Health Subprogram [p. 2145]
- Industrial Hygiene Subprogram [p. 2145]

### Agricultural Safety and Health Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
42 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Maintain at least a 2.75 cumulative GPA.		
<b>Hours</b>		<b>0</b>

#### First Year

##### Fall

OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	0
OEH:4240	Global Environmental Health	3
OEH:5620	Occupational Health	3
OEH:6120	Current Topics in Agriculture and Rural Health <sup>c</sup>	1
EPID:4400	Epidemiology I: Principles	3
CPH:6100	Essentials of Public Health <sup>d</sup>	2
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>e</sup>	0

**Hours** **12**

##### Spring

OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	0
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6120	Current Topics in Agriculture and Rural Health <sup>c</sup>	1

OEH:6710	Human Toxicology and Risk Assessment	3
OEH:7010	Problems in Occupational and Environmental Health	0
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>e</sup>	1
Elective course <sup>f</sup>		3

**Hours** **11**

#### Second Year

##### Fall

OEH:7040	Preceptorship in Occupational and Environmental Health	1
BIOS:4120	Introduction to Biostatistics	3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3

**Hours** **10**

##### Spring

OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	1
OEH:5410	Occupational Safety <sup>g</sup>	3
OEH:6120	Current Topics in Agriculture and Rural Health <sup>c</sup>	1
OEH:7000	Thesis/Dissertation <sup>h</sup>	4
Exam: Thesis Oral Defense		

**Hours** **9**

**Total Hours** **42**

a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

b Complete OEH:5010 three times, twice for 0 s.h. and then once for 1 s.h.

c Complete OEH:6120 three times, each for 1 s.h.

d Course must be completed in the first semester of the program.

e Complete CPH:7270 twice, first for 0 s.h. and then for 1 s.h.

f Credit earned in elective coursework and the thesis completes the 42 s.h. required for the degree. Students work with their advisor to select courses appropriate for their professional goals.

g Typically this course is offered in spring semesters of even years only. Check MyUI for course availability since offerings are subject to change.

h Maximum of 4 s.h. allowed.

### Industrial Hygiene Subprogram

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
43 s.h. of graduate level coursework must be completed; graduate transfer credits allowed upon approval. More information is included in the General Catalog and on department website. <sup>a</sup>		
Maintain at least a 2.75 cumulative GPA.		
Students pursuing the nonthesis option are required to complete a minimum 150-hour internship.		

**Hours** **0**

**First Year****Fall**

OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	0
OEH:5620	Occupational Health	3
OEH:6420	Methods in Exposure Science	3
BIOS:4120 or EPID:4400	Introduction to Biostatistics or Epidemiology I: Principles	3
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>c</sup>	0
CPH:6100	Essentials of Public Health <sup>d</sup>	2
<b>Hours</b>		<b>11</b>

**Spring**

OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	0
OEH:6710	Human Toxicology and Risk Assessment	3
OEH:7050	Occupational and Environmental Health Internship <sup>e</sup>	0
OEH:7010	Problems in Occupational and Environmental Health	0
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>c</sup>	1
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>10</b>

**Second Year****Fall**

EPID:4400 or BIOS:4120	Epidemiology I: Principles or Introduction to Biostatistics	3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
Elective course <sup>f</sup>		3
<b>Hours</b>		<b>12</b>

**Spring**

OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	1
OEH:6440	Control of Occupational Hazards <sup>g</sup>	3
OEH:7050	Occupational and Environmental Health Internship <sup>e</sup>	3
Elective course <sup>f</sup>		3
Final Exam		
<b>Hours</b>		<b>10</b>
<b>Total Hours</b>		<b>43</b>

<sup>g</sup> Typically this course is offered in spring semesters of even years only. Check MyUI for course availability since offerings are subject to change.

<sup>a</sup> Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.

<sup>b</sup> Complete OEH:5010 three times, twice for 0 s.h. and once for 1 s.h.

<sup>c</sup> Complete CPH:7270 twice, first for 0 s.h. and then for 1 s.h.

<sup>d</sup> Course must be completed in the first semester of the program.

<sup>e</sup> Complete OEH:7050 twice, first for 0 s.h. and then for 3 s.h.

<sup>f</sup> Complete at least 12 s.h. of electives from the list of approved courses in the General Catalog, and then complete additional elective coursework to earn at least 43 s.h. required for the major. Students work with their advisor to select courses most appropriate for their professional goals.

# Occupational and Environmental Health, Ph.D.

A Ph.D. degree in occupational and environmental health (OEH) is an advanced research degree that emphasizes depth of knowledge and original research skills. The degree is designed to develop leaders in environmental and occupational health research and practice.

Students work with their faculty advisor to design a specialized curriculum of coursework and research projects in the following areas:

- agricultural safety and health
- environmental health
- environmental toxicology
- ergonomics
- industrial hygiene
- occupational injury prevention

## Learning Outcomes

Students will:

- develop a proposal for grant funding,
- use appropriate analytic methods to interpret data relevant to the field of occupational and environmental health,
- develop a plan to communicate research findings to various audiences,
- design a research study in the field of occupational and environmental health, and
- evaluate the strengths and limitations of peer-reviewed studies in the field of occupational and environmental health.

## Requirements

The Doctor of Philosophy program in occupational and environmental health requires 72 s.h. of graduate credit. All students must complete a dissertation.

The Doctor of Philosophy with a major in occupational and environmental health requires the following work.

## Required Courses

Students may use a course only once to fulfill a requirement.

Code	Title	Hours
All of these:		
OEH:4240	Global Environmental Health	3
OEH:5010	Occupational and Environmental Health Seminar	1
OEH:5620	Occupational Health	3
OEH:7060	Research Design in Occupational and Environmental Health	3
OEH:7070	Interpreting Occupational and Environmental Health Research	3
BIOS:4120	Introduction to Biostatistics	3

CPH:6100	Essentials of Public Health	2
CPH:7270	Principles of Scholarly Integrity: Public Health	1
EPID:4400	Epidemiology I: Principles	3
One of these:		
OEH:6460	Quantitative Exposure Assessment: Study Design and Evaluation	1,3
OEH:6520	Injury Epidemiology	3
At least 9 s.h. from these:		
OEH:6110	Rural Health and Agricultural Medicine	3
OEH:6420	Methods in Exposure Science	3
OEH:6431	Assessing Noise Hazards	1
OEH:6432	Assessing Nonionizing Radiation Hazards	1
OEH:6433	Assessing Ionizing Radiation Hazards	1
OEH:6440	Control of Occupational Hazards	3
OEH:6450	Aerosol Technology	3
OEH:6460	Quantitative Exposure Assessment: Study Design and Evaluation	3
OEH:6520	Injury Epidemiology	3
OEH:6710	Human Toxicology and Risk Assessment	3
OEH:6720	Advanced Toxicology	4
BIOS:5120	Regression Modeling and ANOVA in the Health Sciences	3
BIOS:5130	Applied Categorical Data Analysis	3
BIOS:6310	Introductory Longitudinal Data Analysis	3
EPID:6400	Epidemiology II: Advanced Methods	4
STAT:6516	Design of Experiments	3

## Electives

Students must earn a minimum of 18 s.h. in non-research-related courses, including classroom courses or equivalent web-based courses. Students work with their advisor to select courses appropriate for their professional goals.

## Research Credit

Students earn the remaining credit for the Ph.D. by completing any combination of the following courses or other classroom courses. All students must complete a dissertation.

Code	Title	Hours
OEH:7000	Thesis/Dissertation	arr.
OEH:7020	Independent Study in Occupational and Environmental Health	arr.

## Admission

Applicants must apply through the Schools of Public Health Application Service (SOPHAS); they also must apply for admission to the Graduate College through the University of

Iowa Office of Admissions. For detailed application information and admission requirements, visit the How to Apply to Occupational and Environmental Health on the department's website.

The occupational and environmental health faculty takes several factors into consideration when evaluating applications for admission, including grade-point averages, letters of recommendation, intent and motivation for graduate study, and research interests. Students with deficiencies in one area may be admitted if all other components of their application are very strong.

Applicants whose first language is not English must submit official test scores to verify English proficiency. Applicants can verify English proficiency by submitting official test scores from the Test of English as a Foreign Language (TOEFL), the International English Language Testing System (IELTS), or the Duolingo English Test (DET).

Ph.D. applicants must hold a bachelor's degree and have a cumulative g.p.a. of at least 3.25. Completion of a master's program before beginning Ph.D. study is recommended.

Students may enter in the fall. May 1 is the final application deadline.

## Financial Support

Most students receive financial support through traineeships, graduate research assistantships, and teaching assistantships.

Students accepted to programs with a focus on occupational health and safety, including agricultural safety and health, ergonomics, industrial hygiene, and occupational injury prevention, may receive traineeships and financial support in the form of fully paid tuition and a monthly stipend. These traineeships are offered through the Heartland Center for Occupational Health and Safety, and are only available for U.S. citizens and U.S. permanent residents.

Students with a focus on environmental health, global health, or environmental toxicology are generally funded by graduate research assistantships or teaching assistantships.

## Postdoctoral Positions

The College of Public Health's Environmental Health Sciences Training Program offers postdoctoral positions in environmental health/toxicology. Appointments are for two years with the possibility of an additional year. Applicants must be U.S. citizens or permanent residents.

## Career Advancement

The program prepares students for professional and academic careers in environmental and occupational health. Graduates will be qualified for a career in a range of private, public, and academic positions; consulting firms; state and federal occupational and environmental agencies; chemical and consumer products areas; pharmaceutical industries; and universities.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and

should be discussed with an academic advisor. For additional sample plans, see MyUI.

## Occupational and Environmental Health, Ph.D.

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
72 s.h. must be graduate level coursework; up to 33 s.h. of graduate transfer credits allowed upon approval. Required courses listed below may be waived if already taken at the graduate level. More information is included in the General Catalog and on department website. <sup>a</sup>		
Maintain at least a 3.00 cumulative GPA.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
OEH:4240	Global Environmental Health	3
OEH:5620	Occupational Health	3
OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	0
EPID:4400	Epidemiology I: Principles	3
CPH:6100	Essentials of Public Health <sup>c</sup>	2
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>d</sup>	0
<b>Hours</b>		<b>11</b>
<b>Spring</b>		
BIOS:4120	Introduction to Biostatistics	3
OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	0
OEH:7070	Interpreting Occupational and Environmental Health Research	3
CPH:7270	Principles of Scholarly Integrity: Public Health <sup>d</sup>	1
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>13</b>
<b>Second Year</b>		
<b>Any Semester</b>		
Preliminary Assessment <sup>f</sup>		
<b>Hours</b>		<b>0</b>
<b>Fall</b>		
OEH:6460	Quantitative Exposure Assessment: Study Design and Evaluation <sup>g</sup>	3
Required Selective course <sup>h</sup>		3
Required Selective course <sup>h</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>12</b>
<b>Spring</b>		
OEH:5010	Occupational and Environmental Health Seminar <sup>b</sup>	1
OEH:7060	Research Design in Occupational and Environmental Health	3
Required Selective course <sup>h</sup>		3
Elective course <sup>e</sup>		3
Elective course <sup>e</sup>		3
<b>Hours</b>		<b>13</b>

**Third Year****Any Semester**Proposal Review <sup>i</sup>Comprehensive Exam <sup>j</sup>

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**Hours** **0****Fall**Elective course <sup>e</sup> 3OEH:7000 Thesis/Dissertation <sup>k</sup> 9

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**Hours** **12****Spring**OEH:7000 Thesis/Dissertation <sup>k</sup> 9

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**Hours** **9****Fourth Year****Fall**OEH:7000 Thesis/Dissertation <sup>k</sup> 1

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**Hours** **1****Spring**OEH:7000 Thesis/Dissertation <sup>k</sup> 1Final Exam <sup>l</sup>

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**Hours** **1**

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**Total Hours** **72**

- a Students must complete specific requirements in the University of Iowa Graduate College after program admission. Refer to the Graduate College website and the Manual of Rules and Regulations for more information.
- b Complete OEH:5010 three times, twice for 0 s.h. and then once for 1 s.h.
- c Take during the first semester of the program; not required if student has earned an MPH degree.
- d Complete CPH:7270 twice, first for 0 s.h. and then for 1 s.h.
- e Students must earn a minimum of 18 s.h. in non-research-related courses, including classroom courses or equivalent web-based courses. Students work with their advisor to select courses appropriate for their professional goals.
- f Complete by the end of the third semester.
- g Or take OEH:6520 during second year spring semester.
- h See the General Catalog for list of approved courses; work with faculty advisor to determine appropriate graduate coursework and sequence.
- i Complete prior to semester in which the dissertation defense takes place.
- j Consists of a written and oral component; complete by the end of the fifth semester.
- k Research credits may also be earned by taking any combination of OEH:7000, OEH:7020, and additional classroom courses. Work with faculty advisor to determine appropriate coursework and sequence.
- l Dissertation defense.

# Translational and Clinical Investigation

## Head, Department of Epidemiology

- Elizabeth A. Chrischilles

**Graduate certificate:** translational and clinical investigation

**Website:** <https://www.public-health.uiowa.edu/certificate-in-translational-and-clinical-investigation/>

The Department of Epidemiology [p. 2110] and the Institute for Clinical and Translational Science (ICTS) offer the Certificate in Translational and Clinical Investigation to practicing academic clinicians who have completed doctoral training.

## Programs

### Graduate Program of Study

#### Certificate

- Certificate in Translational and Clinical Investigation [p. 2151]

# Translational and Clinical Investigation, Graduate Certificate

## Requirements

The graduate Certificate in Translational and Clinical Investigation requires 17 s.h. of graduate credit and may be completed in one year. Certificate requirements include didactic coursework, clinical research preceptorships, and clinical research seminar participation.

The Department of Epidemiology [p. 2110] and the Institute for Clinical and Translational Science (ICTS) offer the certificate for clinicians who seek advanced training in clinical methodology and applied patient-oriented research skills. The certificate program is open to individuals who hold a doctoral-level degree in a clinical discipline (e.g., M.D., D.O., D.D.S., Ph.D., Pharm.D., D.V.M.), are practicing academic clinicians, and are admitted as graduate students to the College of Public Health or are enrolled in a basic or health science doctoral program at the University of Iowa. Other admission requirements are similar to those for the M.S. program in epidemiology.

The Certificate in Translational and Clinical Investigation requires the following work.

## Required Courses

Code	Title	Hours
All of these:		
BIOS:4120	Introduction to Biostatistics	3
EPID:4400	Epidemiology I: Principles	3
EPID:5500	Introduction to Clinical Epidemiology	3
EPID:6950	Clinical Research Ethics	2

## Electives

Code	Title	Hours
6 s.h. from these:		
BIOS:6210/ IGPI:6210	Applied Survival Analysis	3
BIOS:6310/ IGPI:6310/ STAT:6550	Introductory Longitudinal Data Analysis	3
BIOS:6610/ IGPI:6610	Statistical Methods in Clinical Trials	3
BIOS:7600/ IGPI:7600	Advanced Biostatistics Seminar	0-3
CBH:5235	Community-Based Participatory Research	3
CBH:5305	Evaluation: Approaches and Applications	3
CBH:6205	Designing and Implementing Interventions	3
DPH:6004	Principles of Oral Epidemiology	0-3
EPID:4990	Practicing Evidence-Based Public Health	3

EPID:5200/ IGPI:5220	Principles of Public Health Informatics	3
EPID:5214	Meta-Analysis of Epidemiologic Studies	3
EPID:5241	Statistical Methods in Epidemiology	4
EPID:5560	Introduction to Molecular Epidemiology	3
EPID:5610	Intermediate Epidemiology Data Analysis with SAS and R	3
EPID:5570	Zoonotic Diseases	3
EPID:5600	Introduction to Epidemiology Data Management and Analysis	3
EPID:6000	Independent Study in Epidemiology	arr.
EPID:6100	Writing a Grant Proposal	3
EPID:6150	Writing for Medical Journals	1
EPID:6250	Genetics and Epidemiology	3
EPID:6330	Global Nutrition Policy	2-3
EPID:6350	Nutritional Epidemiology	2
EPID:6360	Nutrition Intervention in Clinical Trials Research	2
EPID:6370	Nutrition Intervention in Research Lab	3
EPID:6400	Epidemiology II: Advanced Methods	4
EPID:6510/ OEH:6520	Injury Epidemiology	3
EPID:6550/ GHS:6550	Epidemiology of Infectious Diseases	3
EPID:6560	Hospital Epidemiology	2
EPID:6600	Epidemiology of Chronic Diseases	3
EPID:6900	Design of Intervention and Clinical Trials	3
EPID:6910	Pharmacoepidemiology and Comparative Effectiveness Research	3
EPID:6950	Clinical Research Ethics	2
EPLS:5165/ PSQF:5165	Introduction to Program and Project Evaluation	3
GEOG:3110/ GHS:3111	Geography of Health	3
HMP:5315	Health Information Systems	2-3
HMP:5370/ IGPI:5200/ISE:5860/ MED:5300/ SLIS:5900	Health Informatics	3
HMP:5410	Health Economics I	3
HMP:7550	Cost Effectiveness and Decision Analysis	3
HMP:7960	Analytic Issues in Health Services Research I	3
HMP:7965/ PHAR:7331	Analytic Issues in Health Services Research II	3
PCOL:5136	Pharmacogenetics and Pharmacogenomics	1
PHAR:5310	Health Services Research Seminar	1-2

PHAR:5350	Introduction to Research Methods	3
PHAR:6305	Foundation Literature in Health Services Research	arr.
TBM:5001	Introduction to Translational Biomedicine	3



# University College

## Dean

- Tanya M. Uden-Holman

## Associate Deans

- Andrew Beckett, Anne W. Zalenski

**Website:** <https://uc.uiowa.edu>

University College (UC) is home to a wide range of programs for University of Iowa students and precollege students. An overview of the many programs that are housed in University College is provided below.

## Undergraduate Degrees

Two online degree programs, the Bachelor of Applied Studies [p. 2158] (B.A.S.) and the Bachelor of Liberal Studies [p. 2161] (B.L.S.), are administered through University College. Both programs enable students to complete a bachelor's degree through Distance and Online Education [p. 2181]. The B.A.S., designed for graduates of community college technical programs, provides alternatives to traditional academic majors, permitting students to plan their own emphasis areas in consultation with their advisors. The B.L.S. is an interdisciplinary undergraduate degree program without a traditional academic major; students work with their advisors to plan study programs that meet their individual objectives.

## Undergraduate Certificates, Minors, Training, and Coursework

The college offers undergraduate Certificates in Clinical and Translational Science [p. 2175], Leadership Studies [p. 2187], Nonprofit Leadership and Philanthropy [p. 2198], and Sustainability [p. 2225]. University College also is home to many undergraduate research opportunities in the science, technology, engineering, and mathematics (STEM) fields as well as in microbiology and medical scientist training.

An affiliated program, Lifetime Leisure Skills [p. 2192]—offers a broad range of sports and fitness activities, while the Reserve Officer Training Corps programs, Aerospace Studies (Air Force ROTC) [p. 2155] and Military Science (Army ROTC) [p. 2195] prepare undergraduate students for commissions as officers and offer minors. An undergraduate minor is offered in Urban Studies [p. 2240] that allows students to understand and address urban issues. Public Policy [p. 2201] offers a minor so that students are able to analyze public policies and the process of policymaking. In addition, there are major college-level programs such as the University of Iowa Honors Program [p. 2233], Study Abroad, [p. 2205] and Career Center Programs [p. 2171].

Students from the University of Iowa, Iowa State University, and the University of Northern Iowa may take courses at Iowa Lakeside Laboratory [p. 2184], and Summer Research Experiences for Undergraduates [p. 2224] develops research skills in students led by UI faculty members.

University College offers courses in several K-12 programs as well: the Belin-Blank Center for Gifted Education [p. 2169], the Center for [p. 2174] Inclusive Academic Excellence, the Secondary Student Training Program [p. 2204], and University of Iowa Upward Bound [p. 2239].

## Student Success and Outreach

**Associate Dean:** Andrew Beckett

Many University College programs serve the entire undergraduate population (particularly first-year students) and are designed to smooth entering students' transition to college life. Students begin their connection to the University College when they take their first online course, CSI:1600 Success at Iowa, at around the same time they attend Orientation. When they arrive on campus, they experience campus life for the first time with the On Iowa! program.

Other programs that promote success include Excelling@Iowa, Hawkeye Talent Initiative [p. 2182], Tutor Iowa, and the Academic Resource Center (ARC). These direct service programs support students when they need support in their college career.

## Academic Support and Retention

**Director:** Mirra L. Anson

**Website:** <https://uc.uiowa.edu/student-success>

## On Iowa!

**Website:** <https://oniowa.uiowa.edu/>

## Orientation

**Director:** Tina M. Arthur

**Website:** <https://newstudents.uiowa.edu/orientation>

## Success at Iowa

**Coordinator:** Suzette Blanchard

**Website:** <https://newstudents.uiowa.edu/success-iowa-online-course>

## Distance and Online Education

**Associate Dean:** Anne W. Zalenski

**Website:** <https://distance.uiowa.edu>

Distance and Online Education [p. 2181] combines leading-edge technology and support with nationally recognized faculty to provide the best educational experience possible—online and on location. In partnership with University of Iowa colleges and departments, online and on location coursework provides degree and certificate opportunities for students looking to complete their degree from a highly ranked public institution. Courses offered through University College are taught by University of Iowa faculty and staff members.

## Programs

### College-Level Degree Programs

- Bachelor of Applied Studies [p. 2158]
- Bachelor of Liberal Studies [p. 2161]

### College-Level Certificate Programs

- Clinical and Translational Science [p. 2175]
- Leadership Studies [p. 2187]
- Nonprofit Leadership and Philanthropy [p. 2198]
- Sustainability [p. 2225]

## Other College-Level Programs

- Aerospace Studies (Air Force ROTC) [p. 2155]
- Career Center Programs [p. 2171]
- College Success Initiatives [p. 2178]
- Hawkeye Talent Initiative [p. 2182]
- Intercollegiate Athletic Participation [p. 2183]
- Iowa Lakeside Laboratory [p. 2184]
- Lifetime Leisure Skills [p. 2192]
- Military Science (Army ROTC) [p. 2195]
- Public Policy [p. 2201]
- Study Abroad [p. 2205]
- Summer Research Experiences for Undergraduates [p. 2224]
- Undergraduate Research Experiences [p. 2230]
- University Libraries [p. 2232]
- University of Iowa Honors Program [p. 2233]
- Urban Studies [p. 2240]

## Precollege Programs

- Belin-Blank Center for Gifted Education [p. 2169]
- Center for Inclusive Academic Excellence [p. 2174]
- Secondary Student Training Program [p. 2204]
- University of Iowa Upward Bound [p. 2239]

# Aerospace Studies (Air Force ROTC)

## Director

- Lt Col Matthew E. Youmans

**Undergraduate minor:** aerospace studies

**Website:** <https://veterans.uiowa.edu/air-force-rotc>

The Aerospace Studies Program administers the Air Force Reserve Officer Training Corps (AFROTC) at the University of Iowa. AFROTC prepares highly qualified undergraduate students for commissions as officers in the United States Air Force.

While AFROTC is structured primarily for students pursuing active-duty Air Force commissions, any undergraduate or graduate student may take aerospace studies courses for academic credit, with the exception of the leadership laboratories. The amount of credit that may be applied toward a degree varies from college to college at the University of Iowa. The College of Liberal Arts and Sciences, for example, accepts a maximum of 20 s.h. of aerospace studies credit. Additionally, any undergraduate student may apply the courses toward the minor in aerospace studies.

In order to receive a commission, AFROTC cadets must satisfactorily complete all University of Iowa degree requirements as well as courses specified by the U.S. Air Force.

## Undergraduate and Graduate Programs

AFROTC offers programs lasting two, three, or four years. Joining early gives students the opportunity to try AFROTC without obligation. It also can give them an advantage in the scholarship selection process.

The AFROTC program's three main components are the general military course (GMC), the professional officer course (POC), and the Field Training (FT) program.

### General Military Course

The general military course (GMC) consists of one AFROTC course (1 s.h.) and a leadership laboratory taken each semester for two years. Any student who meets AFROTC qualifications and is in good academic standing is eligible to participate in the GMC. Students normally apply for the GMC up to the time they earn 60 s.h. Students who have earned more than 60 s.h. may enroll in the GMC if they are willing to extend their academic plan by a semester or more.

### Professional Officer Course

The professional officer course (POC) consists of one AFROTC course (3 s.h.) and a leadership laboratory taken each semester for two years. Students accepted into the POC make a commitment to serve a minimum of four years as U.S. Air Force officers. To enter the POC, students must be selected to attend and must successfully complete field training. Students generally take the POC during their last 60 s.h.

### Field Training

All POC applicants must successfully complete Field Training (FT) at a U.S. Air Force base. Selection to attend FT is competitive; if selected to attend, students experience

an intensive, two-week program generally completed the summer after the sophomore year. It provides a first-hand look at the active duty Air Force and develops military leadership and discipline. Students participate in junior officer education, marksmanship, hand-to-hand combat training, physical fitness training, and expeditionary skills training in a simulated environment. After completing FT, cadets are ready to return to school and assume leadership positions in the AFROTC program.

## Activities

Students have the option to compete for acceptance to a variety of optional AFROTC summer training programs. If selected, a student may return to Field Training as a cadet training assistant (CTA), travel to another country for a cultural immersion program, or compete for other Air Force immersion programs as available. The Air Force provides transportation, meals, lodging, and a daily expense allowance for all summer programs.

The AFROTC cadet corps also sponsors community service projects, intramural athletics, and social events, including formal and informal dinners.

## Educational Delay

Cadets may request an educational delay to postpone entry to active duty until after completion of an advanced degree or professional training program. Selection for an educational delay is highly competitive.

## Financial Aid

Merit scholarships are available on a competitive basis for two and three years of study. They provide varying awards for tuition and fees, a stipend for books, and a monthly tax-free subsistence allowance. Applicants are selected based on objective and subjective factors. Students should apply to the director of the Aerospace Studies Program.

Nonscholarship cadets in the professional officer course receive some financial assistance. Junior-level cadets receive a \$450 tax-free subsistence allowance per month and senior-level cadets receive a \$500 tax-free subsistence allowance per month.

All uniforms and required AFROTC textbooks are furnished free of charge.

## Programs

### Undergraduate Program of Study Minor

- Minor in Aerospace Studies [p. 2157]

## Courses

### Aerospace Studies Courses

**AERO:1100 Air Force Heritage and Values I** **1 s.h.**

Introduction to the United States Air Force and Air Force Reserve Officer Training Corps (AFROTC); featured topics include structure of the U.S. Air Force, the Air Force's capabilities, career opportunities, benefits, Air Force installations, core values, leadership, teambuilding, and communication skills. Requirements: first-year or sophomore standing.

**AERO:1119 Crosstown Air Force Mentoring 0 s.h.**  
Mentoring opportunity from an Air Force Officer as needed to provide guidance on the Air Force way of life; for crosstown enrolled Air Force ROTC students. Requirements: crosstown enrollment as AFROTC cadet.

**AERO:1150 AFROTC Leadership Laboratory (LLAB) AS 100-FA 1 s.h.**  
A progression of experiences designed to develop leadership ability; military customs and courtesies, drill and ceremonies, military professional development, the life and work of a junior officer; leadership skills in a practical, supervised military lab setting. Offered fall semesters. Corequisites: AERO:1100. Requirements: first-year or sophomore standing.

**AERO:1159 Crosstown Air Force Lab 0 s.h.**  
A progression of experiences designed to develop leadership ability; military customs and courtesies, drill and ceremonies, and military professional development. Requirements: crosstown enrollment as AFROTC cadet.

**AERO:1200 Air Force Heritage and Values II 1 s.h.**  
Introduction to the United States Air Force (USAF) and Air Force Reserve Officer Training Corps (AFROTC); featured topics include evolution of the U.S. Air Force/Air Force history, principles of war/tenets of air power, what the Air Force brings to the joint fight, Department of the Air Force, and Air Force major commands; leadership concepts including ethical decision making, communication, and professional speaking opportunities. Requirements: first-year or sophomore standing.

**AERO:1250 AFROTC Leadership Laboratory (LLAB) AS 100-SP 1 s.h.**  
A progression of experiences designed to develop leadership ability; military customs and courtesies, drill and ceremonies, military professional development, the life and work of a junior officer; leadership skills in a practical, supervised military lab setting. Offered spring semesters. Corequisites: AERO:1200. Requirements: first-year or sophomore standing.

**AERO:2100 Team and Leadership Fundamentals I 1 s.h.**  
Foundation for leadership and team building; concepts applied in team-building activities and class discussion, including demonstration of basic verbal and written communication; featured topics include listening, followership, and problem solving efficiently.

**AERO:2150 AFROTC Leadership Laboratory (LLAB) AS 200-FA 1 s.h.**  
See AERO:1150. Offered fall semesters. Corequisites: AERO:2100.

**AERO:2200 Team and Leadership Fundamentals II 1 s.h.**  
Foundation for leadership and team building; concepts applied in team building activities and class discussion, including demonstration of basic verbal and written communication; featured topics include conflict management, comprehensive airman fitness, and a leadership capstone.

**AERO:2250 AFROTC Leadership Laboratory (LLAB) AS 200-SP 1 s.h.**  
See AERO:1150. Offered spring semesters. Corequisites: AERO:2200.

**AERO:3100 Leadership Studies: Leading People and Effective Communication I 3 s.h.**  
Builds on leadership fundamentals taught in AERO:2100 and AERO:2200; students study leadership and leadership skills to use in their future Air Force environment; profession of arms, communications skills, and ethics; case studies used to examine Air Force leadership situations and demonstrate and exercise practical application of the concepts studied. Requirements: junior or higher standing.

**AERO:3150 AFROTC Leadership Laboratory (LLAB) AS 300-FA 1 s.h.**  
See AERO:1150. Offered fall semesters. Corequisites: AERO:3100.

**AERO:3200 Leadership Studies: Leading People and Effective Communication II 3 s.h.**  
Leadership and leadership skills used in the Air Force environment; continued study of the profession of arms, communication skills, and ethics taught in AERO:3100; creating a vision, mentoring, and other leadership fundamentals; students continue to hone their reading, writing, and speaking skills via several communication studies applications; case studies used to examine Air Force leadership situations, and to demonstrate and exercise practical application of the concepts studied; goal is to instill a more in-depth understanding of how to effectively lead people and organizations. Requirements: junior or higher standing.

**AERO:3250 AFROTC Leadership Laboratory (LLAB) AS 300-SP 1 s.h.**  
See AERO:1150. Offered spring semesters. Corequisites: AERO:3200.

**AERO:4100 National Security/Leadership Responsibilities and Commissioning Preparation I 3 s.h.**  
Introduction to the national security process, regional studies, advanced leadership ethics, and Air Force doctrine; focus specifically on current Air Force organization, leadership, and practical knowledge needed for a student's future as an Air Force officer; students improve oral and written communication skills and delve into military professionalism and ethics. Requirements: junior or higher standing.

**AERO:4150 AFROTC Leadership Laboratory (LLAB) AS 400-FA 1 s.h.**  
See AERO:1150. Offered fall semesters. Corequisites: AERO:4100.

**AERO:4200 National Security/Leadership Responsibilities and Commissioning Preparation II 3 s.h.**  
Continuation of AERO:4100 which introduced the national security process, regional studies, advanced leadership ethics, and Air Force doctrine; students expand their knowledge to comprehend the responsibility, authority, and functions of an Air Force commander and selected provisions of the military justice system; designed to prepare cadets for life as a second lieutenant; students continue to improve oral and written communication skills. Requirements: junior or higher standing.

**AERO:4250 AFROTC Leadership Laboratory (LLAB) AS 400-SP 1 s.h.**  
See AERO:1150. Offered spring semesters. Corequisites: AERO:4200.

# Aerospace Studies, Minor

## Requirements

The undergraduate minor in aerospace studies requires a minimum of 16 s.h. in aerospace studies program courses. Students must maintain a g.p.a. of at least 2.50 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. In order to count transfer coursework taken at other institutions toward the minor, students must have approval from the director of the Aerospace Studies Program.

The minor in aerospace studies requires the following coursework.

Code	Title	Hours
AERO:1100	Air Force Heritage and Values I	1
AERO:1200	Air Force Heritage and Values II	1
AERO:2100	Team and Leadership Fundamentals I	1
AERO:2200	Team and Leadership Fundamentals II	1
AERO:3100	Leadership Studies: Leading People and Effective Communication I	3
AERO:3200	Leadership Studies: Leading People and Effective Communication II	3
AERO:4100	National Security/Leadership Responsibilities and Commissioning Preparation I	3
AERO:4200	National Security/Leadership Responsibilities and Commissioning Preparation II	3
<b>Total Hours</b>		<b>16</b>

# Bachelor of Applied Studies

## Associate Dean

- Anne W. Zalenski

## Program Director

- Dawn Freerks

**Undergraduate major:** B.A.S.

**Website:** <https://basbls.uc.uiowa.edu/degrees/bas>

The Bachelor of Applied Studies (B.A.S.) is designed for graduates of community colleges who wish to complete a bachelor's degree by distance education. The degree may be completed completely online or through a combination of on-site and online coursework. Students may earn credit toward the degree with a selection of several types of courses, including semester-based online courses, on-site courses at off-campus locations throughout Iowa, and regular session on-campus courses.

The B.A.S. is a general undergraduate degree without a traditional academic major. Students can design an individual program or select from four optional emphasis areas: creative writing, human relations, justice studies, and political science. B.A.S. students may complete multiple emphasis areas and earn undergraduate certificates offered by the University of Iowa. They may not earn minors or enroll in a second college at the University of Iowa while completing the B.A.S. degree.

Working with their academic advisors, B.A.S. students may plan programs designed to advance their careers, begin new careers, or prepare for graduate or professional study. Students who have specific career goals or advanced degree programs in mind should determine what educational background they will need in order to achieve their goals, and they should include appropriate coursework in their B.A.S. programs.

The B.A.S. is awarded by University College [p. 2153] and is administered by Distance and Online Education [p. 2181].

## Programs

## Undergraduate Program of Study Major

- Bachelor of Applied Studies [p. 2159]

# Bachelor of Applied Studies, B.A.S.

## Requirements

The Bachelor of Applied Studies requires a minimum of 120 s.h. and is intended to be completed entirely by distance education. Students must maintain a cumulative g.p.a. of 2.00 or higher in all coursework attempted, all coursework taken at the University of Iowa, and all upper-level coursework.

After admission to the University of Iowa, one of the following residence requirements must be met—at least 90 s.h. completed at the University of Iowa, or 45 of the final 60 s.h. completed at the University of Iowa, or the final 30 s.h. completed at the University of Iowa.

Students must earn at least 60 s.h. of the minimum 120 s.h. required for the degree at four-year colleges, including 45 s.h. in upper-level coursework. University of Iowa upper-level courses are numbered from 3000 to 4999. Some courses numbered below 3000 may be considered upper level for the B.A.S.; for details, see B.A.S. Upper-level Coursework on the Bachelor of Applied Studies website.

B.A.S. students who earn the creative writing emphasis may not earn the Certificate in Writing.

Students also must complete the following core requirements and a set of distribution areas; see B.A.S. Core Requirements and Distribution Areas on the Bachelor of Applied Studies website for more information.

## Core Requirements

- Rhetoric coursework equivalent to composition II and speech
- Quantitative or formal reasoning—3 s.h.
- Social sciences—3 s.h.
- Values, society, and diversity—3 s.h.
- Business/management—6 s.h.

## Distribution Areas

Students must complete 12 s.h. in three of the following five distribution areas (total of 36 s.h.). In each distribution area, 6 of the required 12 s.h. must be earned in upper-level courses.

- Communication and arts (e.g., journalism, communication studies, creative writing, art, music)
- Humanities (e.g., literature, history, philosophy, religion)
- Natural sciences and mathematics (e.g., mathematics, biology, statistics, computer science)
- Professional fields (e.g., business, education, nursing, social work, aging and longevity studies)
- Social sciences (e.g., sociology, psychology, economics, political science, anthropology)

All University College policies regarding grading, course drops, withdrawals, academic standards, and so forth apply to B.A.S. students. For more information, see Taking University College Courses on the University College website.

## Optional Emphasis Area

Students may include an emphasis area in their B.A.S. program.

## Creative Writing Emphasis Area

The creative writing emphasis area requires 18 s.h. It provides students with an understanding of the multiple facets of written communication. The emphasis area requires the following coursework.

Code	Title	Hours
All of these:		
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CW:2100	Creative Writing	3
CW:4897	Novel Writing	3
At least three of these:		
CINE:1150	Introduction to Screenwriting for Nonmajors	3
CNW:1620	Introduction to Creative Nonfiction	3
CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3
CW:3005/ INTD:3005/ WRIT:3005	Professional and Creative Business Communication	3
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3
CW:4760/ WRIT:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3
WRIT:1500	Writing Commons: A Community of Writers	3

For additional details about the emphasis area and related careers, see Creative Writing Emphasis Area on the Bachelor of Applied Studies website.

## Human Relations Emphasis Area

The human relations emphasis area requires 18 s.h. It focuses on human development, personality theory, interpersonal and group communication, multiculturalism, professional ethics, and the development of helping skills. The emphasis area requires the following coursework.

Code	Title	Hours
All of these:		
CSED:4194	Interpersonal Effectiveness	3
CSED:4197	Citizenship in a Multicultural Society	3
CSED:4199	Counseling for Related Professions	3
At least three of these:		
CSED:4131	Loss, Death, and Bereavement	3
CSED:4162/ PSQF:4162	Introduction to Couple and Family Therapy	3
CSED:4174	Positive Psychology	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSED:4178	Microcounseling	3
CSED:4179	Sexuality Within the Helping Professions	3
CSED:4185	Introduction to Substance Abuse	3

CSED:4195	Ethics in Human Relations and Counseling	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3

For additional details about the emphasis area and related careers, see Human Relations Emphasis Area on the Bachelor of Applied Studies website.

## Justice Studies Emphasis Area

The justice studies emphasis area requires 18 s.h. It is a good choice for students who hold associate degrees in disciplines such as community service, corrections, criminal justice, law enforcement, police science, or public safety. The emphasis area requires the following coursework.

Code	Title	Hours
Two of these:		
CRIM:1410	Introduction to Criminology	3
CSED:4197	Citizenship in a Multicultural Society	3
POLI:3111	American Public Policy	3
SOC:1022/ SSW:1022	Social Justice and Social Welfare in the United States	3
SOC:1030	Contemporary Social Problems	3-4
SOC:4225	The Social Psychology of Leadership	3

At least four of these:

CRIM:4410	Treatment Interventions in Corrections	3
CRIM:4420	Criminal Punishment	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSED:4185	Introduction to Substance Abuse	3
CSED:4194	Interpersonal Effectiveness	3
HRTS:2115/IS:2115	Introduction to Human Rights	3
MGMT:2000	Introduction to Law	3
POLI:3503	Politics of Terrorism	3
SOC:2810	Social Inequality	3
SSW:3797	Child Welfare Policy and Practice	3
SSW:4100	Social Work in the Criminal Justice System	3

For additional details about the emphasis area and related careers, see Justice Studies Emphasis Area on the Bachelor of Applied Studies website.

## Political Science Emphasis Area

The political science emphasis area requires 18 s.h. It focuses on the political role of the United States in shaping social and public policy worldwide and on the interplay between foreign and domestic politics. The emphasis area requires the following coursework.

Code	Title	Hours
Two of these:		
POLI:1100	Introduction to American Politics	3
POLI:1200	Introduction to Political Behavior	3

POLI:1400	Introduction to Comparative Politics	3
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POLI:1500	Introduction to International Relations	3
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POLI:1501	Introduction to American Foreign Policy	3
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At least four of these:

POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3110	Local Politics	3
POLI:3111	American Public Policy	3
POLI:3116	The Presidency	3
POLI:3202	Political Psychology	3
POLI:3203	Campaigns, Elections, and Voting Behavior	3

POLI:3405	Authoritarian Politics	3
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POLI:3503	Politics of Terrorism	3
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POLI:3506	Consequences of War	3
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POLI:3519/ ASP:3519	Politics of Aging	3
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For additional details about the emphasis area and related careers, see Political Science Emphasis Area on the Bachelor of Applied Studies website.

## Admission

Individuals who wish to earn a B.A.S. must apply for admission to the program by completing an application through the Office of Admissions. Additional information on the B.A.S. program may be found on the Bachelor of Applied Studies website.

Applicants to the B.A.S. program must have earned an associate degree from a regionally accredited institution. They must have a minimum of 60 s.h. of approved transfer credit, which includes career-technical credit.

Students who have an A.A. degree from a two-year institution participating in articulation agreements with the University of Iowa are considered to have satisfied the B.A.S. core requirements, except for the business/management courses. Additional information on articulation agreements can be found on the Office of Admissions website.

Applicants who graduated from an Iowa community college or Waldorf College must have a cumulative g.p.a. of at least 2.00; those who graduated from Black Hawk College in Illinois must have a cumulative g.p.a. of at least 2.25; those who graduated from other institutions outside Iowa must have a cumulative g.p.a. of at least 2.50.



# Bachelor of Liberal Studies

## Associate Dean

- Anne W. Zalenski

## Program Director

- Dawn Freerks

**Undergraduate majors:** B.L.S.; professional studies (B.L.S.)

**Website:** <https://basbls.uc.uiowa.edu/degrees/bls>

The Bachelor of Liberal Studies (B.L.S.) is designed for students who have earned college credit at a regionally accredited institution and would like to complete a bachelor's degree by distance education. The degree may be completed completely online or through a combination of on-site and online coursework. Students may earn credit toward the degree with a selection of several types of courses, including semester-based online courses, extension courses at sites throughout Iowa, and regular session on-campus courses.

The B.L.S. emphasizes workplace and leadership skills. Students must select at least one track from the following six options: expression in writing and arts; family, community, and social support; global studies; health and human studies; justice and ethics; and organizational studies. B.L.S. students may complete multiple tracks and earn undergraduate certificates offered by the University of Iowa. They may not earn minors or enroll in a second college at the University of Iowa while completing the B.L.S. degree.

The B.L.S. is awarded by University College and is administered by Distance and Online Education [p. 2181].

## Programs

## Undergraduate Programs of Study

### Majors

- Bachelor of Liberal Studies [p. 2162]
- Major in Professional Studies (Bachelor of Liberal Studies) [p. 2168]

# Bachelor of Liberal Studies, B.L.S.

## Requirements

The Bachelor of Liberal Studies (B.L.S.) requires a minimum of 120 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in all coursework for the degree, all University of Iowa coursework, and all coursework for the B.L.S. track.

After admission to the University of Iowa, one of the following residence requirements must be met—at least 90 s.h. completed at the University of Iowa, or 45 of the final 60 s.h. completed at the University of Iowa, or the final 30 s.h. completed at the University of Iowa.

Students must earn at least 60 s.h. of the minimum 120 s.h. required for the degree at four-year colleges, including 30 s.h. in upper-level coursework. University of Iowa upper-level courses are numbered from 3000 to 4999.

B.L.S. students must complete a required set of common core courses and a B.L.S. track, as part of the total number of semester hours required for the degree. Students select at least one track from six options: expression in writing and arts; family, community, and social support; global studies; health and human studies; justice and ethics; and organizational studies. Students may complete more than one track.

All University College policies regarding grading, course drops, withdrawals, academic standards, and so forth apply to B.L.S. students. For more information, see the For Students section on the University College website.

The following coursework is required for all B.L.S. students.

## B.L.S. Common Core

Common core courses develop fundamental skills in writing, critical thinking, information literacy, and leadership and give students the opportunity to explore ideas from multiple perspectives.

Some courses in the common core are part of the College of Liberal Arts and Sciences (CLAS) General Education Program Two, as indicated below. Students should contact the B.L.S. advisor for information about additional courses that will fulfill their common core requirements.

## Rhetoric

Rhetoric courses help students develop speaking, writing, listening, and critical reading skills. Courses approved for the Rhetoric area of the CLAS General Education Program satisfy the B.L.S. Rhetoric requirement.

Code	Title	Hours
RHET:1030	Rhetoric	4-5

Students who have transfer credit in composition, speech, and argumentation may instead be held to one of the following.

Code	Title	Hours
RHET:1040	Writing and Reading	3
RHET:1060	Speaking and Reading	3

Students should contact a B.L.S. advisor about which rhetoric course they may need to fulfill the rhetoric requirement.

See Rhetoric courses offered by distance education on the MyUI website.

## Interpretation of Literature

This area, which focuses on the major genres of literature, improves students' abilities to read and analyze a variety of texts. Students must complete one approved course (3 s.h.) in this area. They may use any 3 s.h. course approved for the Interpretation of Literature area of the CLAS General Education Program Two.

See Interpretation of Literature courses offered by distance education on the MyUI website.

## Natural Sciences

Natural sciences courses explore the scope and major concepts of a scientific discipline. Students must complete one approved course (3 s.h.) in this area. They may use any 3 s.h. course approved for the Natural Sciences area of the CLAS General Education Program Two.

See Natural Sciences courses offered by distance education on the MyUI website.

## Global Perspectives

Global perspectives courses encourage students to understand issues from an international perspective. Students must complete one approved course (3 s.h.) in this area. They may use any 3 s.h. course approved for the International and Global Issues area of the CLAS General Education Program Two.

See International and Global Issues courses offered by distance education on the MyUI website.

## Domestic Diversity

Students must complete one approved course (3 s.h.) that addresses diversity and domestic perspectives on current issues. They may use any 3 s.h. course approved for the Values, Society, and Diversity area of the CLAS General Education Program Two.

See Values, Society, and Diversity courses offered by distance education on the MyUI website.

Students also may use one of these distance education courses, which are not part of the CLAS General Education Program, to satisfy the B.L.S. Domestic Diversity requirement.

Code	Title	Hours
AMST:1075	American Popular Music: Rock and Roll to 1980	3
CSED:4187/ EDTL:4987	Introduction to Assistive Technology	3
CSED:4197	Citizenship in a Multicultural Society	3
GWSS:3154	Sexuality in the United States	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	3

## Statistics

Students must complete one approved statistics course (3-4 s.h.). They may use any 3-4 s.h. course offered by the Department of Statistics and Actuarial Science (prefix STAT) except STAT:1000 First-Year Seminar.

See statistics courses (prefix STAT) offered through distance education on the MyUI website.

Students also may use any 3 s.h. course approved for the Quantitative or Formal Reasoning area of the CLAS General Education Program Two.

See Quantitative or Formal Reasoning courses offered through distance education on the MyUI website.

## Information Literacy

Students must complete one approved course (2-3 s.h.) focusing on information literacy. The following courses are offered by distance education.

Code	Title	Hours
BAIS:1500	Business Computing Essentials	2
CCP:3106	Career Computing Skills	2

Students also may use one of these courses, which are not offered by distance education, to satisfy the B.L.S. Information Literacy requirement.

Code	Title	Hours
CS:1020	Principles of Computing	3
CS:1110	Introduction to Computer Science	3

## Critical Thinking

Students must complete one approved course (3 s.h.) focusing on critical thinking. The following courses are offered by distance education.

Code	Title	Hours
PHIL:1033	The Meaning of Life	3
PHIL:1401	Matters of Life and Death	3
RELS:2260/ GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:2775	The Bible and the Holocaust	3
SRM:2065	The Experience Economy	3

Students also may use one of these courses, which are not offered by distance education, to satisfy the B.L.S. Critical Thinking requirement.

Code	Title	Hours
LING:1050	Language and Formal Reasoning	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1636	Principles of Reasoning: Argument and Debate	3

## Leadership and Career Development

Students must complete two or more approved courses (total of 6 s.h.) focusing on leadership and career development, chosen from the following list of distance education courses.

Code	Title	Hours
CCP:2001	Graduate Admissions 101	1
CCP:3102	Job Search Essentials	1-3
CCP:3104	Defining Your Career Path	2
CCP:3107	Social Media for Your Job Search	1
COMM:1818	Communication Skills for Leadership	3

COMM:1819	Organizational Leadership	3
CSED:2081	Making a Vocational-Educational Choice	2-3
CSED:4111	Building Leadership and Success at Work	3
CSED:4194	Interpersonal Effectiveness	3
CSED:4197	Citizenship in a Multicultural Society	3
CSI:1410	Life Design	2
CW:3005/ INTD:3005/ WRIT:3005	Professional and Creative Business Communication	3
ENTR:1350	Foundations in Entrepreneurship	3
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
SOC:4225	The Social Psychology of Leadership	3

## B.L.S. Tracks

B.L.S. students must complete one of the following tracks.

- Expression in Writing and Arts Track [p. 2163]
- Family, Community, and Social Support Track [p. 2164]
- Global Studies Track [p. 2165]
- Health and Human Studies Track [p. 2165]
- Justice and Ethics Track [p. 2166]
- Organizational Studies Track [p. 2167]

## Expression in Writing and Arts Track

This track embraces interconnections between literature, writing, visual arts, and creative expression. The track requires 12 s.h. of foundation coursework and 18 s.h. of upper-level coursework (courses numbered 3000 or above) offered by distance education.

### Foundation Coursework

Code	Title	Hours
12 s.h. from these offered by distance education:		
AMST:1075	American Popular Music: Rock and Roll to 1980	3
AMST:1076	Rock and Roll 1980 to the Present	3
ARTH:1030	Themes in Global Art	3
ARTH:1040	Arts of Africa	3
ARTH:1070	Asian Art and Culture	3
CINE:1150	Introduction to Screenwriting for Nonmajors	3
CLSA:1805	Legends and Heroes of Ancient Rome	1
CLSA:2016	Classical Mythology	3
CNW:1620	Introduction to Creative Nonfiction	3
COMM:1816	Business and Professional Communication	3
COMM:2048	Transforming Media: From Telegraph to Internet	3
CW:2100	Creative Writing	3
CW:2870	Fiction Writing	3
CW:2875	Poetry Writing	3

RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3
WRIT:1003/ LING:1003	English Grammar	3
WRIT:1500	Writing Commons: A Community of Writers	1-3

### Upper-Level Coursework

Code	Title	Hours
18 s.h. from these offered by distance education:		
ANTH:3275/ CLSA:3596	The Archaeology of Ancient Egypt	3
CLSA:3235/ ANTH:3276	Greek Archaeology and Ethnohistory	3
CLSA:3742/ WRIT:3742	Word Power: Building English Vocabulary	3
CLSA:3750	Medical and Technical Terminology	2
CW:3870	Advanced Fiction Writing	3
CW:3875	Advanced Poetry Writing	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3
CW:4760/ WRIT:4760	The Art of Revision: Rewriting Prose for Clarity and Impact	3
CW:4897	Novel Writing	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
EDTL:3212	Tasting Art: How the Senses Enhance Our Experience of Art	3
EDTL:3393/ ENGL:3191	Reading and Teaching Adolescent Literature	3
EDTL:4630/ MUS:4630	Psychology of Music	2-3
INTD:3005/ CW:3005/ WRIT:3005	Professional and Creative Business Communication	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3
MUSM:3100	Historic House Management and Preservation	3
MUSM:3105	Engaging Museum Audiences	3
MUSM:3120	Museum Origins	3
MUSM:3125	Museums in a Digital World	3
POLI:3603	War and Film	3
SRM:3178	Communications and Public Relations in Sports	3

### Family, Community, and Social Support Track

This track focuses on human relations effectiveness in the social service sector. It explores mechanisms for the exchange of assistance through social relationships, especially as they relate to home, school, and community improvement. The track requires 12 s.h. of foundation coursework and 18 s.h. of upper-level coursework (courses numbered 3000 or above) offered by distance education.

### Foundation Coursework

Code	Title	Hours
12 s.h. from these offered by distance education:		
AFAM:2500	Black Culture and Experience: Contemporary Issues	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
GWSS:1001	Introduction to Gender, Women's, and Sexuality Studies	3
GWSS:1310/ SOC:1310	Gender and Society	3
GWSS:2052/ RELS:2852	Women in Islam and the Middle East	3
HHP:1045	Diversity and Inclusion in Healthy Living	3
NAIS:2165/ AMST:2165/ ANTH:2165	Native Peoples of North America	3
PSQF:1075	Educational Psychology and Measurement	3
SOC:1010	Introduction to Sociology	3-4
SOC:2710	The American Family	3
RHET:2135/ SJUS:2135	Rhetorics of Diversity and Inclusion	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3

### Upper-Level Coursework

Code	Title	Hours
18 s.h. from these offered by distance education:		
CSED:4132	Introduction to Addictions and Impulse Control Disorders	3
CSED:4162/ PSQF:4162	Introduction to Couple and Family Therapy	3
CSED:4173	Trauma Across the Lifespan	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSED:4179	Sexuality Within the Helping Professions	3
CSED:4194	Interpersonal Effectiveness	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
EDTL:3114	Parent-Child Relationships	3
EDTL:4900	Foundations of Special Education	3
EDTL:4934/ PSQF:4134	Parent-Teacher Communication	1-3
EDTL:4936/ PSQF:4136	Home/School/Community Partnerships	3
EDTL:4940	Characteristics of Disabilities	3
GWSS:3154	Sexuality in the United States	3
PHIL:3920	Philosophy in Public	1-3

PSQF:3104	Multicultural Issues in Counseling and Psychology	3
SSW:3500/ ENR:3595/ MGMT:3500/ MUSM:3500/ NURS:3595/ RELS:3700	Nonprofit Organizational Effectiveness I	3
SSW:3712/ NURS:3712	Human Sexuality, Diversity, and Society	1-3
SSW:3729	Substance Use and Abuse	2-3
SSW:3797	Child Welfare Policy and Practice	3
SSW:4700	Motivational Interviewing in Diverse Application	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Global Studies Track

This track enables students to understand global issues and perspectives. The track requires 12 s.h. of foundation coursework and 18 s.h. of upper-level coursework (courses numbered 3000 or above) offered by distance education.

### Foundation Coursework

Code	Title	Hours
12 s.h. from these offered by distance education:		
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2261	Human Impacts on the Environment	3
ARTH:1040	Arts of Africa	3
ARTH:1070	Asian Art and Culture	3
CBE:2040	Environment, Energy, and Climate Change	3
CLSA:1181/ GHS:1181	Ancient Medicine	3
CLSA:1840	Roman Civilization	3
ECON:1200	Principles of Macroeconomics	4
EES:1040	Evolution and the History of Life	3-4
FREN:1006	Global Sports and National Cultures	3
HRTS:2115/IS:2115	Introduction to Human Rights	3
IS:2020	World Events Today!	3
POLI:1400	Introduction to Comparative Politics	3
POLI:1500	Introduction to International Relations	3
POLI:1501	Introduction to American Foreign Policy	3
RELS:1015	Global Religious Conflict and Diversity	3
RELS:1130/ HIST:1030	Introduction to Islamic Civilization	3
RELS:2852/ GWSS:2052	Women in Islam and the Middle East	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3-4

or STAT:1030	Statistics for Business	
World Languages General Education courses (maximum of two courses and 6 s.h.)		6

## Upper-Level Coursework

Code	Title	Hours
18 s.h. from these offered by distance education:		
ANTH:3275/ CLSA:3596	The Archaeology of Ancient Egypt	3
ANTH:3276/ CLSA:3235	Greek Archaeology and Ethnohistory	3
ANTH:3277/ CLSA:3240	Roman Archaeology	3
ANTH:3278	Archaeology of Ancient Cities	3
CSED:4194	Interpersonal Effectiveness	3
CSED:4197	Citizenship in a Multicultural Society	3
EES:3210	Principles of Paleontology	3
ENR:4460	Entrepreneurship and Global Trade	3
GHS:3050/ ASP:3135/ SSW:3135	Global Aging	3
GHS:3560	Global Garbage and Global Health	3
GHS:3850/ HHP:3850	Promoting Health Globally	3
GHS:4002	Working in Global Health	3
OEH:4240	Global Environmental Health	3
POLI:3405	Authoritarian Politics	3
POLI:3503	Politics of Terrorism	3
POLI:3505	Civil Wars	3
RELS:3855/IS:3855	Human Rights and Islam	3
SOC:3510	Medical Sociology	3
SOC:4225	The Social Psychology of Leadership	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Health and Human Studies Track

This track provides a foundation in the health sciences with a focus on social aspects of health care. It draws from courses in psychological and brain sciences and counselor education. The track requires 12 s.h. of foundation coursework and 18 s.h. of upper-level coursework (courses numbered 3000 or above) offered by distance education.

### Foundation Coursework

Code	Title	Hours
12 s.h. from these offered by distance education:		
ASP:1800/ CSD:1800/ NURS:1800/ SSW:1800/TR:1800	Aging Matters: Introduction to Gerontology	3
CLSA:1181/ GHS:1181	Ancient Medicine	3
HHP:1045	Diversity and Inclusion in Healthy Living	3
HHP:1100	Human Anatomy	3

HHP:2130	Human Development Through the Life Span	3
HHP:2200	Physical Activity and Health	3
HHP:2280	Cultural Competency in Health Promotion	3
HHP:2310	Nutrition and Health	3
MED:1100	Introduction to Health Care Professions	3
PSY:1001	Elementary Psychology	3
RELS:2260/ GHS:2260	Hard Cases in Healthcare at the Beginning of Life	3
RELS:2265/ ASP:2265/ GHS:2265	Hard Cases in Healthcare at the End of Life	3
STAT:1020/ PSQF:1020 or STAT:1030	Elementary Statistics and Inference Statistics for Business	3-4

### Upper-Level Coursework

Code	Title	Hours
18 s.h. from these offered by distance education:		
ASP:3150	Psychology of Aging	3
ASP:3160	Biology of Aging	3
ASP:3170	Health and Aging	3
BMB:3110	Biochemistry	3
CLSA:3750	Medical and Technical Terminology	2
CSED:4131	Loss, Death, and Bereavement	3
CSED:4173	Trauma Across the Lifespan	3
CSED:4174	Positive Psychology	3
CSED:4179	Sexuality Within the Helping Professions	3
CSED:4185	Introduction to Substance Abuse	3
CSED:4187/ EDTL:4987	Introduction to Assistive Technology	3
HHP:3050	Obesity: Causes, Consequences, Prevention, and Treatment	3
HHP:3105	Anatomy for Human Physiology	3
HHP:3300	Human Growth and Motor Development	3
HHP:4440	Physiology of Nutrition	3
NURS:3736	Legal Issues for Health Care Providers	3
NURS:3740/ ASP:3740/ MED:3740	End-of-Life Care for Adults and Families	3
PSY:3330	Childhood Psychopathology	3
PSY:3620	Human Memory	3
RSCI:4110	Vascular Anatomy	3
SOC:3510	Medical Sociology	3
SOC:4225	The Social Psychology of Leadership	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

### Justice and Ethics Track

This track explores ethical and moral solutions for contemporary social issues related to criminal, justice, and political systems. The track requires 12 s.h. of foundation coursework and 18 s.h. of upper-level coursework (courses numbered 3000 or above) offered by distance education.

### Foundation Coursework

Code	Title	Hours
12 s.h. from these offered by distance education:		
CRIM:1410	Introduction to Criminology	3
GHS:2260/ RELS:2260	Hard Cases in Healthcare at the Beginning of Life	3
HRTS:2115/IS:2115	Introduction to Human Rights	3
MGMT:2000	Introduction to Law	3
PHIL:1033	The Meaning of Life	3
PHIL:1401	Matters of Life and Death	3
POLI:1100	Introduction to American Politics	3
POLI:1601	Introduction to Social Media and Politics	3
POLI:1900	Introduction to the Politics of Race	3
SOC:2810	Social Inequality	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3

### Upper-Level Coursework

Code	Title	Hours
18 s.h. from these offered by distance education:		
ASP:3519/ POLI:3519	Politics of Aging	3
CRIM:3250	Drugs, Deviance, and Social Control	3
CRIM:4400	Internship in Criminal Justice and Corrections	3
CRIM:4410	Treatment Interventions in Corrections	3
CRIM:4420	Criminal Punishment	3
CSED:4176	Child Abuse: Assessment, Intervention, and Advocacy	3
CSED:4185	Introduction to Substance Abuse	3
CSED:4195	Ethics in Human Relations and Counseling	3
CSED:4197	Citizenship in a Multicultural Society	3
POLI:3100	American State Politics	3
POLI:3102	The U.S. Congress	3
POLI:3111	American Public Policy	3
POLI:3202	Political Psychology	3
POLI:3405	Authoritarian Politics	3
POLI:3503	Politics of Terrorism	3
SRM:3151	Liability in Sport and Recreation	3
SRM:3700	Ethics in Sport	3
SSW:3797	Child Welfare Policy and Practice	3

SSW:4100	Social Work in the Criminal Justice System	3
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## Organizational Studies Track

This track focuses on management skills used in business enterprises. The track requires 12 s.h. of foundation coursework and 18 s.h. of upper-level coursework (courses numbered 3000 or above) offered by distance education.

### Foundation Coursework

Code	Title	Hours
12 s.h. from these offered by distance education:		
ACCT:2100	Introduction to Financial Accounting	3
ACCT:2200	Managerial Accounting	3
BAIS:2800	Foundations of Business Analytics	3
BUS:2300	Searching for Business Information	1
COMM:1816	Business and Professional Communication	3
COMM:1819	Organizational Leadership	3
COMM:2010	Communication and Organizational Culture	3
ECON:1100	Principles of Microeconomics	4
ECON:1200	Principles of Macroeconomics	4
ENTR:2000	Entrepreneurship and Innovation	3
MGMT:2000	Introduction to Law	3
MGMT:2100	Introduction to Management	3
STAT:1020/ PSQF:1020	Elementary Statistics and Inference	3-4
or STAT:1030	Statistics for Business	

### Upper-Level Coursework

Code	Title	Hours
18 s.h. from these offered by distance education:		
BAIS:3000	Operations Management	2
BAIS:3005	Information Systems	2
CSED:4140	Foundations of Leadership for Community Agencies	3
CSED:4187/ EDTL:4987	Introduction to Assistive Technology	3
CSED:4197	Citizenship in a Multicultural Society	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
ECON:3100	Intermediate Microeconomics	3
ECON:3150	Intermediate Macroeconomics	3
ENTR:3100	Entrepreneurial Finance	3
ENTR:3200	Entrepreneurial Marketing	3
ENTR:4400	Managing the Growth Business	3
FIN:3000	Introductory Financial Management	3
INTD:3005/ CW:3005/ WRIT:3005	Professional and Creative Business Communication	3

JMC:3530	Social Media Marketing	3
MKTG:3000	Introduction to Marketing Strategy	3
SOC:4225	The Social Psychology of Leadership	3
SRM:3153	Sport Business Practices	3
SRM:3154	Foundations of Event Management	3
SRM:3158	Sport and Recreation Promotion	3
SSW:3600/ MGMT:3600/ NURS:3600/ RELS:3701	Nonprofit Organizational Effectiveness II	3
STAT:4143/ PSQF:4143	Introduction to Statistical Methods	3

## Admission

Individuals who would like to earn the Bachelor of Liberal Studies degree must apply for admission to the program.

Applicants to the B.L.S. program must meet one of the following sets of requirements:

- they must have at least 24 s.h. of graded college-level transfer credit with a g.p.a. of 2.00 or higher and must have been granted a high school diploma at least three years before being admitted to the B.L.S. program; or
- they must hold an associate degree with a g.p.a. of 2.00 or higher in all college-level transfer credit.

# **Professional Studies, B.L.S.**

*More information related to the B.L.S. with a major in professional studies will be provided at a later date.*



# Belin-Blank Center for Gifted Education

## Director

- Megan Foley Nicpon

**Website:** <https://belinblank.education.uiowa.edu>

The Connie Belin & Jacqueline N. Blank International Center for Gifted Education and Talent Development is dedicated to serving the needs of the gifted community at local, national, and international levels. It offers programs for preservice and inservice educators, including the State of Iowa Talented and Gifted Endorsement. Its online and on-campus courses about the nature and needs of gifted learners, as well as about ways to facilitate talent development, support the professional development of educators worldwide.

The center is home to the Assessment and Counseling Clinic and the Acceleration Institute.

## Precollege Program Offerings

The Belin-Blank Center offers a wide variety of programs for precollege students.

## Belin-Blank Exceptional Student Talent Search

The Belin-Blank Exceptional Student Talent Search (BESTS) (grades 4-9) helps determine talented students' academic abilities and needs.

## Invent Iowa

As one of the state's original science, technology, engineering, and math (STEM) programs, Invent Iowa (grades K-12) is a comprehensive statewide program developed to support educators in promoting the invention process. Since 1999, the Invent Iowa program has been a part of the Belin-Blank Center.

## Junior Science and Humanities Symposium

The Junior Science and Humanities Symposium (grades 9-12) engages students in original research and experimentation in the STEM fields (science, technology, engineering, and math). Students present the results of their research to a panel of judges and an audience of their peers at the Iowa Regional Junior Science and Humanities Symposium. The top two presenters are invited to present at the national symposium.

## Scholastic Art & Writing Awards

The Belin-Blank Center is proud to serve as the Iowa and Midwest region at-large affiliate for the Scholastic Art & Writing Awards (grades 7-12), which recognizes achievement in the literary and visual arts. The Scholastic Art & Writing Awards program is the nation's longest-running, largest, and most prestigious recognition program for creative teens. Over the past 90 years, the Awards have recognized and encouraged artists and writers such as Sylvia Plath, Andy Warhol, Truman Capote, Robert Redford, Tom Otterness, Zac Posen, among countless others.

## Weekend Enrichment Program

The Weekend Enrichment program (grades 2-8) consists of half-day enrichment opportunities for elementary and junior high students that take place on the University of Iowa campus. Classes in STEM, arts, and the humanities cultivate students' interest and enliven their curiosity.

## Summer Programs

The Belin-Blank Center also offers the following summer programs, many of which are residential programs held on the University of Iowa campus during the summer. Students in each program participate in cultural and recreational activities and have access to the University's libraries, computer facilities, and study areas. For residential programs, housing and meals are provided at the University's residence halls. Junior Scholars Academy students do not stay on campus.

## Blank Summer Institute

The Blank Summer Institute for the Arts & Sciences (BSI) is a program that provides an intensive, advanced educational experience designed to enhance exceptionally talented students' intellectual and social growth. The BSI plan of study complements the regular school curriculum. Students are nominated for program participation.

To be eligible for BSI, students must be Iowa residents, must be completing grade 7 or 8, and must be nominated by their schools. Students selected for BSI receive a scholarship to cover part of the institute's cost.

## Junior Scholars Academy

The Junior Scholars Academy (JSA), formerly known as Blast and the Junior Scholars Institute, hosts students (grades 2-8) with a deep curiosity, a love of learning, or a great deal of talent in a particular area. It is a summer program designed specifically for bright elementary and middle school students who want to thoroughly explore a topic while having fun with other kids who share their enthusiasm for learning. Students choose one class to focus on all day, for a full week.

## Perry Research Scholars Institute

Students completing grade 9 or 10 may apply for the Perry Research Scholars Institute (PRSI), a two-week residential summer academic program. PRSI students experience first-hand the wide variety of research that takes place at a research intensive university. Students earn 1 s.h. of academic credit. Visit the PRSI website to learn more about the program, including eligibility and application.

## Secondary Student Training Program

Students completing grade 10 or 11 may apply for the Secondary Student Training Program (SSTP), a five and one-half-week residential summer research program. SSTP students conduct research in university research groups under the guidance of a faculty mentor. Students earn 3 s.h. of academic credit. Visit the SSTP website to learn more about the program, including eligibility and application. See the Secondary Student Training Program [p. 2204] (University College) in the Catalog.

## Summer Art or Writing Residency

The Summer Art Residency or Summer Writing Residency offers a three-week residential program for students completing grade 9, 10, or 11. The two programs immerse students in the creative environments of the University of Iowa's world-class faculty in art or writing. Out of class

opportunities include evening tours, lectures, and events that are designed to stretch the developing artist or writer. Students earn 2 s.h. of academic credit. For more information about the center and its programs, contact the Belin-Blank Center or visit its website.

## College Early Entrance Program

### Bucksbaum Early Entrance Academy

The Bucksbaum Early Entrance Academy (grades 10-11) gives high-achieving students the opportunity to enroll at the University of Iowa before they finish high school. The academy provides top students with high-level curriculum and research opportunities while supporting them through the transition from high school to the university. To enter the program, students must have completed grade 10 or the equivalent. The program is open to high-ability students worldwide.

## Courses

### Belin-Blank Center for Gifted Education Courses

#### **BBC:1000 Bucksbaum Academy Second-Year Seminar** **1 s.h.**

Unites self-efficacy skills attained in first-year seminar experience with exploration of how to foster more fulfilling and productive lives; understanding and development of high potential; for Bucksbaum Academy second-year students and early-entrance program supported by the Belin-Blank Center.

#### **BBC:1001 Summer Art Residency** **2 s.h.**

Partnership between Belin-Blank Center and the UI School of Art and Art History; designed for talented high school artists from across the country; taught by faculty, staff, and graduate students from the School of Art and Art History and special visiting artists.

#### **BBC:1002 Summer Writing Residency** **2 s.h.**

Partnership between Belin-Blank Center and the UI undergraduate creative writing program; designed for talented high school writers from across the country; taught by faculty, staff, and graduate students from the English department, Iowa Writers' Workshop, and special visiting authors.

#### **BBC:1003 Perry Research Scholars Institute** **1 s.h.**

Perry Research Scholars Institute is an introductory-level, research-preparatory program that grants behind-the-scenes access to ways and places to discover new knowledge on many different topics—spend days with a backstage pass to cutting-edge facilities and spaces at a major research institution, hear from University of Iowa faculty researchers and their teams on how the research process works, the many different ways that research can look, and even the ways one can pursue a research career. Requirements: acceptance to Perry Research Scholars Institute.

# Career Center Programs

## Director

- Angi McKie

**Website:** <https://careers.uiowa.edu/>

The University of Iowa Marvin A. and Rose Lee Pomerantz Career Center administers the University's Career Center Programs. Students may use the Pomerantz Career Center's services at any time during their academic careers. The center encourages entering first-year and transfer students to visit after they arrive on campus and to make use of all of the center's services throughout their study at Iowa.

The center offers tailored professional career coaching for students who are deciding on majors that connect with career interests, résumé and cover letter help, job and internship strategies, ways to gain hands-on experience, interview strategies, preparing for graduate school, and other career-related topics. Students also can drop in daily for assistance from career peer advisors. Workshops and programs are presented to students across campus on career and professional development-related topics each semester.

Academic courses in career-related topics, such as career exploration and job search skills, are available each semester for academic credit ranging from 1-3 s.h. per course. See "Professional Development Courses" below for more information. Other courses are offered through the Leadership Studies Program [p. 2187].

The center hosts several career fairs and events each fall and spring, offering students the opportunity to talk with and learn about prospective employers.

The Pomerantz Career Center facilitates job and internship interviewing with a wide range of employers: regional, national, and international; profit and nonprofit; state and federal government. Employers conduct on-campus interviews at specific times during the year, and many post immediate openings year-round for internships and for full-time positions. On-campus recruiting and job, internship, and student employment postings are available online; visit Handshake on the Pomerantz Career Center website.

The center helps students find internships in Iowa, the Midwest, nationwide, and sometimes in other countries. For discipline-related internships (all require course registration), see Courses [p. 2171] in this section of the Catalog.

For more information about the center's services and facilities, contact the Pomerantz Career Center.

## Professional Development Courses

Professional development courses give students the opportunity to engage in practical, hands-on, skills-based instruction relevant to careers and leadership development. The topics and curricula for the following courses incorporate input from employers, who were surveyed about their experiences, real-world examples, guidance, and the skills they most often seek when hiring new graduates.

Code	Title	Hours
CCP:1301	Communication for the Workplace	1
CCP:1302	Office Etiquette for the Workplace	1

CCP:1303	Successful Teamwork for the Workplace	1
CCP:1306	UI STEP: Student to Employed Professional	2
CCP:3105	Transitioning from Campus to the Workplace	1
CCP:3106	Career Computing Skills	2

## Courses

### Career Center Programs Courses

**CCP:1005 Internship in Liberal Arts and Sciences** 0 s.h.  
Recognition of practical work experience and internships.

**CCP:1006 Internship in Business** 0 s.h.  
Recognition of practical work experience and internships.

**CCP:1007 Internship in Education** 0 s.h.  
Recognition of practical work experience and internships.  
Requirements: admission to Teacher Education Program for undergraduates.

**CCP:1010 Internship in Nursing** 0 s.h.  
Recognition of practical work experience and internships.  
Requirements: admission to College of Nursing.

**CCP:1015 Internship** 0 s.h.  
Recognition of practical work experience and internships.

**CCP:1017 Winterim Externship** 0 s.h.  
Recognition of practical work experience for career exploration; externships are shorter in duration and can include job shadowing, small projects, and informational meetings under the mentorship of a supervising professional; experiential education course that provides students with an opportunity to expand on their externship by reflecting on their experience through a self-assessment and evaluation; does not meet the Tippie RISE requirement for business students or CPT/Academic Training requirements for students on an F-1 or J-1 visa.

**CCP:1018 Hawkeye Experience Grant** 0 s.h.  
Opportunity to expand on internship, research/creative scholarship, service, or community-engagement experience by developing learning objectives, reflecting on experience, and networking with fellow awardees; students relate experiences to academic coursework and career goals; for students who have been awarded the Hawkeye Experience Grant. Requirements: Hawkeye Experience Grant awarded for the semester of registration, and at least 50 s.h. of university credit earned prior to this semester.

**CCP:1091 Internship in Law** 0 s.h.  
Recognition of practical work experience and internships.

**CCP:1170 Internship in Public Health** 0 s.h.  
Recognition of practical work experience and internships.  
Requirements: admission to the College of Public Health.

**CCP:1201 Academic Internship** 1-3 s.h.  
Opportunity for students to expand on internship experiences by developing learning objectives and reflecting on experience; how internship experience relates to academic coursework and future career goals. Prerequisites: a minimum g.p.a. of 2.00. Requirements: secured internship, cumulative g.p.a. of at least 2.00, and completion of 24 s.h. of UI coursework (12 s.h. for transfer students).

**CCP:1300 Major and Career Explorations 1 s.h.**

Helps students identify their interests, skills, and values relative to majors and careers; self-assessment, informational interviews, research on majors and careers.

**CCP:1301 Communication for the Workplace 1 s.h.**

How effective verbal and written communication is utilized in the workplace; how email and social media communication is used at work; appropriate ways to utilize assertiveness skills; development of refined presentation skills necessary for the workplace; hands-on, skills-based learning environment. Requirements: sophomore or higher standing.

**CCP:1302 Office Etiquette for the Workplace 1 s.h.**

How professionalism and work ethic is demonstrated in the workplace; time management and organization skills relevant to full-time employment; succeeding in multigenerational workplaces; hands-on, skills-based learning environment. Requirements: sophomore or higher standing.

**CCP:1303 Successful Teamwork for the Workplace 1 s.h.**

Demonstration of problem solving and self-awareness skills relevant to the workplace; application of listening and critical thinking skills; how to perform with a global mindset in the workplace; hands-on, skills-based learning environment. Requirements: sophomore or higher standing.

**CCP:1306 UI STEP: Student to Employed Professional 2 s.h.**

Career foundation supplementing classroom learning along with campus job and activities (i.e., job, volunteer work, organizations, etc.); analysis of current University experiences through self-assessment activities; development of a personal action plan for each career development topic; expectations of entry-level employees and graduate school applicants for résumé, interview, and on-the-job performance. Requirements: student hourly or work-study employment.

**CCP:2001 Graduate Admissions 101 1 s.h.**

Preparation for graduate school application and admissions process; graduate entrance examinations, how to select a graduate program, graduate school applications and personal statements, securing a graduate assistantship, and graduate school interviews. Recommendations: junior standing or one-to-two years before start of graduate school for an intentional and less stressful application process.

**CCP:2004 Internships: Search, Secure, and Succeed 1 s.h.**

Types of internships; how to find and succeed at an internship; identifying internship priorities; creating résumés; interviewing skills; successful networking; tips for professionalism.

**CCP:2005 Pursuing Purpose: Preparing for Experiential Education 1 s.h.**

Preparation for students to find and apply for experiential education opportunities that fit their interests, strengths, abilities, and values—pursuing career development purposefully; experiential education may include internships, co-ops, service learning, employment, study abroad, research, and practicums; ways that students can experience areas of career that allow for exploration and development of future career goals.

**CCP:2020 Washington Center Internship Program arr.**

Internship placements for all UI majors; sample internships include United Way Worldwide, U.S. Department of Education, Federal Trade Commission, Financial Services Roundtable, Congressional offices, Urban Institute, Pan American Health Organization, U.S. Department of the Interior, Peace Corps, C-SPAN, Voice of America, U.S. Marshals Service, Federal courts, and law offices; in addition to the internship, program includes the LEAD Colloquium (Leadership, Civic Engagement, Achievement, and Career Development), an academic course with professional networking, participation in Presidential Lecture Series, and Congressional Breakfast Series.

**CCP:2021 Washington Center Seminar arr.**

Combined classroom instruction, faculty-led discussions, and experiential work opportunities; usually offered in Washington, D.C., occasionally at other locations tied to an event (e.g., political convention); one or two weeks.

**CCP:2202 International Student Full-Time Academic Internship 9 s.h.**

Academic credit for full time internship (minimum of 40 hours per week) that relates to student's major field. Requirements: occupies an academic term (fall or spring) and must participate in the internship and the course during the same semester, F-1 or J-1 visa international student, undergraduate standing in the Tippie College of Business, minimum 3.00 g.p.a., must be approved by International Student and Scholar Services (ISSS) for F-1 Curricular Practical Training (CPT) or J-1 Academic Training (AT), and concurrent registration in approved singular 3 s.h. distance education course to reach full-time (12 s.h.) student standing.

**CCP:3102 Job Search Essentials 1-3 s.h.**

Essential skills for finding full-time employment; creating and polishing a résumé, techniques for interviewing and networking, and developing a personal job search plan; for students thinking about graduation and wanting to get serious about a job search. Recommendations: junior or higher standing.

**CCP:3103 MoneyWise 1-2 s.h.**

Basics of personal finance for success at work and in life; savings, debt, mortgages, loans, employer benefits, insurance and student loans; may include investment basics (e.g., stocks, bonds, mutual funds, 401Ks, IRAs).

**CCP:3104 Defining Your Career Path 2 s.h.**

Transitioning between career fields; understanding personal interests, values, and abilities; methods of researching information on careers; career development models and student preferences in making career-related decisions; preparation for making career-related decisions through participation in class and individual activities; balancing current responsibilities such as finances and family during a career transition. Requirements: 60 s.h. completed.

**CCP:3105 Transitioning from Campus to the Workplace 1 s.h.**

Essential skills for transitioning from college life to successful career; tools for professional and personal success—networking, professionalism, workplace communication, managing personal image, and financial planning. Recommendations: junior or higher standing.

**CCP:3106 Career Computing Skills 2 s.h.**

Students learn to use a variety of software to complete projects that will be relevant in advancing their careers (i.e., improving résumés, creating job search documents, utilizing various tools for meetings, developing professional presentations); email etiquette and efficiency; effective file storage.

**CCP:3107 Social Media for Your Job Search 1 s.h.**

Effective use of social media for networking as part of preparing for a job search; efficient identification and utilization of online tools (e.g., LinkedIn, Twitter); building a professional online presence; creating a plan for utilizing social networks for an entry-level job search.

**CCP:3169 Internship in Graduate Studies 0 s.h.**

Recognition of practical work experience and internships. Requirements: admission to Graduate College.

**CCP:3203 Investment Wise: Personal Investment Basics 2 s.h.**

Basic understanding of general principles of personal investing; topics may include compounding, stocks, bonds, mutual funds, 401K/403B, IRAs, diversification, and asset allocation.

# Center for Inclusive Academic Excellence

## Director

- Tabitha N. Wiggins

**Website:** <https://diversity.uiowa.edu/division/CIAE>

The Center for Inclusive Academic Excellence offers the Iowa First Nations summer program for high school students and the Iowa Edge program for students entering the University of Iowa.

## Precollege Program of Study

### Iowa First Nations

The Iowa First Nations program enables high school students to explore the educational opportunities offered on the University of Iowa campus and by the higher education field. Iowa First Nations students live on campus for a week (Monday through Friday), spending five nights in one of the University's residence halls. They go on structured field trips to campus departments, participate in hands-on classroom experiences, and take part in activities on campus and in the community.

## Undergraduate Programs

### The Iowa Edge

The Iowa Edge Program strives to cultivate a community of leaders and future professionals among students of color, LGBTQ students, and first-generation college students. The program achieves this by connecting participants with faculty and staff, campus resources, and transformative career and leadership development activities.

### Advantage Iowa

Advantage Iowa (AI) is a merit-based scholarship for incoming eligible first-year students. It is renewable for up to four years. The center provides support to AI scholars through academic coaching, connection to faculty and academic support, experiential learning, and through a first-year experience course taught by academic coaches.

## Courses

## Center for Inclusive Academic Excellence Courses

**CIAE:0023 Iowa First Nations** **0 s.h.**

**CIAE:1050 The Iowa Edge** **1 s.h.**

Preparation for academic success; students engage and participate in a series of interactive presentations, discussions, and activities; introduction to campus resources; connect with support staff; opportunities to question faculty from various departments; students build community with other participants, take part in team-building activities, and learn leadership skills that will serve them throughout their college careers; for first-year students accepted to the Iowa Edge program. Requirements: offer and acceptance to the Iowa Edge program.

**CIAE:1080 Advantage Iowa: Exploring Our Identities** **1 s.h.**

Reflection on identity development, cultural wealth, and awareness of self and understanding of the many new people around us; engagement in interactive experiences that support personal and academic development; students have the chance to meet faculty and staff of similar backgrounds and begin to learn about themselves and how they can become successful college students; highlight of services provided by the Center for Inclusive Academic Excellence and integrates the Advantage Iowa Scholarship.

**CIAE:2013 Iowa Edge Peer Leader Training** **1 s.h.**

Preparation for role of Iowa Edge Peer Leader; working with African American, Alaskan Native, American Indian, Asian American, Pacific Islander, Latino/a, and first generation college students; development of leadership, group facilitation, presentation, and peer mentoring skills.

**CIAE:2033 Iowa Edge Returning Peer Leader Training** **1 s.h.**

Preparation for returning Iowa Edge Peer Leaders; working with African American, Alaskan Native, American Indian, Asian American, Pacific Islander, Latino/a, and first generation college students; development of leadership, group facilitation, presentation, and peer mentoring skills.

# Clinical and Translational Science

## Coordinator

- Donna A. Santillan (Obstetrics and Gynecology)

## Committee Members

- Lori Adams (Biology), Vincent G. Rodgers (Physics and Astronomy)

**Undergraduate certificate:** clinical and translational science

**Website:** <https://icts.uiowa.edu/workforce-development/undergraduate-certificate-clinical-and-translational-science>

Translational science focuses on applying biomedical discoveries to health care. It requires team-based interdisciplinary approaches to move research-generated discoveries into clinical trials and to facilitate the adoption of best practices in clinical and community settings. Investigators in translational science understand principles involved in foundational research and how such research relates to epidemiology, behavioral medicine, and patient-oriented research.

Opportunities for training in translational science are available through graduate and professional study in medicine, public health, nursing, dentistry, pharmacy, and other allied health professions, including biostatistics, behavioral medicine, clinical pharmacology, and epidemiology.

The certificate program in clinical and translational science provides undergraduates with opportunities to connect their research activities to translational science and to begin training in the discipline.

The Certificate in Clinical and Translational Science is presented by the Institute for Clinical and Translational Science and Iowa Sciences Academy; it is administered by University College.

## Programs

## Undergraduate Program of Study Certificate

- Certificate in Clinical and Translational Science [p. 2176]

# Clinical and Translational Science, Certificate

## Requirements

The undergraduate Certificate in Clinical and Translational Science requires 16 s.h. of credit. Students must maintain a g.p.a. of at least 3.00 in the certificate's core courses. Work for the certificate includes core courses and electives. Students must complete all coursework for the certificate within three years of entering the program.

The Certificate in Clinical and Translational Science requires the following coursework.

## Core Courses

Code	Title	Hours
All of these (10 s.h.):		
EPID:4400	Epidemiology I: Principles	3
STAT:3510/ IGPI:3510	Biostatistics (or an equivalent course)	3
URES:3001	Introduction to Translational Research (must take EPID:4400 before or at the same time as this course)	2
URES:3002	Practicum in Clinical and Translational Science (capstone course; must take URES:3001 before this course)	2

## Electives

Students must earn a total of 6 s.h. in courses chosen from the following lists.

### Creative Writing

Code	Title	Hours
CNW:3664	Writing About Science	3

### Life Sciences

Code	Title	Hours
BIOL:2254	Endocrinology	3
BIOL:2723	Cell Biology	3
BIOL:2753	Introduction to Neurobiology	3
BIOL:3233	Introduction to Developmental Biology	3
BIOL:3253	Neurobiology I	4
BIOL:3713	Molecular Genetics	4
BIOL:4213/ GENE:4213/ IGPI:4213	Bioinformatics	2,4
BIOL:4333	Genes and Development	3
BMB:3110	Biochemistry	3
BMB:3120	Biochemistry and Molecular Biology I	3
BMB:3130	Biochemistry and Molecular Biology II	3
MICR:2157	General Microbiology	3

MICR:3147	Immunology and Human Disease	3
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## Global Health

Code	Title	Hours
GHS:3010/ IGPI:3011	Identifying and Developing a Global Health Project (when topic is research design in global health)	3
GHS:3111/ GEOG:3110	Geography of Health	3
GHS:3620	Global Health and Human Rights	2-3
GHS:3720	Contemporary Issues in Global Health	3

## Health and Human Physiology

Code	Title	Hours
ACB:3110	Principles of Human Anatomy	3
HHP:1100	Human Anatomy	3
HHP:1300	Fundamentals of Human Physiology	3
HHP:2130	Human Development Through the Life Span	3
HHP:2200	Physical Activity and Health	3
HHP:2310	Nutrition and Health	3
HHP:3500	Human Physiology	3
HHP:3850/ GHS:3850	Promoting Health Globally	3
NURS:1030	Human Development and Behavior	3
SRM:3020/ INTD:3027	Nutrition in Health and Performance	3

## Psychological and Brain Sciences

Code	Title	Hours
PSY:2301	Introduction to Clinical Psychology	3
PSY:2401	Introduction to Developmental Science	3
PSY:2501	Introduction to Social Psychology	3
PSY:2601	Introduction to Cognitive Psychology	3
PSY:2701	Introduction to Behavioral Neuroscience	4
PSY:3010	Health Psychology	3

## Public Health

Code	Title	Hours
CBH:4105	Introduction to Health Promotion and Disease Prevention	3
CPH:1400	Fundamentals of Public Health	3
CPH:3400/ GEOG:3210	Health, Work, and the Environment	3
CPH:3500/ GHS:3500	Global Public Health	3



HMP:4000	Introduction to the U.S. Health Care System	3
OEH:4240	Global Environmental Health	3

## Admission

Admission to the certificate program is selective. Applicants must fulfill the following requirements by the end of the semester in which they apply:

- have a cumulative g.p.a. of at least 3.00;
- have earned a minimum of 45 s.h. of college-level credit;
- have been engaged in mentored scientific research at the University of Iowa;
- have completed one of these: BIOL:1411 Foundations of Biology or BIOL:1141 Human Biology: Health Professions; and
- have completed one of these: MATH:1380 Calculus and Matrix Algebra for Business or MATH:1460 Calculus for the Biological Sciences or MATH:1550 Engineering Mathematics I: Single Variable Calculus or MATH:1850 Calculus I.

## Application

Interested students should apply on the certificate program's student application system. Applications are accepted on a rolling basis and are reviewed by the Certificate in Clinical and Translational Science Steering Committee. Students will receive an email after an admissions decision has been made. Consult the Undergraduate Certificate in Clinical and Translational Science website for more information.

Applications should include the following:

- a description of the student's undergraduate research (maximum of 1,000 words), including the approximate number of hours per week the student spends conducting the research and the name and email address of the student's research mentor;
- a personal statement outlining the student's professional and career goals;
- a copy of the student's grade report from MyUI; and
- a letter of recommendation from the student's research mentor.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Clinical and Translational Science, Certificate

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students apply to the Clinical and Translational Science certificate program through a selective process. Acceptance is not guaranteed.		
<b>Hours</b>		<b>0</b>

### First Year

#### Any Semester

BIOL:1411 or BIOL:1141	Foundations of Biology or Human Biology: Health Professions	4
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Certificate: calculus requirement (prerequisite for admission to Clinical and Translational Science certificate)<sup>a, b</sup>

Research: search for mentored scientific research opportunities<sup>c</sup>

**Hours 8**

### Second Year

#### Any Semester

Certificate: clinical and translational science elective course <sup>d</sup>	2 - 4
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Admission Application: apply to the Clinical and Translational Science certificate program on the Early Scholars Certificate in Clinical and Translational Science website<sup>e</sup>

**Hours 2-4**

### Third Year

#### Any Semester

EPID:4400	Epidemiology I: Principles <sup>f</sup>	3
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Certificate: clinical and translational science elective course<sup>d</sup>

**Hours 5-7**

### Fourth Year

#### Any Semester

STAT:3510	Biostatistics <sup>f</sup>	3
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URES:3001	Introduction to Translational Research <sup>f</sup>	2
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URES:3002	Practicum in Clinical and Translational Science <sup>f</sup>	2
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Certificate: clinical and translational science elective course, if needed<sup>d</sup>

**Hours 9-11**

**Total Hours 24-30**

a Choose from MATH:1380, MATH:1460, MATH:1550, or MATH:1850.

b Enrollment in math courses requires completion of a placement exam.

c The Iowa Center for Research by Undergraduates (ICRU) maintains resources and position listings on their website.

d Students must earn a total of 6 s.h. in elective courses for the certificate. See General Catalog for a list of approved courses.

e Applicants must fulfill the following requirements by the end of the semester in which they apply: have a cumulative GPA of at least 3.00, have earned a minimum of 45 s.h. of college-level credit, have been engaged in mentored scientific research at the University of Iowa, have completed the necessary prerequisite courses.

f Students must maintain a GPA of at least 3.00 in the certificate's core courses.

# College Success Initiatives

## Coordinator

- Maureen M. Schafer

College Success Initiatives (CSI) courses are designed to support new first year and transfer students in their transition to the University of Iowa. In addition, CSI courses enrich students' experiences, develop their academic skills, and prepare them for college-level learning.

College Success Initiatives courses are administered by the associate provost for undergraduate education through the Academic Advising Center and University College.

## Courses

### College Success Initiatives Courses

- CSI:1020 Academic Seminar I** **3 s.h.**  
Development of knowledge and skills essential for academic success at college level; reading, writing, and communication skills; focus on reading comprehension, class discussion, and development of writing process; various narratives including published collections of essays and peers' texts; writing process and techniques, and components that bring each piece together. Requirements: IowaLink participant.
- CSI:1021 Academic Seminar II** **3 s.h.**  
Continued development of knowledge and skills necessary for academic success; reading, writing, and communication skills; experimentation with ethnographic research methods, exploration of cultures and subcultures; writing about findings in various experimental forms, using as a model, short ethnographic essays, excerpts from a graphic novel; focus on reading comprehension strategies, class discussion, and development of writing process. Requirements: IowaLink participant. Recommendations: CSI:1020.
- CSI:1100 College Transition Seminar** **1 s.h.**  
College culture, University of Iowa resources, refinement of study skills, test taking, identification of personal values, self-motivation, goal setting; taught in small sections with emphasis on classroom discussion. Requirements: entering first-year student.
- CSI:1150 College Transition Workshop** **1 s.h.**  
Preparation for affiliated lecture course; practical context to apply, evaluate, and refine study skills strategies explored in CSI:1100; expand study strategies, enhance grasp of affiliated course material, and apply study skills to future coursework. Corequisites: CSI:1100. Requirements: concurrent enrollment in a CIC affiliated lecture course.
- CSI:1200 First-Year Seminar** **1 s.h.**  
Introduction to the intellectual life of the University; opportunity to work closely with a faculty member or senior administrator; active participation that eases the transition to college-level learning.
- CSI:1210 Peer Led Undergraduate Study (PLUS)** **0 s.h.**  
Peer guided and facilitated academic support focusing on quantitative problem-solving skills; students discuss course material, address multiple course concepts, and develop tools and skills for effective study habits. Corequisites: CHEM:1070 and MATH:1005.
- CSI:1213 Special Topics I** **0-6 s.h.**  
Special topics offered through University College.
- CSI:1214 Special Topics II** **0-6 s.h.**  
Special topics offered through University College.
- CSI:1250 Introduction to Law Study and Legal Careers** **1 s.h.**  
Introduction to legal education and careers; exploration of role of law in society, nature of legal education, careers in law, and current legal issues; opportunity for students to begin reflecting on their own interest in this field.
- CSI:1270 Strategies for Veteran Success** **2 s.h.**  
Promotion of academic success, improve retention of student veterans, and assist in cultivating a systematic approach to career planning and decision making; primary focus on available resources, identification of individual goals and strengths, development and application of study skills and time management strategies, and problem solving related to personal issues or barriers that could impede student transition and academic performance; for student veterans and service members in academic transition from active duty military or guard/reserve status to the University of Iowa. Requirements: veteran status.
- CSI:1280 Steps to Success for TRIO: Step I** **1 s.h.**  
Learning about and adjusting to the University of Iowa for TRIO Student Support Services (SSS) students; first in a series of courses.
- CSI:1281 Steps to Success for TRIO: Step I** **1 s.h.**  
Learning about and adjusting to the University of Iowa for TRIO Student Support Services (SSS) students; second in a series of courses.
- CSI:1290 Steps to Success for TRIO: Step II** **1 s.h.**  
Learning about and adjusting to the University of Iowa for TRIO Student Support Services (SSS) students; third in a series of courses.
- CSI:1291 Steps to Success for TRIO: Step II** **1 s.h.**  
Learning about and adjusting to the University of Iowa for TRIO Student Support Services (SSS) students; fourth in a series of courses.
- CSI:1380 Steps to Success for TRIO: Step III** **1 s.h.**  
Learning about and adjusting to the University of Iowa for TRIO Student Support Services (SSS) students; fifth in a series of courses.
- CSI:1381 Steps to Success for TRIO: Step III** **1 s.h.**  
Learning about and adjusting to the University of Iowa for TRIO Student Support Services (SSS) students; sixth in a series of courses.
- CSI:1390 Steps to Success for TRIO: Step IV** **1 s.h.**  
Learning about and adjusting to the University of Iowa for TRIO Student Support Services (SSS) students; seventh in a series of courses.
- CSI:1391 Steps to Success for TRIO: Step IV** **1 s.h.**  
Learning about and adjusting to the University of Iowa for TRIO Student Support Services (SSS) students; eighth in a series of courses.
- CSI:1400 Explore Iowa: Your Passport to the University and Beyond** **2 s.h.**  
Attendance and discussion at eight events of student's choice, selected from the University and Iowa City's rich event offerings.

- CSI:1410 Life Design** **2 s.h.**  
Students discover what they are innately drawn to do through stories, lectures, assigned readings, guest speakers, and reflective writing; integration of worldview and professional life; practical skills and exercises for investigating different career paths; cultivating mentors; relationship between ambition, drive, and success; role of happiness in achieving excellence and success.
- CSI:1420 Life Design II: A Better World** **2 s.h.**  
Once you start unraveling who you are, the next matter becomes what world do you want to live in? Readings, structured experiments, and written reflections provide generalizable knowledge about the science of empathy, passion, and perseverance; students apply these insights to efforts "bigger than themselves" and a deliberate path to become agents of social and environmental change.
- CSI:1450 Explore Iowa Colloquium** **3 s.h.**  
Opportunities for peer mentors involved in CSI:1400; activities include short readings and media screenings related to innovative and best practices in learning and teaching; emphasis on multimodal writing online for peers; informal presentations and reflections; may include work with Passport Projects students, collaboration on development of guidelines and handouts for best practices in writing, and supplemental writing reflections.
- CSI:1460 Athletic Transition Seminar** **1 s.h.**  
Overview of the Hawkeye Life Program for new student athletes; foundational pillars for all student athletes at the UI; application of skills in leadership, community engagement, academic success, career development, health and well-being, diversity and inclusion through exploration and application of these pillars; students further examine their academic, personal, and career goals.
- CSI:1470 The Hawkeye Life Experience** **1 s.h.**  
Students increase their understanding and awareness of mental health and wellness in an emotionally safe environment; opportunities for students to examine who they are outside of their identities as athletes, identify personal mental health concerns and challenges, gain healthy coping strategies, and learn about early warning signs of mental illness and mental health resources; exploration of relevant topics regarding athlete mental health in today's society.
- CSI:1490 Flip the Script** **1 s.h.**  
Sexual assault resistance education designed specifically for university women; theory, research evidence, and best practices for helping women resist acquaintance sexual assault; consists of four core units in which information is provided and skills are taught and practiced with the goal of being able to assess risk from acquaintances, overcome emotional barriers in acknowledging danger, and engage in effective verbal and physical self-defense.
- CSI:1500 College Success Seminar** **1 s.h.**  
Skills, habits, and mindsets essential for college success: goal setting, motivation, resiliency, time management, preparing for exams, working with instructors, and using campus resources including academic advisors, the Pomerantz Career Center, and University Counseling Service; emphasis on class participation and completion of assignments related to course topics. Requirements: selected students with first-year standing in the College of Liberal Arts and Sciences.
- CSI:1550 Strategies for Academic Success** **1 s.h.**  
Designed for second-year students; focus on academic strategies to help students improve their academic performance; topics include organization, goal setting, motivation, time management, study skills, test preparation, and campus resources; requires class participation and completion of assignments related to course topics. Requirements: second-year standing in the College of Liberal Arts and Sciences and no prior credit earned for CSI:1500.
- CSI:1600 Success at Iowa** **0-2 s.h.**  
Online course designed to help students transition successfully to the University of Iowa; required of all new undergraduate first-year and transfer students.
- CSI:1650 College Success for International Students** **1 s.h.**  
Skills and resources to help international students achieve academic success; reflection on academic habits and experiences; exploration of study skills and strategies; cultural expectations in U.S. academic settings including academic integrity; culture shock and immigration issues that can impact international students at the UI; development of techniques for time management and goal setting; techniques to stay motivated and manage stress; overcoming barriers to student success; discussions and assignments emphasize self-reflection on class topics including time management, study skills, and cultural identity. Same as CLAS:1650, ESL:1650.
- CSI:2021 First Gen Hawks Seminar** **1 s.h.**  
Opportunity to be part of a class planned specifically for First Gen Hawks; students connect with the UI in a meaningful way through one of three learning track areas—civic engagement and leadership, on-campus student employment, or undergraduate research; course format includes small class size with lots of classroom discussion; assignments emphasize self-reflection; content areas equip students with information and skills they need to thrive at the University of Iowa. Requirements: participation in First Gen Hawks program.
- CSI:2100 The Transfer Transition** **1 s.h.**  
Adjustment to university life and academics; strategies for academic success including study and test-taking skills, time management, utilization of campus resources for success in courses; planning a major and learning about Career Center services; exposure to university culture; opportunities to reflect on adjustment to the University. Requirements: entering transfer student standing.
- CSI:2150 Open Minded** **1 s.h.**  
Focus on self-reflection and use of resources to research majors; topics include values, strengths, goals, identity, managing uncertainty, critical reading and thinking skills, recognizing transferable skills cultivated by majors; class participation and assignments related to course topics; for students with open majors.
- CSI:2210 Iowa Criminal Justice Policy and Reform** **3 s.h.**  
Introduction to contemporary discussions of policy and reform across all stages of criminal justice system including policing, pretrial detention, sentencing, incarceration, and reentry; current practices and policies; development of applied skills in policy analysis and communication; course material extends beyond policies for crime reduction and considers policies geared towards other outcomes (i.e., reducing inequalities and racial disparities in the criminal justice system); exploration of criminal justice policies through an Iowa lens at state and local levels. Same as CRIM:2210.

**CSI:2600 UNI Regents Online Course Exchange 1-4 s.h.**

University of Northern Iowa Online Course Sharing course; offered by the University of Northern Iowa (UNI) to University of Iowa students as part of an Iowa Board of Regents online course sharing project between the University of Iowa (SUI), Iowa State University (ISU), and the University of Northern Iowa (UNI).

**CSI:2610 ISU Regents Online Course Exchange 1-4 s.h.**

Iowa State University Online Course Sharing Course; offered by Iowa State University (ISU) to University of Iowa students as part of an Iowa Board of Regents online course sharing project between the University of Iowa (SUI), Iowa State University (ISU), and the University of Northern Iowa (UNI).

**CSI:3400 Criminology Mentoring Program 1 s.h.**

Career search through self-exploration, research, and discussion in area of criminology; preparation for criminology capstone and/or internship program; creation of an individual development plan; individual meetings with instructor at beginning and end of semester; bimonthly meetings to discuss aspects of criminology from a practical perspective; identification of student interests and potential career paths.

# Distance and Online Education

## Associate Dean

- Anne W. Zalenski

**Website:** <https://distance.uiowa.edu/>

Distance and Online Education (DOE) increases access to the services and resources at the University of Iowa to students and other constituents across the state. In partnership with the University's colleges and departments, DOE provides high-quality credit coursework, degrees, and certificate programs to traditional and nontraditional learners. Using a variety of locations, schedules, and technologies, DOE helps provide a University of Iowa learning environment beyond the physical borders of the Iowa City campus. In addition, many on-campus students enjoy the flexibility that online coursework affords them. Courses offered through Distance and Online Education are taught by University of Iowa faculty and staff members.

## Programs of Study Online or on Location in Iowa

There are over 30 undergraduate, graduate, and professional degrees and certificates available either online or on location in Iowa. DOE consistently offers over 600 online or on location courses during the academic year.

For additional information on a particular program, see the program finder on the DOE website.

## Resource Centers

Distance and Online Education partners with resource centers across the state of Iowa. The primary goal of the centers is to increase access to high-quality undergraduate and graduate educational opportunities to students in the region where they live. These opportunities are delivered in a variety of formats including online and on location. Community partnerships also have been created through the centers which further benefit Iowans.

### Western Iowa Regents Resource Center

**Director:** Steve Warnstadt

**Website:** <https://wirrc.org>

Western Iowa Regents Resource Center (WIRRC) works with community colleges in their service areas to provide access to quality education to students in western Iowa. Offices are located in Council Bluffs, Sioux City, and Sheldon. Coursework and degree programs are provided by the three state universities.

### Iowa Lakeside Laboratory and Regents Resource Center

**Executive Director:** Mary P. Skopec

**Website:** <https://iowalakesidelab.org>

This center is located near Milford, Iowa, on scenic West Okoboji Lake on Little Miller's Bay. Iowa Lakeside Laboratory is a field station run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa, and administered by the University of Iowa. The laboratory offers summer courses and research opportunities for

undergraduate and graduate students. Courses focus on the ecology, taxonomy, and conservation of northern plains animals, plants, microorganisms, and ecosystems.

## Des Moines Programs

**Contact:** Anne W. Zalenski

**Website:** <https://desmoines.uiowa.edu>

Social work programs, graduate degrees, and certificates are offered at the John and Mary Pappajohn Education Center (JMPEC), located in downtown Des Moines, Iowa. Close to many corporate businesses and government offices, JMPEC is an ideal location for a variety of students who want to further their education.

# Hawkeye Talent Initiative

## Coordinator

- Mirra L. Anson

The Hawkeye Talent Initiative is a program that seeks to expand access to higher education at the University of Iowa. It provides talented low- and moderate-income students assistance in the achievement of academic success through academic coaching, peer mentoring, and student employment options. Students participate in activities that enhance their college experience inside and outside the classroom.

Entrance to the program is based on high school grade-point average, standardized test scores, and family income.

# Intercollegiate Athletic Participation

## Director

- Elizabeth A. Tovar

**Website:** <https://academics.athletics.uiowa.edu/>

## Associated Courses

Students who are members of University of Iowa intercollegiate athletics teams may register for CSI:1460 Athletic Transition Seminar and CSI:1470 The Hawkeye Life Experience with the topic student-athlete mental health.

First-year student-athletes who enroll in CSI:1460 Athletic Transition Seminar receive 1 s.h. of graded credit. The course provides new student-athletes with an overview of the Hawkeye Life Student Development Program through the athletic department, and helps with their transition to college. Through the exploration and application of leadership, community engagement, academic success, health and well-being, career development, and diversity and inclusion, students are able to apply concepts learned in class to assist with their academic, personal, and career goals.

First-year student-athletes and those at higher levels may enroll in CSI:1470 The Hawkeye Life Experience with the topic student-athlete mental health and receive 1 s.h. of graded credit. The special topic is designed to increase student-athletes' understanding of and awareness about their mental health and wellness in an emotionally safe environment. The course provides opportunities for students to examine who they are outside of their identities as athletes as well as opportunities to:

- identify personal mental health concerns and challenges,
- gain healthy coping strategies,
- learn about the early warning signs of mental illness, and
- learn about mental health resources.

Additionally, the course explores relevant topics regarding athlete mental health in today's society. The course may be repeated for up to 4 s.h. of graded credit.

Registration for CSI:1460 and CSI:1470 with special topics requires permission from Student-Athlete Academic Services. Members of University of Iowa sport clubs are not eligible to enroll in CSI:1460 or CSI:1470.

# Iowa Lakeside Laboratory

## Director

- Mary P. Skopec (Geographical and Sustainability Sciences)

## Iowa State University Participating Faculty

- Lori Biederman (Ecology, Evolution, and Organismal Biology), Alexander Braidwood (College of Design), James Colbert (Ecology, Evolution, and Organismal Biology), Elizabeth Swanner (Geological and Atmospheric Sciences)

## University of Iowa Participating Faculty

- Matthew P. Dannenberg (Geographical and Sustainability Sciences), John F. Doershuk (Anthropology), Andrew A. Forbes (Biology), Marc A. Linderman (Geographical and Sustainability Sciences), Corey D. Markfort (Civil and Environmental Engineering/Mechanical Engineering), Susan Meerdink (Geographical and Sustainability Sciences), Silvia Secchi (Geographical and Sustainability Sciences), Adam Skibbe (University College)

## University of Northern Iowa Participating Faculty

- Laura Jackson (Biology), Mark Meyers (Biology), Patrick Pease (Geography/Social Science and History Education), Daryl D. Smith (Biology)

**Website:** <https://iowalakesidelab.org/>

Iowa Lakeside Laboratory is a field station run cooperatively by the University of Iowa, Iowa State University, and the University of Northern Iowa. Students at all three institutions, as well as visiting students, nationally and internationally, may take Iowa Lakeside Laboratory courses for credit through their home institution.

Iowa Lakeside Laboratory was established in 1909 for the conservation and study of the rich flora and fauna of northwest Iowa, especially the numerous lakes, wetlands, and prairies of the Iowa Great Lakes region. The campus is located on approximately 140 acres of restored prairie, wetland, and gallery forest along the west shore of West Okoboji Lake. Teaching and research facilities include eight laboratory buildings, a library, and a lecture hall. Living accommodations include cottages, motel-style units, and a large mess hall. All students are encouraged to stay at Lakeside while they are taking courses to derive full advantage of its educational, professional, and social life.

## Mission

Lakeside's mission is to provide undergraduate and graduate students an opportunity for hands-on experience in a variety of natural and human environments through its field-oriented courses, and to provide research facilities and support for graduate students and faculty members working on research projects in northwestern Iowa.

## Summer Session

Each summer Iowa Lakeside Laboratory offers students a unique educational experience—small, inquiry-based, full-immersion, field-oriented courses in the natural sciences (archaeology, botany, ecology, hydrology, soils, zoology) and related areas, such as the health sciences. Courses are taught at the sophomore/junior level and the senior/graduate level. Enrollment usually is limited to 10 or fewer students per

course. Most courses meet all day Monday through Friday, last four weeks, and offer 1 s.h. of credit for each week (40 clock hours) in class. One- and two-week courses also are available, including courses designed especially for teachers.

Not all courses are offered every year; visit the Course Catalog on the Iowa Lakeside Laboratory website or consult summer course offerings at the University of Iowa or the other Regent institutions to learn which courses will be offered during a particular summer session. Students should check with their advisors to determine whether specific courses count toward requirements for their majors or minors or toward other requirements.

## Research

Research projects by undergraduates, graduate students, and faculty members can be completed either on the Iowa Lakeside Laboratory campus or at many nearby natural areas. Undergraduate and graduate students are strongly encouraged to work on independent projects at the laboratory, and graduate students are welcome to use Lakeside as a base for their thesis and dissertation research. Laboratory space and other facilities are available for long-term or short-term research projects.

## Registration

Students may enroll in Iowa Lakeside Laboratory courses by submitting an Iowa Lakeside Laboratory registration and housing form to the Iowa Lakeside Laboratory administrative office. Information about current courses, registration, and housing is available on the Iowa Lakeside Laboratory website.

Registration usually opens in early January. Enrollment is limited, so students should register early. When they register, they must apply for housing or indicate that they plan to live off campus.

## Financial Support

Financial support is available for undergraduate and graduate students. The Friends of Lakeside Lab organization provides a merit scholarship that is equivalent to the cost of room and board. Additional financial support may be available from Iowa Lakeside Laboratory and from other sources. Consult the Office of Student Financial Aid for information about support, including work-study and loan programs.

## Courses

### Iowa Lakeside Laboratory Courses

**IAL:1010 Earth, Air, and Sky** **1-4 s.h.**  
Essentials of earth science, including astronomy, meteorology, geology, and paleontology; includes laboratory and fieldwork.

**IAL:1030 Natural History Workshop** **1-2 s.h.**  
A specific aspect of the upper Midwest's natural history, or techniques for studying natural history; amphibians and reptiles, birds and birding, nature photography, mushrooms and other fungi, Iowa's trees and forests, fish biology, prairies, common algae, common insects, aquatic plants, life in rivers, life in lakes, mosses and liverworts, natural history of Iowa Great Lakes region, field archaeology, scuba diving, astronomy, nature sketching; five-day, nontechnical introductions.



- IALL:1040 Field Archaeology** 3-4 s.h.  
Nature of cultural and environmental evidence in archaeology, how such evidence is used to model past human behavior and land use; emphasis on Iowa prehistory; basic reconnaissance surveying, excavation techniques.
- IALL:1045 Illustrating Nature: Photography** 1-2 s.h.  
Beginning/intermediate technique and composition in color photography of natural areas, their plants and animals.
- IALL:3034 Topics in Ecology and Sustainability** 1-4 s.h.  
Scientific introduction at intermediate level to ecology and evolution of important groups of organisms: algae to vertebrates, different ecological phenomena (e.g., fire and climate change), varying landforms, different ecosystems (e.g., prairies and aquatic systems); emphasis on sustainability with introduction to concepts, issues, and practices; ability to communicate environmental information through a variety of means. Requirements: one general biology course.
- IALL:3101 Science Teaching Methods** 1-3 s.h.  
Development and implementation of laboratory exercises suitable for inclusion in elementary, middle, high school, and community college biology, geology, and environmental courses; exercises built around common organisms and ecosystems in Iowa; animal biology, plant biology, fungi and lichens, aquatic ecology, prairie ecology, wetland ecology, limnology, animal behavior, insect ecology, biology of invertebrates, noninvasive use of living organisms, Project WET; field trips.
- IALL:3103 Aquatic Ecology** 2,4 s.h.  
Analysis of aquatic ecosystems; emphasis on basic ecological principles; ecological theories tested in the field; identification of common plants and animals. Requirements: ecology, chemistry, and physics courses.
- IALL:3104 Nature Based, Early Childhood Teaching Methods Using "The Project Approach"** 3-4 s.h.  
Examination of the value of young children's direct experiences in nature through inquiry-based learning; "The Project Approach" builds on children's natural curiosity and enables them to interact, question, connect, problem solve, communicate, and reflect; students follow steps for implementing a nature-based project within their own classroom setting as they insure the needs of diverse learners are met for both social and academic learning; designed for early childhood teachers.
- IALL:3106 Plant Taxonomy** 2-4 s.h.  
Principles of classification and evolution of vascular plants; taxonomic tools and collection techniques; use of keys; emphasis on field and laboratory studies to identify local flowering plants; recognition of major plant families.
- IALL:3109 Ecology and Systematics of Algae** 2,4 s.h.  
Ecology, morphological structure, phylogeny, and taxonomy of freshwater algae based on field material collected; emphasis on genus-level identifications, biodiversity, ecology; habitat visits to lakes, fens, streams, rivers; algal ecology.
- IALL:3113 Undergraduate Independent Study** 1-4 s.h.  
Requirements: junior or senior standing.
- IALL:3114 Field Mycology** 2 s.h.  
Identification and classification of common fungi; techniques for identification, preservation, and culture practiced with members of various fungi groups.
- IALL:3117 Ecology and Systematics of Diatoms** 2,4 s.h.  
Field and laboratory study of freshwater diatoms; techniques in collection, preparation, and identification of diatom samples; study of environmental factors affecting growth, distribution, taxonomic characters; project design and execution, including construction of reference and voucher collections; data organization and analysis.
- IALL:3122 Prairie Ecology** 4 s.h.  
Basic patterns, underlying physical and biotic causes of regional and local distributions of North American prairie plants and animals; field and laboratory analysis and projects. Requirements: familiarity with basic principles of biology and ecology.
- IALL:3123 Prairie Ecology I** 2 s.h.  
Recognition of Iowa prairie plants and understanding the systems in which they exist; emphasis on identification of tallgrass prairie flora by sight recognition, family, genus, species, and common names. Requirements: basic familiarity with biology and ecology.
- IALL:3125 Prairie Ecology II** 2 s.h.  
Hands-on learning experiences demonstrating dynamic, human-influenced (anthropogenic) systems which have impacted prairie ecosystems for the past 10,000 years or more; emphasis on identification of tallgrass prairie flora by sight recognition, family, genus, species, and common names. Requirements: general familiarity with biology and ecology.
- IALL:3126 Ornithology** 2-4 s.h.  
Biology, ecology, and behavior of birds; emphasis on field studies of local avifauna; group projects with focus on techniques of population analysis and methodology for population studies.
- IALL:3131 Ecology** 4 s.h.  
Introduction to the principles of ecology at the population, community, ecosystem levels; field studies of local lakes, wetlands, and prairies used to examine factors that control distributions, interactions, and roles of plants and animals in native ecosystems. Requirements: two semesters of introductory biology.
- IALL:3141 Environmental Policy** 3 s.h.  
Theory and practice of environmental policies, including the study of U.S. federal environmental policies with direct and indirect bearings on water issues; focus on policy history, implementation, and effectiveness; how policies interact with each other, how local stakeholders perceive their pros and cons, and linkages between local implementation efforts and regional and large-scale impacts.
- IALL:3162 Restoration Ecology** 2 s.h.  
Ecological principles for restoration of native ecosystems; establishment (site preparation, selection of seed mixes, planting techniques) and management (fire, mowing, weed control) of native vegetation; evaluation of restorations; emphasis on prairie restoration and wetland vegetation. Requirements: ecology course.
- IALL:3164 Animal Behavior** 2 s.h.  
Examination of ecological and evolutionary theories of animal behavior through field studies of animal coloniality, courtship, territoriality, predator defense, habitat selection, foraging, mating systems, and parental care. Requirements: two biology courses.
- IALL:3175 Soil Formation and Landscape Relationships** 2-4 s.h.  
Relationships between soil formation, geomorphology, environment; soil description, classification, geography, mapping, interpretation for land use.

**IAL:3176 Glacial Geomorphology 2,4 s.h.**

Field-based introduction to glacial environments and processes including the origin of sediments, landforms, and landscapes produced in glacial and associated environments; aeolian (wind) processes, river and lacustrine systems, and mechanisms and chronologies of climate change.

**IAL:3200 Introduction to Research and Inquiry 1-3 s.h.**

How data transforms to information and ultimately knowledge through scientific investigations; examinations and applications include steps formulating the scientific method using 21st-century data, conditions, and related challenges; deliverables include a thoroughly documented scientific experiment beginning with research questions and hypotheses, recommended methods, and concluding with anticipated results.

**IAL:5213 Graduate Independent Study 1-4 s.h.****IAL:5217 Ecology and Systematics of Diatoms 2,4 s.h.**

# Leadership Studies

## Codirectors

- Jamarco Clark, Amanda McFadden

**Undergraduate certificate:** leadership studies

**Website:** <https://careers.uiowa.edu/alp>

Leadership studies is a multidisciplinary academic field that draws upon theories and applications from a wide variety of related disciplines, such as the social sciences (e.g., psychology, sociology, political science, and anthropology) and the humanities (e.g., philosophy and history), as well as professional fields, including management and education. The Leadership Studies Program examines ethical issues, principles, theories, and styles of leadership; the dynamics of interactions between leaders, followers, and group members; leaders' impact on organizations and communities; and leadership skills such as goal setting, communicating effectively, creating a vision, and empowering others.

The Leadership Studies Program offers the undergraduate Certificate in Leadership Studies as well as the Career Leadership Academy, a two-course sequence designed to help undergraduate students develop leadership and employment skills. The program also offers professional development courses.

## Certificate in Leadership Studies

The Certificate in Leadership Studies is an interdisciplinary program coordinated by the Pomerantz Career Center and supported by the Tippie College of Business, the College of Education, the College of Liberal Arts and Sciences, and the Office of Leadership, Service, and Civic Engagement.

## Career Leadership Academy

The Career Leadership Academy is a two-semester sequence of courses designed to help undergraduate students develop vital skills for leadership and career development: communication, interpersonal, and presentation skills and the ability to work well with others. This highly interactive program consists of weekly seminars, activities, and events. Participants also engage in career exploration opportunities, professional networking, and leadership development experiences.

Code	Title	Hours
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

For more information, see Career Leadership Academy on the Pomerantz Career Center website.

## Professional Development

Professional development courses provide students with opportunities to engage in practical, hands-on, skills-based instruction relevant to careers and leadership development. The topics and curricula for the following courses incorporate input from employers, who were surveyed about their experiences, real-world examples, guidance, and which skills they most often seek when hiring new graduates.

Code	Title	Hours
LS:2013	Strengths-Based Leadership	1
LS:3003	Culturally Intelligent Leadership	1

## Programs

## Undergraduate Program of Study Certificate

- Certificate in Leadership Studies [p. 2189]

## Courses

## Leadership Studies Courses

**LS:1009 Mock Trial** **2 s.h.**  
Opportunity to learn legal analysis and argumentation, public performance; participation in University of Iowa Mock Trial Club; mock trial role preparation, tournament competition, and staging an annual club tournament.

**LS:1014 Learning Assistants Training** **0-3 s.h.**  
Enhancement of skills that lead to success in facilitating collaborative learning; helping skills, knowledge, and peer support to promote deeper reflection, learning, and application of content; use of collaborative activities and discussions to highlight concepts and skills, and individual reflection assignments to promote metacognition; led by UI Academic Support and Retention; for learning assistants in first semester of role.

**LS:1015 Learning Assistant Advanced Practicum** **0-2 s.h.**  
Opportunity to continue to develop skills in facilitating collaborative learning environments; application of pedagogy concepts to learning assistant experience; students facilitate activities in assigned lecture courses and reflect on their experience in advanced practicum sessions; topics include helping skills, metacognition, study strategies, diversity, equity, inclusion, and motivation in learning environments; exploration of problem solving and personal growth. Prerequisites: LS:1014. Requirements: acceptance to learning assistant program as a returning learning assistant.

**LS:1017 Orientation and Transition Leader Training** **0-3 s.h.**  
Preparation for a leadership role in the Office of Orientation Services.

**LS:1018 Issues in College Residence Halls I** **0-1 s.h.**  
Development of knowledge and skills required for work as a resident assistant; creating community, handling crises and emergencies; leadership.

**LS:1020 Introduction to Leadership** **3 s.h.**  
Examination of leadership behaviors and actions that turn challenging opportunities into remarkable success; the Five Practices of Exemplary Leadership; discussions with campus leaders; development of a plan to improve leadership skills; exploration of the experience of present-day leaders and movements with a common reading selected annually; for emerging student leaders.

**LS:1021 Current Issues and Leadership in Fraternity and Sorority Life** **3 s.h.**  
Current issues facing leaders (alcohol and hazing education, conflict management, lasting impact of organizations on members); lifetime membership and values-based decision making; for leaders of fraternity and sorority community.

**LS:1022 President's Leadership Class 3 s.h.**

Inside look at the University of Iowa; focus on development of student leadership through team and campus projects; opportunity to interact with campus leaders, including the University of Iowa president. Requirements: sophomore standing and application.

**LS:1024 Hawkeye Service Breaks arr.**

Introduction to theoretical approaches to service learning and shared experiential learning; concepts of intersectionality of varied social and community issues, reflection and reciprocity, active citizenship and community building, practical implementation of skills from student's academic disciplines, leadership development; includes overnight service immersion experience during spring break in a designated team location where students complete approximately 24 total hours of direct service with nonprofit partners and participate in critical reflection; emphasis on stretch and serve components of the IOWA Challenge.

**LS:1025 Leadership for Social Justice 3 s.h.**

Social justice as a process and a goal; students build a brave community that empowers all members when faced with social justice related dilemmas; skills that bring about positive social change on campus, within local communities, and on global scale; for students who are committed to study and practice of social justice in their personal and professional lives and student organization leaders directly advised or supported by UI cultural and resource centers—Afro-American Cultural Center (AACC), Asian Pacific American Cultural Center (APACC), Latino Native American Cultural Center (LNACC), and the Pride Alliance Center.

**LS:2002 Career Leadership Academy Part 1: Leadership in Practice 3 s.h.**

How to become a successful leader; opportunity to increase understanding of self, others, and the skills sought by employers; work and lead effectively in teams; creation of a group presentation focused on community needs; career components of résumé writing, LinkedIn profile development, and networking; first in a two-course series.

**LS:2013 Strengths-Based Leadership 1 s.h.**

Examination and evaluation of personal unique talents, be more engaged, and gain better understanding of leadership from a "Strengths" perspective; how to maximize strengths to stand out from the crowd; how society encourages people to be well-rounded (according to Gallup Organization's Strengths research) and how this pursuit of many goals can actually result in mediocrity.

**LS:2020 Women in Leadership 3 s.h.**

Overview of relevant history, theory, and practice of women in effective leadership; women leaders from historical to modern times; focus on exploring obstacles and challenges faced by women in leadership and how people of all genders can work to overcome these barriers.

**LS:2024 Hawkeye Service Breaks Leadership 0,2 s.h.**

Focus on techniques for planning trip logistics, education on social issues, and facilitation of critical reflection; development in theoretical approaches to service learning specifically connected to service immersion leadership; varied concepts including intersectionality of varied social and community issues, reflection and reciprocity, active citizenship and community building, practical implementation of skills from student's academic disciplines, leadership development, and other related areas. Requirements: LS:1024, and application and acceptance to leadership position.

**LS:3002 Career Leadership Academy Part 2: Leadership in Action 3 s.h.**

Leadership development and career readiness; application of strengths, building effective teams, motivation, and delegation skills to a service-learning project designed by the class through engagement with a community partner; explore interviewing, personal branding, job searching, professional etiquette, salary negotiation, and transitioning successfully into the workplace; second in a two-course series. Prerequisites: LS:2002.

**LS:3003 Culturally Intelligent Leadership 1 s.h.**

Knowledge and skills for leadership in an increasingly diverse and global workplace; highly interactive and relational experience; students gain a greater understanding of their leadership in various environments and learn how to develop tools for establishing and maintaining interpersonal relationships for professional success.

**LS:3004 Perspectives on Leadership: Principles and Practices 3 s.h.**

Broad foundation of leadership knowledge representing diverse approaches to studying and practicing leadership; core course for students pursuing the leadership certificate. Requirements: sophomore or higher standing.

**LS:3011 Leadership Certificate Capstone 0,2 s.h.**

Registration of practical work experience (internship or career position) with leadership components, or meaningful and educational cocurricular experience in on-campus leadership position (i.e., student organization leader, student government leader, residence assistant, student orientation advisor, peer educator, fraternity/sorority leader) with active leadership roles and responsibilities (i.e., executive leadership position, initiating and organizing a major event); application of leadership models and theories to practical experiences; for students completing the leadership certificate. Prerequisites: LS:3004. Requirements: an additional 6 s.h. of approved leadership coursework and meet with instructor prior to enrollment.

**LS:3012 Leadership Theory to Practice 3 s.h.**

How the world is changing at an accelerating rate; leadership effectiveness and demand of a high-level ability to work with others and respond to change; foundational concepts of major theories and behaviors of leadership models; practical challenges of leadership analyzed through use of experiential projects, discussion, presentations, exercises; development of self-awareness through use of behavioral instruments, group exercises, individual reflection; major approaches to leadership, authentic leadership, team leadership, gender issues in leadership, emotional intelligence, virtual leadership.

# Leadership Studies, Certificate

## Requirements

The undergraduate Certificate in Leadership Studies requires 20 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Students must declare their intent to earn the certificate to a leadership studies advisor in the Pomerantz Career Center; see Academic and Leadership Programs on the center's website for information on how to enter the certificate program.

The certificate program provides a structure for involvement and commitment to leadership. It introduces students to leadership concepts and offers them hands-on leadership experiences they will need in order to begin the lifelong development of these skills. Certificate students complete two interdisciplinary core courses (6 s.h.), area electives (12 s.h.), and an experiential learning course (2 s.h.). A course may not be used to satisfy more than one certificate requirement. Students also have the opportunity to complete the certificate online.

The Certificate in Leadership Studies requires the following coursework.

## Interdisciplinary Core Courses

All certificate students are required to complete two interdisciplinary core courses. In order to enroll in either course, students must have sophomore or higher standing and be in good academic standing as defined by the College of Liberal Arts and Sciences (cumulative g.p.a. of at least 2.00).

Code	Title	Hours
LS:3004	Perspectives on Leadership: Principles and Practices	3
LS:3012	Leadership Theory to Practice	3

Perspectives on Leadership: Principles and Practices (LS:3004) provides students with a broad foundation of leadership knowledge. It introduces diverse approaches to studying and practicing leadership and gives students a structure for organizing knowledge and skills from other leadership courses and experiences. The course features presentations by guest instructors from across the University, offering students an interdisciplinary perspective on leadership.

With the world changing at an accelerating rate, Leadership Theory to Practice (LS:3012) examines leadership effectiveness and the demand of a high-level ability to work with others and respond to change. Foundational concepts of major theories and behaviors of leadership models are covered, and practical challenges of leadership are analyzed.

## Area Electives

Area electives are drawn from four developmental areas central to effective leadership: self and group leadership, communication, cultural competence, and ethics and integrity. Students must complete 3 s.h. from each of these areas (total of 12 s.h.).

### Self and Group Leadership

Code	Title	Hours
At least 3 s.h. from these:		
LS:1020	Introduction to Leadership	3
LS:1022	President's Leadership Class	3
LS:2002	Career Leadership Academy Part 1: Leadership in Practice	3
LS:2020	Women in Leadership	3
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3
AERO:3100	Leadership Studies: Leading People and Effective Communication I	3
AERO:3200	Leadership Studies: Leading People and Effective Communication II	3
CLSA:2913	Power, Class, and Gender	3
COMM:1819	Organizational Leadership	3
COMM:2011	Group Communication	3
LLS:1150	Leadership in the Outdoors	4
MGMT:2100	Introduction to Management	3
MGMT:3200	Individuals, Teams, and Organizations	3
MGMT:3999	CIMBA Italy Experiential Leadership	1-3
MGMT:4300	Leadership and Personal Development	3
MILS:1010	Leadership and Personal Development MSL101	1
MILS:1020	Introduction to Tactical Leadership MSL102	1
MILS:2010	Innovative Team Leadership MSL201	2
MILS:2020	Foundations of Tactical Leadership MSL202	2
PSY:2501	Introduction to Social Psychology	3
SOC:1220	Principles of Social Psychology	3-4
SOC:3610	Organizations and Modern Society	3
SOC:4225	The Social Psychology of Leadership	3
SSW:3600/ MGMT:3600/ NURS:3600/ RELS:3701	Nonprofit Organizational Effectiveness II	3

### Communication

Code	Title	Hours
At least 3 s.h. from these:		
BUS:3000	Business Communication and Protocol	3

BUS:3800	Business Writing	3
CNW:3640	Writing for Business	3
COMM:1112	Interpersonal Communication	3
COMM:1117	Advocacy and Argument	3
COMM:1130	The Art of Persuading Others	3
COMM:1170	Communication Theory in Everyday Life	3
COMM:1818	Communication Skills for Leadership	3
COMM:1819	Organizational Leadership	3
COMM:2091	Organizational Communication	3
MGMT:4100	Dynamics of Negotiations	3

## Cultural Competence

Code	Title	Hours
At least 3 s.h. from these:		
AFAM:3459/ ENGL:3459	African American Literature Before 1900	3
AMST:1074/ GWSS:1074/ SPST:1074	Inequality in American Sport	3
ASP:3135/ GHS:3050/ SSW:3135	Global Aging	3
CCCC:2220	Foundations of Critical Cultural Competence	3
CSED:4197	Citizenship in a Multicultural Society	3
EPLS:4150- EPLS:4151	Leadership and Public Service I-II (both courses are required)	5
GWSS:1002	Diversity and Power in the U.S.	3
GWSS:1310/ SOC:1310	Gender and Society	3
GWSS:3154	Sexuality in the United States	3
HHP:1045	Diversity and Inclusion in Healthy Living	3
HHP:2280	Cultural Competency in Health Promotion	3
HIST:1040	Diversity in History	3
JMC:1200	Introduction to Media and Culture	3
MUS:1310	World Music	3
SOC:2810	Social Inequality	3
One elective approved for the Certificate in Critical Cultural Competence <sup>1</sup>		3

<sup>1</sup> Students who use an elective approved for the Certificate in Critical Cultural Competence to satisfy this requirement must choose it from elective courses listed on the Certificate in Critical Cultural Competence website and must notify the advisor for the Certificate in Leadership Studies via email.

## Ethics and Integrity

Code	Title	Hours
At least 3 s.h. from these:		
CSED:4195	Ethics in Human Relations and Counseling	3
HMP:6315	Healthcare Ethics	1-2
HRTS:2115/IS:2115	Introduction to Human Rights	3
JMC:2600	Freedom of Expression	3
JMC:2700	Media Ethics and Diversity	3
MGMT:2000	Introduction to Law	3
MGMT:3400	Employment Law	3
PHIL:1034	Liberty and the Pursuit of Happiness	3
PHIL:1401	Matters of Life and Death	3
PHIL:1636	Principles of Reasoning: Argument and Debate	3
PHIL:1861	Introduction to Philosophy	3
PHIL:2402	Introduction to Ethics	3
PHIL:2432	Introduction to Political Philosophy	3
PHIL:2435	Philosophy of Law	3
PTRS:5100	Professional Issues and Ethics	1

## Experiential Learning

Certificate students must earn at least 2 s.h. in a course focused on experiential or hands-on learning. An experiential learning course may take different forms, such as a service learning experience, an internship, or an on-campus leadership practicum. To satisfy the experiential learning requirement, they must complete one of these options: LS:1024 or LS:3002 or LS:3011.

## Service Learning Courses

Service learning courses incorporate community engagement with academic coursework. They allow students to gain hands-on experience along with a deeper understanding of course content while responding to real community needs.

Students may satisfy the certificate's experiential learning requirement by earning a minimum of 2 s.h. in service learning courses from the following.

Code	Title	Hours
May select one of these two options:		
<b>Option A</b>		
LS:1024	Hawkeye Service Breaks	arr.
<b>Option B</b>		
LS:3002	Career Leadership Academy Part 2: Leadership in Action	3

## Internship or On-Campus Leadership Practicum

Students may register for the following course earning a minimum of 2 s.h. in order to receive certificate credit for the internship or on-campus leadership practicum. Certificate students must complete LS:3004 Perspectives on Leadership: Principles and Practices and at least 6 s.h. of additional leadership coursework in the certificate before they may enroll in LS:3011. They must complete all course assignments in order to fulfill the experiential learning requirement.

Students who want to count LS:3011 toward the Tippie RISE requirement must register for an internship; registering with an on-campus leadership practicum will not satisfy Tippie RISE.

Code	Title	Hours
LS:3011	Leadership Certificate Capstone	2

Internships consist of preapproved, supervised on-the-job learning; they may be paid or unpaid.

To meet the certificate's experiential learning requirement, an internship must consist of professional experience that relates to a student's major field of study or career interest area and allows the student to build on the academic coursework already completed in the certificate program. At least 80 percent of a student's internship duties must be professional-level work, and a student must receive continuous supervision by a professional (not a student) in the internship field. The internship must last a minimum of 15 weeks in fall or spring semester or six weeks in the summer and requires 150 hours of work.

Internships that fulfill the certificate's experiential learning requirement must be approved in advance by one of the certificate program's advisors, and the internship site supervisor must agree to the terms of the internship and must complete the required form before the internship may be approved. Students may work with staff at the Pomerantz Career Center to find an approved internship opportunity, or they may secure their own internship.

For more information about internships, see Jobs and Internships on the Pomerantz Career Center website.

Students who wish to fulfill the experiential learning requirement with an on-campus leadership practicum must engage in a formal, approved experience that is meaningful, educational, and cocurricular. It requires a student to take initiative and pursue active leadership roles and responsibilities. Examples include positions as student organization leaders, student government leaders, University Housing resident assistants, student orientation advisors, peer educators, and fraternity and sorority leaders. Practicums may be paid or unpaid.

To meet the certificate's experiential learning requirement, a practicum must last a minimum of 15 weeks in fall or spring semester or six weeks in the summer and requires 150 hours of work.

Practicums that fulfill the certificate's experiential learning requirement must be approved in advance by one of the certificate program's advisors. Students must submit a list of goals and assignments and/or duties they will complete during the practicum in order to demonstrate that the practicum provides substantive work assignments and opportunities to build on the academic coursework they have completed in the certificate program.

Each student also must identify a practicum mentor and demonstrate that the mentor is willing to guide and evaluate the student's work and development of leadership skills, and intends to participate in reviewing the student's goal-setting assignment and the final review of the student's performance.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

#### Leadership Studies, Certificate

Course	Title	Hours
<b>Second Year</b>		
<b>Any Semester</b>		
LS:3004	Perspectives on Leadership: Principles and Practices <sup>a</sup>	3
LS:2002	Career Leadership Academy Part 1: Leadership in Practice <sup>b</sup>	3
GWSS:1002	Diversity and Power in the U.S. <sup>c</sup>	3
<b>Hours</b>		<b>9</b>
<b>Third Year</b>		
<b>Any Semester</b>		
LS:3012	Leadership Theory to Practice <sup>a</sup>	3
LS:3002	Career Leadership Academy Part 2: Leadership in Action <sup>d</sup>	3
CSED:4195	Ethics in Human Relations and Counseling <sup>e</sup>	3
<b>Hours</b>		<b>9</b>
<b>Fourth Year</b>		
<b>Any Semester</b>		
COMM:1112	Interpersonal Communication <sup>f</sup>	3
<b>Hours</b>		<b>3</b>
<b>Total Hours</b>		<b>21</b>

- a A required core course for the Leadership Studies Certificate. Students must declare the certificate in order to enroll in this course.
- b Satisfies "Self and Group Leadership" category requirement.
- c Satisfies "Cultural Competence" category requirement.
- d Satisfies "Experiential Learning" category requirement.
- e Satisfies "Ethics and Integrity" category requirement.
- f Satisfies "Communication" category requirement.

# Lifetime Leisure Skills

## Director

- Steve J. Campbell

**Website:** <https://recserv.uiowa.edu/lifetime-leisure-skills>

Lifetime Leisure Skills (LLS) courses are designed to engage students in fun and healthy recreational activities that can be continued beyond college and throughout their lives.

Courses range from outdoor recreation activities such as rock climbing, canoeing, kayaking, backpacking, biking, and camping to indoor activities that include tae kwon do, kickboxing, brazilian jiu-jitsu, salsa dancing, and ballroom dancing. LLS courses are appropriate for students at all skill levels.

LLS courses are open to University of Iowa undergraduate and graduate students. Undergraduate students in the College of Liberal Arts and Sciences may count credit earned in LLS courses toward the total number of semester hours required for their degree. Students should consult their academic advisor.

While the majority of courses are on campus or in the Iowa City area, several off-campus courses are held in locations that include Grand Canyon National Park, Canyonlands National Park, Arches National Park, Zion National Park, Big Bend National Park, Voyageurs National Park, Grand Staircase-Escalante National Monument, Glen Canyon National Recreation Area, Effigy Mounds National Monument, Loess Hills State Forest, Yellow River State Forest, Maquoketa Caves State Park, Devil's Lake State Park, Pictured Rocks County Park, and the Upper Iowa River.

## Courses

### Lifetime Leisure Skills Courses

- LLS:1100 Introduction to Camping** 1 s.h.  
Introduction to the wonderful world of camping; focus on development of skills and knowledge pertaining to camping equipment, campsite selection and setup, outdoor cooking, useful knots, and minimum impact principles; overnight camping required.
- LLS:1110 Exploring Iowa's Natural Wonders** 1 s.h.  
Natural history of the Loess Hills of western Iowa, Maquoketa Caves of eastern Iowa, or Effigy Mounds National Monument and Yellow River State Forest of northeastern Iowa; overnight camping required.
- LLS:1115 Hiking** 1 s.h.  
Beginner-level hiking skills; safety and planning; proper care and use of equipment; physically strenuous; overnight camping required.
- LLS:1120 Backpacking** 1 s.h.  
Beginner-level backpacking skills; basic map reading, proper packing and planning, equipment and clothing selection; physically strenuous; overnight camping required.
- LLS:1121 Expedition Backpacking** 1 s.h.  
Remote, multiday, backcountry camping skills; proper packing and planning; backcountry nutrition; topographic map reading; equipment and clothing selection; very physically strenuous; overnight camping required.
- LLS:1130 Basic Orienteering** 1 s.h.  
Basics of orienteering, including map and compass skills. Taught at Macbride Nature Recreation Area.

- LLS:1131 Expedition Orienteering** 1 s.h.  
Extensive navigation and camping skills in a remote wilderness; focus on map and compass skills including declination, bearings, triangulation, topographical map reading, situational awareness; backcountry camping skills; very physically strenuous.
- LLS:1140 Team Building** 1 s.h.  
Exploration of various methods of team building and common characteristics of successful teams through the use of UI Challenge Course; strong emphasis on cooperative group work and discussions.
- LLS:1150 Leadership in the Outdoors** 4 s.h.  
Leadership theories, group dynamics, expedition logistics, outdoor leadership skills, risk management; indoor and outdoor classroom sessions, overnight camping required; technical skill development may include backpacking, canoeing, kayaking, rock climbing, mountain biking, bike touring, general camping.
- LLS:1200 Introduction to Rock Climbing** 1 s.h.  
Utilization of indoor and outdoor climbing classrooms; comprehensive introduction to physical techniques of rock climbing, mechanical skills of belaying, proper usage of personal protective equipment, and common climbing terminology.
- LLS:1201 Intermediate Rock Climbing** 1 s.h.  
Expands on skills learned in LLS:1200; requires current belay card for UI Campus Recreation and Wellness Center climbing wall; overnight camping required. Prerequisites: LLS:1200.
- LLS:1202 Expedition Rock Climbing** 1 s.h.  
Multiday climbing expedition; physically strenuous; overnight camping required.
- LLS:1205 Anchor Systems for Top Rope Climbing** 1 s.h.  
Development of basic skills for climbing anchors; understanding setting top-rope anchors; use of bolts, trees, and passive and mechanical chocks for anchor setting; equalization of anchors; basic knots for rope, webbing, and cordelettes; basic understanding of the structural integrity and frictional forces important to anchor setting.
- LLS:1206 Technique for Rock Climbing** 1 s.h.  
Multiweek conditioning and technique program for improving rock climbing skills; warming up and stretching, movement, mental fitness, strength, power, endurance training, and goal setting. Prerequisites: LLS:1200. Requirements: must have a current belay card at UI climbing wall.
- LLS:1210 Introduction to Lead Climbing: Sport** 2 s.h.  
Fundamentals of single-pitch sport climbing on lead; belaying a leader; use of 52.5 foot tall climbing wall at UI Campus Recreation and Wellness Center; eligible to obtain lead climbing approval after successful completion of course. Prerequisites: LLS:1200. Requirements: must have a current belay card at UI climbing wall.
- LLS:1212 Expedition Lead Climbing: Sport** 1 s.h.  
Multiday single-pitch sport lead climbing expedition; requires current lead climbing approval for UI Campus Recreation and Wellness Center climbing wall; overnight camping required.
- LLS:1231 Introduction to Bouldering** 1 s.h.  
Basic skills, safety, and techniques for bouldering.
- LLS:1232 Expedition Bouldering** 1 s.h.  
Multiday bouldering expedition; overnight camping required.
- LLS:1240 Introduction to Ice Climbing** 1 s.h.  
Basics of ice climbing.



- LLS:1241 Expedition Ice Climbing** 1 s.h.  
Multiday ice climbing expedition.
- LLS:1300 Recreational Cycling** 1 s.h.  
Basics of bicycling for recreation; riding techniques, basic bicycle maintenance, rules of the road; students must already know how to ride a bike; physically strenuous. Taught on Johnson County area roads and trail systems.
- LLS:1301 Urban Cycling** 1 s.h.  
How to safely navigate urban areas by bicycle; traffic laws, situational awareness, basic maintenance, planning and route considerations.
- LLS:1310 Bicycle Touring** 1 s.h.  
Planning and packing for self-supported, overnight bicycle touring trips; proper care and use of equipment; physically strenuous; overnight camping required.
- LLS:1311 Expedition Bicycle Touring** 1 s.h.  
Multiday self-supported bicycle touring expedition; camp while exploring iconic touring routes of the United States; very physically strenuous; overnight camping required.
- LLS:1320 Mountain Biking** 1 s.h.  
Basics of mountain bicycling; riding techniques, basic bicycle maintenance, trail etiquette. Taught on Sugar Bottom recreation trail system.
- LLS:1322 Expedition Mountain Biking** 1 s.h.  
Multiday mountain bicycling expedition; very physically strenuous; overnight camping required.
- LLS:1360 Trail Running** 1 s.h.  
Techniques of off-road running; local running trails in and around Iowa City; emphasis on proper training, clothing, equipment, and nutrition; physically strenuous; no experience required.
- LLS:1361 Expedition Trail Running** 1 s.h.  
Multiday trail running expedition; very physically strenuous; overnight camping required.
- LLS:1400 Flat Water Canoeing** 1 s.h.  
Basics of flat water tandem canoeing; paddle strokes, canoe anatomy, water safety. Taught at Macbride Nature Recreation Area.
- LLS:1401 River Canoeing** 1 s.h.  
Fundamentals of tandem canoeing on moving water; basic paddling strokes, canoe anatomy, hydrology, river safety; overnight camping required.
- LLS:1403 Expedition Canoeing** 1 s.h.  
How to plan and pack for multiday canoeing expeditions; Leave No Trace primitive camping; paddling skills in loaded canoes; reading river/lake maps; portaging techniques; rescue techniques; overnight camping required.
- LLS:1410 Sea Kayaking** 1 s.h.  
Basics of sea kayaking using solo and tandem boats. Taught at Macbride Nature Recreation Area.
- LLS:1411 Expedition Sea Kayaking** 1 s.h.  
Multiday sea kayaking expedition; primitive camping; paddling skills in loaded kayaks, reading river/lake maps, rescue techniques.
- LLS:1420 River Kayaking** 1 s.h.  
Fundamentals of kayaking on moving water; basic paddling strokes, kayak anatomy, hydrology, river safety; overnight camping required.
- LLS:1422 Whitewater Kayak Playboating** 1 s.h.  
Varied techniques of playboating—a style of whitewater kayaking in which the paddler performs tricks on natural or human-made whitewater features; introductory pool session; taught on rivers in Iowa with whitewater kayaking parks. Recommendations: previous whitewater kayaking experience or LLS:1421.
- LLS:1423 Expedition Whitewater Kayaking** 1 s.h.  
Multiday whitewater kayaking expedition; class I-III rapids, rolling and bracing, safety and rescue techniques; overnight camping required.
- LLS:1430 Stand Up Paddleboarding** 1 s.h.  
Introduction to paddleboarding skills on flat, calm water; paddling environment, board and paddle control, standing and balancing, personal preparation and safety.
- LLS:1431 Stand-Up Paddleboard Yoga** 1 s.h.  
Paddleboarding and yoga, learning and combining two skills in one course; for all skill levels.
- LLS:1440 Scuba** 1 s.h.  
Basics of Scuba diving. Seven weeks.
- LLS:1441 Advanced Open Water Scuba** 1 s.h.  
Participation in five scuba diving specialty activities. Prerequisites: LLS:1440. Requirements: certification as open water scuba diver.
- LLS:1500 Winter Camping** 1 s.h.  
How to successfully and comfortably camp in cold, harsh conditions; snow shelters, hydration, meal preparation, clothing needs; snowshoe/ski travel with sleds (as conditions permit).
- LLS:1510 Snowshoeing** 1 s.h.  
Basics of snowshoeing; physically strenuous.
- LLS:1512 Expedition Snowshoeing** 1 s.h.  
Multiday snowshoeing and winter camping expedition; very physically strenuous; overnight camping required.
- LLS:1520 Cross-Country Skiing** 1 s.h.  
Basics of cross-country skiing in northern Wisconsin.
- LLS:1522 Expedition Cross-Country Skiing** 1 s.h.  
Multiday cross-country skiing expedition; physically strenuous.
- LLS:1530 Alpine Skiing** 1 s.h.  
Basics of downhill skiing; physically strenuous.
- LLS:1532 Expedition Alpine Skiing** 1 s.h.  
Multiday alpine skiing expedition; very physically strenuous.
- LLS:1610 Kickboxing** 1 s.h.  
Basics of kickboxing.
- LLS:1611 Intermediate Kickboxing** 1 s.h.  
Aggressive workout utilizing heavy bags, coach's mitts, and other equipment; conducted at moderate to intense pace using competitive kickboxing techniques, training methods, and equipment; kickboxing as a conditioning tool with self-defense as a byproduct; not designed to prepare for competition. Prerequisites: LLS:1610.
- LLS:1620 Tae Kwon Do** 1 s.h.  
Basics of Tae Kwon Do.
- LLS:1630 Brazilian Jiu-Jitsu** 1 s.h.  
Introduction to the sport of Brazilian Jiu Jitsu; basic self-defense, positional grappling, submissions, submission defense; no martial arts experience required.
- LLS:1650 Ballroom Dancing** 1 s.h.  
Basics of ballroom dancing; overview of several figures; beginner level.

**LLS:1651 Ballroom Dancing: Waltz 1 s.h.**

Beginning through intermediate-level waltz figures; performing a beautiful waltz routine; skills and knowledge to dance with confidence at any formal dance occasion; for all skill levels.

**LLS:1652 Ballroom Dancing: Foxtrot and Tango 1 s.h.**

Beginning to intermediate-level figures in two of the most beautiful and popular dances in the world—foxtrot and tango; for all skill levels.

**LLS:1653 Ballroom Dancing: Rhumba, Cha Cha, Merengue 1 s.h.**

Beginner- to intermediate-level figures in three of the most popular and energy-charged Latin dances of today—Rhumba, Cha Cha, and Merengue; for all skill levels.

**LLS:1654 Ballroom Dancing: Nightclub Series 1 s.h.**

Salsa, the Hustle, Nightclub Two-Step, Argentine tango; for all skill levels.

**LLS:1655 Ballroom Dancing: Rhythm and Smooth 1 s.h.**

Mambo, samba, waltz, Viennese waltz; for all skill levels.

**LLS:1660 Salsa Dancing 1 s.h.**

Fundamentals of Latin/Salsa dancing; musical rhythms, cultural history, postures, technique, basic movements; techniques for developing strength, stamina, balance, poise, and partner dancing skills; traditional social behaviors in salsa's cultural context.

**LLS:1671 Beginner Knitting: Mindfulness and Patience 1 s.h.**

Basics of knitting while exploring mindfulness and patience.

**LLS:1675 Yoga 1 s.h.**

Emphasis on mindfulness, breath awareness, and attention to alignment.

**LLS:1680 Golf 1 s.h.**

Basic principles and fundamentals of golf swing (e.g., full swing, pitching, chipping, putting); opportunity to practice skills at various facilities; history, basic rules, proper golf etiquette, evolution of golf related to technology.

**LLS:1690 Gardening: Vegetables and Herbs 1 s.h.**

Fundamental skills for successfully growing vegetables and herbs outdoors and in containers.

**LLS:1691 Gardening: Designing Edible Forests 1 s.h.**

Fundamental skills for successfully designing and establishing fruit trees, berry bushes, and perennial herbs in ways that emulate a healthy woodland ecosystem and enrich our interaction with nature.

**LLS:1801 Wilderness First Responder 2 s.h.**

Skills necessary for providing critical medical care and making evacuation decisions in remote wilderness locations; interactive lectures, case studies, and hands-on practice through realistic scenarios help master material; 80-hour certification course.

**LLS:1850 Service Learning 1 s.h.**

Service learning project in an urban or wilderness setting; learn about local community, environment; projects depend on location, season.

**LLS:4000 Independent Study arr.**

Individual study in an area of interest to students; coursework determined by faculty supervisor.

# Military Science (Army ROTC)

## Director

- Kevin A. Salge

**Undergraduate minor:** military science

**Website:** <https://veterans.uiowa.edu/army-rotc>

The Military Science Program is synonymous with the Iowa Army Reserve Officers' Training Corps (ROTC). It gives students who wish to serve on active or reserve status in the U.S. Army the opportunity to earn commissions as Army officers. It also administers merit scholarships from the United States government to qualified students.

Although the Military Science Program does not offer degrees, students can earn a minor in military science. ROTC courses provide education in the military's role and instruction in leadership and management. The program's courses are an essential part of the University of Iowa ROTC program.

Military science courses are open to all students. Course credit that counts toward graduation varies by college. Students in the College of Liberal Arts and Sciences may count up to 20 s.h. earned in military science courses toward graduation.

## Undergraduate and Graduate Programs

### Basic Course

The ROTC Basic Course is designed primarily for first- and second-year students. It provides the fundamentals of leadership and management and introduces the roles of the military as influenced by national and foreign policy. Students incur no obligation to the military for participation in the Basic Course.

The following four courses satisfy the Basic Course requirement.

Code	Title	Hours
MILS:1010	Leadership and Personal Development MSL101	1
MILS:1020	Introduction to Tactical Leadership MSL102	1
MILS:2010	Innovative Team Leadership MSL201	2
MILS:2020	Foundations of Tactical Leadership MSL202	2

Students can take Basic Course requirements over a one- or two-year period or during Basic Camp, held at Fort Knox, Kentucky. Students with prior military training normally are exempt from the Basic Course and Basic Camp requirements.

Basic Camp takes place in the summer, typically between a cadet's first and second years. Similar to basic training, Basic Camp trains cadets on many basic soldier skills ensuring cadets across the country have the same foundation knowledge to be successful with the remainder of their Army ROTC training.

### Advanced Course

The ROTC Advanced Course is for cadets who wish to pursue a commission as a lieutenant in the U.S. Army upon graduation. It is open to both undergraduate and graduate students. Most

cadets in the Advanced Course incur an obligation to the Army that can be satisfied in the Active Army, Army Reserve, or Army National Guard.

To enter the Advanced Course, students must satisfy the Basic Course requirement, earn at least 54 s.h., and have a cumulative g.p.a. of at least 2.00. In order to become U.S. Army officers, cadets must complete the Advanced Camp, held at Fort Knox, Kentucky. Cadets normally attend Advanced Camp during the summer between their third and fourth years.

The following courses are the academic requirements for completion of the Advanced Course.

Code	Title	Hours
MILS:3010	Adaptive Tactical Leadership MSL301	3
MILS:3020	Leadership in Changing Environments MSL302	3
MILS:4010	Developing Adaptive Leaders MSL401	3
MILS:4020	Leadership in a Complex World MSL402	3

### Additional Coursework

Cadets whose aim is a commission must satisfy a Professional Military Education (PME) requirement. They must complete at least one course in military history from the following list. Cadets may use other courses to meet the additional coursework requirement, with the military science professor's approval.

Code	Title	Hours
HIST:1261	American History to 1877	3
HIST:1262	American History 1877-Present	3
HIST:3271	American Revolutionary Period	3
HIST:4499	First World War	3-4

### Scholarship Opportunities

The Military Science Program offers two-, three-, and four-year ROTC scholarships for students who enter the ROTC program. These scholarships pay full tuition at the University of Iowa, an allotment for books and supplies each semester, mandatory educational fees, and a tax-free monthly stipend during the academic year. The tax-free monthly stipend is provided to non-scholarship cadets who enter a contractual agreement with ROTC to serve in the Army. Additional financial assistance may be provided through scholarships.

## Programs

### Undergraduate Program of Study Minor

- Minor in Military Science [p. 2197]

## Courses

### Military Science Courses

#### **MILS:1010 Leadership and Personal Development MSL101**

**1 s.h.**

Introduction to the personal challenges and competencies critical for effective leadership; how skills such as critical thinking, goal setting, time management, physical fitness, and stress management relate to leadership, officership, and the army as a profession; dimensions of army leadership; understanding of the ROTC program, its purpose in the army, its advantages for students. Offered fall semesters.

#### **MILS:1020 Introduction to Tactical Leadership MSL102**

**1 s.h.**

Leadership fundamentals such as setting direction, problem solving, listening, presenting briefs, providing feedback, using effective writing skills; leadership values, attributes, skills, and actions explored through hands-on, interactive exercises; cadre role models, development of strong relationships among students through common experience, practical interaction. Offered spring semesters.

#### **MILS:1090 Leadership Laboratory**

**0 s.h.**

Hands-on training in basic soldier skills, such as customs and courtesies, drill and ceremony, first aid, weapons employment, troop movement techniques; leadership training for U.S. army officership. Offered fall and spring semesters.

#### **MILS:1095 Advanced Military Fitness Training**

**1 s.h.**

Aerobics and running, muscular strength and endurance, flexibility, and nutrition through exercise and classroom instruction; how to evaluate and measure fitness improvement; developed around Army physical fitness training program. Offered fall and spring semesters.

#### **MILS:2010 Innovative Team Leadership MSL201**

**2 s.h.**

Dimensions of creative, innovative tactical leadership strategies and styles explored through team dynamics and historical leadership theories (trait and behavior) central to the Army leadership framework; personal motivation and team building through planning, executing, and assessing team exercises and participating in leadership labs; continued development of leadership values and attributes through understanding army rank, structure, duties, basic aspects of land navigation and squad tactics; case studies on soldier's creed and warrior ethos in the contemporary operating environment. Offered fall semesters.

#### **MILS:2020 Foundations of Tactical Leadership MSL202**

**2 s.h.**

Challenges of leading tactical teams in the complex contemporary operating environment; dimensions of terrain analysis, patrolling, operation orders; theoretical basis of the army leadership framework, dynamics of adaptive leadership in the context of military operations; self-assessment of cadet leadership styles, practice in communication and team building skills; case studies on importance and practice of teamwork and tactics in real-world scenarios. Offered spring semesters.

#### **MILS:3010 Adaptive Tactical Leadership MSL301**

**3 s.h.**

Study, practice, and evaluation of adaptive leadership skills in challenging scenarios related to squad tactical operations; feedback on cadets' leadership attributes and actions, continued development of leadership and critical thinking abilities; development of tactical leadership abilities in preparation for Leadership Development and Assessment Course (LDAC). Offered fall semesters. Corequisites: MILS:1090 and MILS:1095. Requirements: MILS:1010 and MILS:1020 and MILS:2010 and MILS:2020; or completion of army basic training or Leader's Training Course.

#### **MILS:3020 Leadership in Changing Environments MSL302**

**3 s.h.**

Development of cadet awareness and tactical leadership to platoon level, through increasingly intense situational leadership challenges; experience reviewing combat, stability, and support operations, conducting military briefings, developing proficiency in garrison operation orders; focus on exploring, evaluating, and developing skills in decision making, persuasion, and motivation of team members in a contemporary operating environment; preparation for summer Leader Development Assessment Course. Offered spring semesters. Prerequisites: MILS:3010. Corequisites: MILS:1090 and MILS:1095. Requirements: MILS:1010 and MILS:1020 and MILS:2010 and MILS:2020; or completion of army basic training or Leader's Training Course.

#### **MILS:3121 Readings in Contemporary Military Issues**

**1-3 s.h.**

Preparation of book reviews from a reading list provided by the instructor, with topics ranging from historical battles and campaigns to global impact of U.S. political policies; or writing of an operations order relating to an ROTC event or similar project of historical significance (work in conjunction with instructor). Requirements: MILS:1010 and MILS:1020 and MILS:2010 and MILS:2020; or completion of army basic training or Leader's Training Course.

#### **MILS:4010 Developing Adaptive Leaders MSL401**

**3 s.h.**

Development of proficiency in planning, executing, and assessing complex operations, functioning as member of a staff, providing performance feedback to subordinates; experience assessing risk, making ethical decisions, leading fellow cadets; military justice and personnel processes in preparation for officership; identification of key staff responsibilities, coordination of staff roles, use of situational opportunities to teach, train, and develop subordinates. Offered fall semesters. Prerequisites: MILS:3020 and MILS:3010. Corequisites: MILS:1090 and MILS:1095.

#### **MILS:4020 Leadership in a Complex World MSL402**

**3 s.h.**

Leadership dynamics in complex military operations of the contemporary operating environment; differences in customs and courtesies, military law, principles of war, rules of engagement in the face of international terrorism; interaction with nongovernmental organizations, civilians on the battlefield, host nation support; ethical and practical demands on army commissioned officers; preparation for first unit assignment through case studies, scenarios, exercises. Offered spring semesters. Prerequisites: MILS:3010 and MILS:4010 and MILS:3020. Corequisites: MILS:1090 and MILS:1095.

# Military Science, Minor

## Requirements

The undergraduate minor in military science requires a minimum of 20 s.h. of coursework taken at the University of Iowa. Students must maintain a g.p.a. of at least 2.00 in all courses for the minor and in all UI courses for the minor. Coursework in the minor may not be taken pass/nonpass. In order to count coursework taken at other institutions toward the minor, students must have the military science professor's approval.

The minor in military science requires the following coursework.

Code	Title	Hours
All of these:		
MILS:1010	Leadership and Personal Development MSL101	1
MILS:1020	Introduction to Tactical Leadership MSL102	1
MILS:2010	Innovative Team Leadership MSL201	2
MILS:2020	Foundations of Tactical Leadership MSL202	2
MILS:3010	Adaptive Tactical Leadership MSL301	3
MILS:3020	Leadership in Changing Environments MSL302	3
MILS:4010	Developing Adaptive Leaders MSL401	3
MILS:4020	Leadership in a Complex World MSL402	3
One of these:		
MILS:3121	Readings in Contemporary Military Issues (taken with a qualified IMHIC instructor)	2-3
HIST:1261	American History to 1877	3
HIST:1262	American History 1877-Present	3
HIST:3271	American Revolutionary Period	3
HIST:4499	First World War	3-4

# Nonprofit Leadership and Philanthropy

## Codirectors

- Deborah Dunkhase (Management and Entrepreneurship),  
Jenifer A. Vick (Journalism and Mass Communication)

**Undergraduate certificate:** nonprofit leadership and philanthropy

**Website:** <https://uc.uiowa.edu/certificate-nonprofit-leadership-and-philanthropy>

Nonprofit organizations play vital roles in our communities and contribute to our quality of life. These organizations have unique management, funding, and finance issues that require specialized training. The Certificate in Nonprofit Leadership and Philanthropy meets the needs of students who have a desire to prepare for a career in a nonprofit role or to impact the nonprofit sector through volunteering on a board, committee, or project.

The certificate provides students with the knowledge, skills, and mindset to participate effectively in the growing world of nonprofits. It gives students the tools to do good in the world, choosing a career in the nonprofit sector or by making a difference through volunteerism.

Core courses cover essentials in nonprofit leadership, fundraising, communication strategies, and nonprofit ethics and governance. The program provides a balance of academic principles and real-world experience, as well as a fundamental understanding of how nonprofit organizations participate in building communities. Courses are offered on campus and online, which allows distance and online students the opportunity to earn the certificate.

The Certificate in Nonprofit Leadership and Philanthropy is administered by the School of Journalism and Mass Communication [p. 769] (College of Liberal Arts and Sciences) and the Department of Management and Entrepreneurship [p. 1295] (Tippie College of Business). It is awarded by University College.

## Programs

### Undergraduate Program of Study Certificate

- Certificate in Nonprofit Leadership and Philanthropy [p. 2199]

# Nonprofit Leadership and Philanthropy, Certificate

## Requirements

The undergraduate Certificate in Nonprofit Leadership and Philanthropy requires a minimum of 21 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Courses are offered on campus and online, allowing distance and online students the opportunity to earn the certificate.

Bachelor of Applied Studies [p. 2158] and Bachelor of Liberal Studies [p. 2161] students may be able to incorporate certificate courses into their degree programs; students should consult with their advisors.

The Certificate in Nonprofit Leadership and Philanthropy requires the following coursework.

## Foundation Courses

Code	Title	Hours
All of these:		
JMC:3710	Fundraising Fundamentals	3
MGMT:3500/ ENTR:3595/ MUSM:3500/ NURS:3595/ RELS:3700/ SSW:3500	Nonprofit Organizational Effectiveness I	3
MGMT:4600	Nonprofit Ethics and Governance	3
One or both of these:		
JMC:3720	Nonprofit Communications	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II	3

## Field Experience

Students must complete at least 9 s.h. from the Foundation Courses list above before taking a field experience course.

Code	Title	Hours
One of these:		
JMC:3700	Nonprofit Internship	3
MGMT:3700	Field Experience: Nonprofit Leadership and Philanthropy	3

## Focused Electives

Students select elective coursework to total at least 21 s.h. for the certificate.

Code	Title	Hours
COMM:1819	Organizational Leadership	3
CW:4745/ WRIT:4745	The Sentence: Strategies for Writing	3

DPA:3510/ INTD:3510/ THTR:3510	Introduction to Arts Management	3
EALL:4130/ MUSM:4150	Introduction to Grant Writing	3
ENTR:2000	Entrepreneurship and Innovation	3
ENTR:3350	Entrepreneurial Strategy	3
ENTR:3500	Social Entrepreneurship	3
EVNT:3154	Foundations of Event Management	3
EVNT:3260	Event Management Workshop	3
GHS:4002	Working in Global Health	3
JMC:3142/IS:3142	Social Media for Social Change	3
JMC:3530	Social Media Marketing	3
JMC:3720	Nonprofit Communications (if not taken as a foundation course)	3
MGMT:3600/ NURS:3600/ RELS:3701/ SSW:3600	Nonprofit Organizational Effectiveness II (if not taken as a foundation course)	3
MUSM:3001/ ANTH:3001/ EDTL:3001/ SIED:3001	Introduction to Museum Studies	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Nonprofit Leadership and Philanthropy, Certificate

Course	Title	Hours
<b>First Year</b>		
<b>Any Semester</b>		
JMC:3710	Fundraising Fundamentals	3
MGMT:3500	Nonprofit Organizational Effectiveness I	3
		<b>Hours</b>
		<b>6</b>
<b>Spring</b>		
MGMT:4600	Nonprofit Ethics and Governance	3
		<b>Hours</b>
		<b>3</b>
<b>Summer</b>		
JMC:3700 or MGMT:3700	Nonprofit Internship <sup>a</sup> or Field Experience: Nonprofit Leadership and Philanthropy	3
		<b>Hours</b>
		<b>3</b>
<b>Second Year</b>		
<b>Any Semester</b>		
JMC:3720 or MGMT:3600	Nonprofit Communications <sup>b</sup> or Nonprofit Organizational Effectiveness II	3

MGMT:3600 or JMC:3720	Nonprofit Organizational Effectiveness II <sup>b, c</sup> or Nonprofit Communications	3
Certificate: Elective course <sup>b, c</sup>		3
<b>Hours</b>		<b>9</b>
<b>Total Hours</b>		<b>21</b>

a Students must complete at least 9 s.h. in foundation courses before taking a field experience course. It is recommended that this be satisfied with the three core courses.

b Students must take at least one of JMC:3720 or MGMT:3600, but may take both to count toward the certificate.

c Students select elective coursework to total at least 21 s.h. for the certificate. See General Catalog for list of approved courses.



# Public Policy

## Director, School of Planning and Public Affairs

- Lucie Laurian

## Coordinator, Public Policy

- Anne M. Barber (Planning and Public Affairs)

**Undergraduate minor:** public policy

**Faculty:** <https://sppa.uiowa.edu/faculty-staff>

**Website:** <https://sppa.uiowa.edu/>

The minor in public policy is offered for undergraduate students who seek to understand how and why public policies are adopted; how they impact the economy, society, and communities; and how innovative public policies are developed to improve economic prosperity, social justice and well-being, and environmental sustainability at the local, state, national, and global levels.

Students who earn the minor will be able to analyze the impact of past and current public policies, understand the institutions and process of policy making, and develop new public policies to tackle pressing challenges faced by our society. They will be prepared to enter policy-making fields in their areas of interest, and to make communities, states, and nations more resilient, inclusive, and prosperous.

The minor is awarded by University College.

## Programs

## Undergraduate Program of Study Minor

- Minor in Public Policy [p. 2202]

# Public Policy, Minor

The minor in public policy is well-suited for students majoring in economics, political science, education, sociology, criminology, pre-law, human rights, social justice, social work, geography, sustainability, environmental policy and planning, civil and environmental engineering, health and public health, business, anthropology, history, journalism and mass communication, African American studies, and Native American and Indigenous studies among other areas.

## Requirements

The undergraduate minor in public policy requires 15 s.h. of coursework taken at the University of Iowa. Students must maintain a g.p.a. of at least 3.00 in work for the minor. Coursework in the minor may not be taken pass/nonpass.

The minor in public policy requires the following coursework.

## Core Courses

Code	Title	Hours
Two of these:		
PBAF:3117/ POLI:3117	Bureaucratic Politics and Public Administration	3
PBAF:3560/ POLI:3560/ RHET:3560/ SJUS:3560	Public Policy and Persuasion	3
PBAF:4205	Economics for Policy Analysis (with consent of instructor)	3
PBAF:4233	Public Finance and Budgeting	3
PBAF:4340	Public Policy Analysis	3
POLI:3111	American Public Policy	3

## Electives

Students must select at least three electives (9 s.h.) with at least one Group A elective from the lists below.

### Group A

Code	Title	Hours
At least one of these:		
PBAF:3117/ POLI:3117	Bureaucratic Politics and Public Administration (if not taken as a core course)	3
PBAF:3560/ POLI:3560/ RHET:3560/ SJUS:3560	Public Policy and Persuasion (if not taken as a core course)	3
PBAF:3570/ GHS:3570	Poverty Policy	3
PBAF:4205	Economics for Policy Analysis (if not taken as a core course)	3
PBAF:4233	Public Finance and Budgeting (if not taken as a core course)	3
PBAF:4340	Public Policy Analysis (if not taken as a core course)	3
URP:1030/ PBAF:1030	Climate Leadership and Justice	3

URP:2020/ PBAF:2020	Environment and Society: Sustainability, Policy, and Politics	3
URP:2056/ PBAF:2056	The Splendor of Cities	3
URP:4225	Applied GIS for Planning and Policy Making	3
URP:4256	Environmental Policy	3
URP:4260	Transportation Policy and Planning	3
URP:4271	Housing Policy	3
URP:4280	Planning for Disaster Mitigation and Recovery	3
URP:4295	Economic Development Policy	3
POLI:3111	American Public Policy (if not taken as a core course)	3

### Group B

Code	Title	Hours
PBAF:3580	Native American Public Policy	3
CRIM:2210/ CSI:2210	Iowa Criminal Justice Policy and Reform	3
CRIM:3600	Crime and Public Policy	3
CRIM:4120	Environmental Criminology	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3
GEOG:3800	Environmental Economics and Policy	3
HHP:4030	Policy, Environmental, and Social Determinants of Health	3
POLI:1501	Introduction to American Foreign Policy	3
POLI:2417	Comparative Environmental Policy	3
POLI:3104/ LAS:3104/ LATS:3104	Immigration Politics	3
POLI:3114	Women and Politics in the United States	3
POLI:3123	State Politics in Iowa	3
POLI:3127	Legislative Policy Seminar	3
POLI:3160	Research Task Force: Solving Policy Problems Through Research	3
SOC:2810	Social Inequality	3

## Admission

## Declaring the Minor

Students may declare the minor in MyUI as soon as they are enrolled in any of the public policy minor courses.

Those interested in pursuing the minor must meet with the minor advisor, be briefed on the minor expectations for performance, and complete a plan of study that must be approved by the minor advisor.

For more information, contact the School of Planning and Public Affairs.

# Secondary Student Training Program

## Director

- Lori M. Ihrig

**Website:** <https://belinblank.education.uiowa.edu/students/sstp/>

## Precollege Program

Students who are currently in grades 10–11 may apply to the Secondary Student Training Program (SSTP), a multi-week summer research program at the University of Iowa. There are online and residential sections of SSTP. Students conduct original research under the guidance of a faculty mentor. They also produce a research brief and an academic poster as a part of the program. Students earn 3 s.h. of university credit for successful program completion.

The Secondary Student Training Program is administered by the Belin-Blank Center for Gifted Education and Talent Development. For more information, contact the Belin-Blank Center.

## Courses

### Secondary Student Training Program Course

**SSTP:1001 Secondary Student Training Program 3 s.h.**

Experience conducting research under the guidance of a faculty mentor; presentation of research findings at concluding seminar.

# Study Abroad

## Assistant Provost, International Programs

- Douglas J. Lee

## Associate Directors

- Autumn Tallman, Elizabeth Wildenberg de Hernandez

**Website:** <https://international.uiowa.edu/study-abroad>

The University of Iowa sponsors a wide variety of study abroad programs in approximately 50 countries throughout the world. Students may choose from summer, fall, or spring semester, academic year, spring break, and winter session programs that complement and extend the University's academic programs across the curriculum.

Study Abroad offers programs to appeal to a broad range of majors and interests. Major Advising Pages (MAPs) are created to help students better understand how study abroad can fit into their programs of study. The program search engine, Search UI Study Abroad Programs, allows students to browse information about study abroad programs.

Students also can participate in study abroad programs sponsored by other accredited U.S. and international institutions. They should obtain advance approval of all transfer credit by completing a Study Abroad Credit Approval Form.

Additionally, Study Abroad offers some virtual global courses that take place entirely online but are internationally focused and make connections in host countries around the world.

Information on University of Iowa study abroad programs is available from Study Abroad.

## Facilities

Study Abroad is located in the International Programs suite in the University Capitol Centre (UCC). Students can visit the resource room weekdays and can choose to meet with a peer student assistant, who has study abroad experience, to learn more about study abroad options and processes.

## Courses

- Study Abroad Courses [p. 2205]
- International Activities Courses [p. 2221]

## Study Abroad Courses

### **ABRD:3010 Iowa Regents Semester in Wales** arr.

University of Swansea, Wales; three-week interdisciplinary course on British life and culture, followed by regular degree coursework in the humanities, social sciences, physical sciences, business, engineering. Fall and spring semesters. Requirements: g.p.a. of at least 2.80.

### **ABRD:3011 Iowa at Oxford** arr.

Unique opportunity to spend an academic year fully matriculated at the University of Oxford; students enroll in a wide range of courses at Mansfield College, one of 38 colleges that make up the University of Oxford; as an Oxford student, participants take part in Oxford's personalized tutorial system, attend lectures, share accommodations with local students, and become fully immersed in the social and academic culture of one of the mostly highly regarded academic institutions in the world. Requirements: 3.70 g.p.a., sophomore standing, and good academic and disciplinary standing.

### **ABRD:3012 Iowa Regents Semester in Scotland** arr.

Advanced undergraduate study at the University of Edinburgh; humanities, social sciences, science, engineering. Fall and/or spring. Requirements: g.p.a. of at least 3.00.

### **ABRD:3013 IES London: Study London** arr.

Coursework in international economics, finance, management, creative and performing arts, literature, communications, cultural studies, and political science, as well as a huge variety of credit-bearing internship and service learning opportunities; option to enroll directly in a local British university; the IES Study London program provides a unique opportunity to engage in all aspects of contemporary British society; students combine coursework with study outside the classroom to explore the rich heritage of the United Kingdom, as well as its contemporary social, economic, and political culture. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

### **ABRD:3014 IES London and Jamaica Health Practice and Policy** arr.

Opportunity to study global health issues in the United Kingdom and Jamaica; students enroll in courses in public health, social welfare, and comparative health care in London, and spend their final ten days of the program completing a capstone experience in Mona, Jamaica hosted by the University of West Indies in Mona; ideal for students focusing on preprofessional medical studies, public health, anthropology, economics, political science, and sociology. Semester. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

### **ABRD:3016 IES London, United Kingdom Today** arr.

Unique opportunity to engage in all aspects of contemporary British society; courses in international business, management, literature, communications, cultural studies, film studies, political science, and sociology; students combine coursework with study outside the classroom, and explore the rich heritage of the United Kingdom as well as its contemporary social, economic, and political culture. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

### **ABRD:3017 IES London: University College London** arr.

Unique opportunity to directly enroll at the University College London, one of the top-ranking universities in the world; students live and study with their British peers in the heart of London while choosing from a huge variety of courses in biology, chemistry, engineering, economics, English, fine art, global health, history, management, and many other popular majors; students are fully immersed in British culture and truly learn what it's like to be a Londoner through engagement with locals and taking advantage of IES field trips around the country. Semester or academic year. Requirements: good academic and disciplinary standing, g.p.a. of at least 3.30 (3.70 to enroll in economics courses, 3.50 to enroll in English or management courses); and junior or senior standing.

- ABRD:3020 London Performance Study** arr. Selected theater productions, lectures, performances, discussions, written exercises, workshops, cultural activities. Credit may be applied toward a University of Iowa major in English or theatre arts. Summer.
- ABRD:3025 International Business in London** arr. Study of the international business environment in one of the world's financial capitals; may count toward undergraduate business major or Certificate in International Business. Winter. Prerequisites vary depending on classes being offered. Requirements: junior standing.
- ABRD:3026 IES Internships London** arr. Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.
- ABRD:3030 Iowa Regents Semester in Ireland** arr. Regular coursework in all disciplines at University College Cork in Ireland. Fall and spring semesters. Requirements: sophomore standing and g.p.a. of at least 3.00.
- ABRD:3031 IES Internships Dublin** arr. Real-world experience combined with professional skill building and cultural immersion; interning full-time in chosen field. Eight weeks in summer.
- ABRD:3034 STEM and Irish Studies in Dublin** arr. Science, technology, engineering, and mathematics (STEM) students from Big Ten schools study together in Dublin; courses include introductory physics II with lab, and a course on Irish history and culture. Requirements: major in a STEM field, 3.00 g.p.a., good academic and disciplinary standing, and completion of MATH:1550, MATH:1560, and 4 s.h. of PHYS:1611.
- ABRD:3035 Irish Writing Program** arr. Dublin, Ireland; writing workshops directed by Irish writers, literature courses taught by faculty. Summer.
- ABRD:3036 IES Dublin Irish Studies** arr. Offering coursework in economics, entrepreneurship, management, creative writing and literature, communications, cultural studies, and political science, as well as a huge variety of credit-bearing internship and service learning opportunities, the IES Dublin Irish Studies program addresses all aspects of contemporary Irish society; students combine coursework with study outside the classroom for the opportunity to discover the rich heritage of Ireland and its contemporary, social, economic, and political culture. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.
- ABRD:3037 IES Dublin: Trinity College Dublin** arr. Unique opportunity to enroll at Trinity College Dublin; students live and study with their Irish peers while choosing from a huge variety of courses in biology, business, chemistry, drama and film, English, engineering, economics, Irish language, psychology, and many other popular majors; students are fully immersed in Irish culture and truly learn what it's like to be a Dubliner through engagement with locals, taking advantage of IES field trips around the country, and enrolling in one of Ireland's oldest and finest institutions. Semester or academic year. Requirements: 3.30 g.p.a., good academic and disciplinary standing, second-semester sophomore or higher standing at time of participation, and at least one year of successful coursework at the UI or another bachelor's-degree granting institution.
- ABRD:3038 IES Dublin: Gaiety School of Acting** arr. Unique opportunity to directly enroll at the National Theatre School of Ireland's Gaiety School of Acting; students become engaged in intensive, conservatory-like training in acting for theatre, film, and television at Ireland's premier acting school; situated in the heart of Dublin and offers a rare chance to be fully immersed in Irish social and academic culture at a world-class institution focusing specifically on performance art. Semester or academic year. Recommendations: 2.75 g.p.a., theatre arts major or minor, and good academic and disciplinary standing.
- ABRD:3039 IES Dublin Writers Program** arr. Study of contemporary Irish authors, as well as those of the past, this writers program is designed to inspire and challenge writers to elevate their skills to the next level; Dublin is a city that caters to the lovers of all things literary with vibrant and varied literary and visual arts scene, an abundance of eclectic bookshops, and quirky cafés; managed by the Institute for the International Education of Students (IES) Abroad. Requirements: clear interest and commitment, demonstrated preparedness/maturity, minimum 2.75 g.p.a., good academic and disciplinary standing, and completion of at least one semester of college-level study.
- ABRD:3040 IES Dublin: Dublin City University** arr. Dublin City University (DCU) offers a wide variety of challenging courses; the program appeals primarily to students who are ready for the challenge of adapting to an entirely new academic culture that requires significant independent work. Requirements: clear interest and commitment, demonstrated preparedness/maturity, minimum 3.00 g.p.a., good academic and disciplinary standing, completion of at least one semester of college-level study, and 18 years of age.
- ABRD:3044 IES Internships Vienna** arr. Real-world experience combined with professional skill building and cultural immersion; full-time internship in student's chosen field in Vienna, Austria. Requirements: 2.50 g.p.a., junior or higher standing, and good academic and disciplinary standing.
- ABRD:3045 Academic Year in Freiburg** arr. Combination of special program classes, German for foreigners, and regular degree coursework in most liberal arts subjects at Albert-Ludwigs University, Freiburg, Germany. Academic year. Requirements: at least four semesters college German with g.p.a. of at least 3.00.
- ABRD:3046 IES Internships Berlin** arr. Real-world experience combined with professional skill building and cultural immersion; eight weeks over the summer interning full-time in the student's chosen field. Requirements: two semesters of college-level German, 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing; non-U.S. passport holders should verify eligibility for German visa prior to application.
- ABRD:3047 Global Engineering: Berlin** arr. Students enroll in a basic engineering course taught according to syllabi developed by the University of Iowa College of Engineering; visits and excursions to observe practical applications of engineering principles discussed in class. Four-weeks in summer. Requirements: 2.75 g.p.a., and good academic and disciplinary standing; may require additional prerequisites depending on specific course offered.

**ABRD:3048 USAC Luneburg Program****arr.**

The Lüneburg program is ideal for students interested in learning German language and focus on European Studies—specifically Germany's role within the European Union; students greatly expand their language skills and knowledge of German society through formal coursework and personal interaction with host culture. Requirements: good academic and disciplinary standing at time of application and through departure, and minimum UI and cumulative g.p.a. of 2.50.

**ABRD:3050 IES Freiburg European Union****arr.**

Students live and learn about European politics, economics, business, and international relations; courses taught in English (e.g., global leadership, political science); exposure to the European Union and beyond. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

**ABRD:3055 SIT Switzerland International Studies and Multilateral Diplomacy****arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., and emotional maturity due to subject matter.

**ABRD:3062 CIEE Paris Critical Studies Program****arr.**

Analysis of literature, film, and other forms of visual expression through use of contemporary critical theory; interaction among fields of literature, aesthetics, and psychoanalysis; examination of problems involved in such analysis; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for students with advanced French language skills. Requirements: 3.00 cumulative g.p.a., five semesters of college-level French, and previous coursework in relevant fields.

**ABRD:3063 CIEE Paris Open Campus****arr.**

Combines an interdisciplinary academic program on contemporary French society and culture (taught in French or English) with opportunity to develop strong language skills; contemporary social issues in politics, Francophone cultures, and Muslim communities in Europe; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for intermediate-level French students. Requirements: 2.75 cumulative g.p.a. and good academic and disciplinary standing.

**ABRD:3064 CIEE Rennes Liberal Arts Program** 12 s.h.

Increase language ability and knowledge of France and French culture; opportunity to take regular university classes alongside French students; intensive language and humanities coursework; cultural activities; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for intermediate or advanced intermediate students. Requirements: 2.75 cumulative g.p.a., 3.00 g.p.a. in French language, and four semesters of college-level French.

**ABRD:3066 CIEE Paris Global Institute Summer Program****arr.**

Students take courses in several different disciplines; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. One, two, or three four-week summer sessions. Requirements: 2.75 g.p.a. and four semesters of college-level French.

**ABRD:3069 USAC Lyon Program****arr.**

Intensive French language beginning with second-year French; additional courses in French culture, history, art, politics, and other disciplines are taught in both French and English. Requirements: g.p.a. of at least 2.50; good academic and disciplinary standing; and completion of two semesters of college-level French or equivalent.

**ABRD:3070 USAC Pau****arr.**

Beginning through advanced French language study at the University of Pau; additional courses in French culture, literature, politics, history, and other disciplines. Taught in English and French; no previous study of French required. Requirements: g.p.a. of at least 2.50.

**ABRD:3071 Study Abroad in Montpellier****arr.**

Special courses for foreign students or regular courses with French students at University of Montpellier; taught in French. Semester or academic year. Requirements: four semesters of French.

**ABRD:3072 Montpellier Summer Language Program**

Advanced French language and course on contemporary France that explores current perspectives on immigration; visits to local organizations dedicated to naturalization services; public housing; immigrants' rights, nonviolence, antiracism, and antidiscrimination; excursions around Montpellier and other social activities; option to take accelerated language track in either four- or eight-week program; development of language skills in various contexts depending on level (beginning through advanced) and prescribed curriculum at each level. Six weeks. Requirements: 2.50 g.p.a. and average grade of B in French coursework.

**ABRD:3074 IES Internships Paris****arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: four semesters of college-level French, 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.

**ABRD:3075 CEA Paris: Summer Internship****arr.**

Students spend a summer immersed in Parisian culture and gain valuable hands-on skills in an international internship in one of Central Europe's economic and cultural capitals; placement in an organization or company that aligns with professional and academic goals; building a network of contacts while gaining hands-on international experience that employers value; CEA internship program includes personalized internship placement and academic courses; internship work schedules may vary depending on industry standards in career field. Requirements: minimum 2.75 g.p.a., first-year or higher standing at time of application, and good academic and disciplinary standing. Recommendations: French language skills encouraged but not required.

**ABRD:3082 Studio Arts College International****arr.**

Studio art, design, art conservation, art history, Italian language, and creative writing instruction at Studio Art College International (SACI) in Florence, Italy; focus on art courses; engagement in leading areas of research and exploration; opportunities to interact with the Florentine community through a variety of social and humanitarian programs. Summer, semester, or academic year.

- ABRD:3083 USAC Torino Program** arr. Academic coursework, practical learning, tours, site visits, and integrated cultural experience; content in diverse academic areas of business, architecture, and Italian studies; Italian language courses; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Semester, summer, or academic year. Requirements: 2.50 g.p.a. and appointment with Italy study abroad advisor prior to application.
- ABRD:3084 USAC Viterbo Program** arr. Academic coursework at Viterbo's historical Tuscia University of Viterbo; practical learning, tours, site visits, and integrated cultural experience; high-quality educational experience in art history and Italian studies; Italian language course; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Semester, academic year, or five-week summer session. Requirements: 2.50 g.p.a., good academic standing, and appointment with Italy study abroad advisor prior to application.
- ABRD:3086 USAC Verona Program** arr. Language study and additional coursework in English or Italian; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.
- ABRD:3087 USAC Reggio Emilia Program** arr. Language study and additional coursework in English or Italian; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.
- ABRD:3088 CIMBA Italy Program** arr. Coursework in business and related disciplines in the Veneto region of Italy, taught in English. Four weeks in summer or 13-week semesters.
- ABRD:3089 IES Internships Rome** arr. Real-world experience combined with professional skill building and cultural immersion; interning full-time in the student's chosen field. Eight weeks in summer. Recommendations: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.
- ABRD:3090 IES Internships Milan** arr. Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.
- ABRD:3091 IES Milan Business Studies and Italy Today** arr. Offering coursework in liberal arts, social sciences, business, and music, the IES Abroad Milan program addresses all aspects of contemporary Italian society; students have the opportunity to take classes at one of six local partner universities or enroll in a part-time internship for credit. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.
- ABRD:3092 IES Rome** arr. Offering courses in art history, history, religious studies, and Italian, the IES Abroad Rome program focuses on full language immersion; students have the opportunity to take advantage of a part-time internship for credit. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.
- ABRD:3093 IES Rome Tourism and Cultural Heritage Management** arr. Course offerings in tourism and cultural management; students utilize Rome as their classroom while learning how to balance a thriving tourist industry with a sustainable cultural heritage emphasis. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.
- ABRD:3094 Wells College Florence: Lorenzo de Medici** arr. Unique opportunity to study and live in Florence, Italy; Wells College Florence study abroad program offers a rich and varied curriculum in English with more than 250 courses through Lorenzo de Medici. Requirements: 2.80 g.p.a. and good academic and disciplinary standing.
- ABRD:3095 CEA Florence: Santa Reparata International School** arr. Students are challenged to transform their Italian experience into art through printmaking, fashion design, painting, drawing, and more; close instruction by practicing artists encourage contemporary work in response to Florentine traditions; designed for art and non-art majors. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.
- ABRD:3096 International Business in Italy** arr. Italy is used as the local environment to learn about the history of the European Union, development of the eurozone, and financial and political challenges being addressed therein; students explore how current economic and political decisions in Europe will drive the future of the worldwide economy. Requirements: 2.75 minimum UI and cumulative g.p.a., minimum of 30 s.h. completed prior to the program; sophomore or higher standing, and completion of FIN:3000.
- ABRD:3120 Regents Hispanic Institute** arr. Study of Spanish language and culture in Valladolid, Spain. Six weeks in summer. Requirements: four semesters of college-level Spanish.
- ABRD:3121 Cultures of Spain** 3 s.h. Study abroad in Madrid, the geographic and sociocultural center of Spain; overview of heterogeneous cultural landscape of Spain through interdisciplinary approach to its history; special attention given to conflict between two antagonistic national projects—one that understands Spain as a homogeneous entity and historically based on authoritarian forms of government, Catholic faith, and centralistic culture, and one that advocates for a plural conception of the country and emphasizes a liberal government, tolerance, and cultural diversity. Four weeks. Requirements: 2.50 cumulative g.p.a. and good academic and disciplinary standing.
- ABRD:3135 CIEE Portugal Program** arr. Intensive Portuguese language study (beginning to advanced levels) and area studies courses taught in English at Lisbon's Universidade Nova; regular university courses are available to semester students with sufficient language proficiency. Summer, semester, or academic year. Requirements: g.p.a. of at least 2.75.



- ABRD:3136 European Innovation Academy** arr. The European Innovation Academy's Entrepreneurship Innovation Summer School is the world's largest entrepreneurship summer course focused on information technology innovations; accelerated mode of learning turns an idea into a start-up in only 15 days; entrepreneurial and ambitious students are inspired to innovate and prompt rapid growth, with the aim to achieve at least a 100M EUR valuation for their business; necessary mindset, skills, and knowledge are nurtured; tools and network provided in order to achieve set goals; University of Iowa students participate alongside students from other U.S. universities and countries. Requirements: good academic and disciplinary standing.
- ABRD:3140 American College of Thessaloniki Semester** arr. Undergraduate studies in varied academic disciplines (business, history, international relations, psychology, fine arts, literature, philosophy, modern Greek language) at the American College of Thessaloniki. Taught in English.
- ABRD:3142 Greece: Origins of Humanistic Counseling** arr. Origins of humanistic psychotherapy through an experiential exploration of the history and topography of Greece; students gain a deeper understanding of the culture in which humanism originated, unique environmental factors that promote a humanistic worldview, and critically analyze the evolution of humanistic theory from its philosophical beginnings to its status as a leading theory in counseling and psychotherapy; physical exploration, reading, reflecting, and on-site lectures; designed for masters and doctoral students who have had an introduction to theories of counseling and psychotherapy. Requirements: sophomore or higher standing, 3.00 minimum g.p.a., and good academic and disciplinary standing. Recommendations: enrollment in a masters or doctoral program focusing on mental health (counseling, counseling psychology, couples and family therapy, social work) and prior exposure to counseling theory.
- ABRD:3143 The Land of the Muses: Traveling Like a Writer** arr. Creative writing program in Athens, Greece; exposure to ancient Greek literature and writings about Greece by various international travelers; these literary models are used to inspire original student writing about Greece including ancient and contemporary history, culture, people, and politics. Requirements: 2.75 g.p.a., sophomore or higher standing, positive evaluation of writing skills from a 4-6 page writing sample, and good academic and disciplinary standing.
- ABRD:3144 City of Athens** arr. Ancient Athens from the Neolithic period to end of the Roman period; students study abroad and directly engage material remains and cultural aspects of the city to better understand ancient Athenian views on life and human experience through the objects they left behind. Requirements: 2.75 g.p.a., sophomore or higher standing, and good academic and disciplinary standing.
- ABRD:3145 Ancient Perspectives, Modern Eyes** arr. Faculty-led exploration of Greece; students visit ancient sites including locations such as Athens, Delphi, Olympia, Mycenae, Delos, Santorini, and Crete; placement of ancient world views within a modern context in order to gain an appreciation for landscape, history, and significance of ancient Greece. Requirements: minimum 2.75 g.p.a., good academic and disciplinary standing, and sophomore or higher standing. Recommendations: honors standing, and related major or minor.
- ABRD:3165 Archaeological Field Work Abroad** arr. Major archeology projects hosted at international excavation sites. Summer.
- ABRD:3166 SIT Netherlands International Perspectives on Sexuality and Gender** arr. Examination of the intersections of gender and sexuality with race, class, and religion; highlights experiences of a growing number of postcolonial and post-migration subjects living in these intersections; how identity is affected by gender, sexuality, race, religion, and class, both as they are experienced and as they are perceived, apart from looking at theories and applications of gender, LGBT, and sexuality studies in activism. Requirements: 2.50 g.p.a., good academic and disciplinary standing, and previous college-level coursework or other preparation in sexuality and/or gender studies.
- ABRD:3170 SIT Iceland Renewable Energy, Technology, and Resource Economics** arr. Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., previous coursework in engineering, economics, environmental science or studies, or related fields.
- ABRD:3180 CIEE Copenhagen Open Campus** arr. Students customize their experience by studying one of six academic tracks; courses taught in English by faculty drawn from higher education institutions across Denmark; traditional lectures are combined with cocurricular excursions and activities; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a., and good academic and disciplinary standing.
- ABRD:3181 CIEE Summer in Copenhagen** arr. Students take one course during each four-week session; courses taught in English by faculty drawn from higher education institutions across Denmark and vary by session; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 minimum g.p.a., and good academic and disciplinary standing.
- ABRD:3201 CIEE Alcalá Language and Culture Program** 6,12 s.h. Established in 1999, the CIEE Study Center at the Universidad de Alcalá (Alcalá de Henares, Spain) provides an academic program for students with a high- intermediate to advanced-level of Spanish; the summer program (established in 2008) consists of language and culture courses offered through the Institute; all courses offered in Spanish; many approved for Spanish majors, minors, and general education requirements, and may be approved for other degree requirements; 6 s.h. taken in each four-and-one-half-week session. Requirements: 2.75 cumulative g.p.a., 3.00 g.p.a. in most recent Spanish course, four semesters of college-level Spanish, and valid passport at time of application.
- ABRD:3202 CIEE Madrid Open Campus** arr. Students live and learn in Madrid, the dynamic capital city of Spain, and customize their experience by selecting courses from six academic tracks; block-schedule courses are taught in English and combine traditional lectures with cocurricular excursions and activities; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium, of which the University of Iowa is a member. Requirements: 2.50 cumulative g.p.a., and good academic and disciplinary standing.

**ABRD:3205 CIEE Alicante Language and Culture Program** **arr.**

Rapid progress in language skills while taking area studies courses related to Europe and Spain; linguistic development and cultural immersion promoted through housing in Spanish-speaking homes and supplementary visits and excursions; administered by the Council on International Education Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 minimum g.p.a., three to four semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3206 CIEE Alicante Language and Culture Summer Program** **arr.**

Development of Spanish language skills and knowledge of Spanish art, cinema, and culture in Alicante, Spain; linguistic development and cultural immersion through housing in Spanish-speaking homes, supplementary visits and excursions, content courses in Spanish, and direct enrollment at the University of Alicante; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for students with varying levels of Spanish. Summer. Requirements: 2.75 cumulative g.p.a., four semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3208 CIEE Alicante Liberal Arts Program** **arr.**

Development of spoken and written Spanish language skills; linguistic development and cultural immersion promoted through housing in Spanish-speaking homes, supplementary visits and excursions, content courses in Spanish, and direct enrollment at the University of Alicante; administered by the Council on International Education Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 minimum g.p.a., at least five semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3215 CIEE Barcelona Advanced Liberal Arts Program** **arr.**

Development of fluency through direct enrollment in a wide range of regular university classes; classes taken alongside Spanish classmates who become friends and guides to the culture; dramatic improvement of Spanish language skills while living the language every day in the city and the university; for students with advanced Spanish language skills. Semester or academic year. Requirements: 3.00 minimum g.p.a., at least six semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3216 CIEE Barcelona Architecture and Design Program** **12 s.h.**

Exploration of the intersection of two fields in a city famous for its vibrant architecture and innovative design; courses offered by ELISAVA and CIEE allow a unique opportunity to collaborate in a joint core class alongside courses in student's track and Spanish language; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 3.00 cumulative g.p.a. and valid passport at time of application; for design track students—design or related major or minor and four semesters of college-level Spanish.

**ABRD:3217 CIEE Barcelona Business and Culture Program** **arr.**

Development of competency in Spanish language while studying issues related to business in Spain and the European Union, Spanish language and culture; company visits, excursions, and homestays or student residence option in the vibrant city of Barcelona contribute to students' cultural immersion and development of language skills; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium; designed for students with varied levels of Spanish. Semester or academic year. Requirements: 3.00 cumulative g.p.a.; three semesters of microeconomics, macroeconomics, accounting, finance, management, or statistics; and valid passport at time of application.

**ABRD:3218 CIEE Barcelona Economics and Culture Program** **12 s.h.**

Classes at a Spanish university for students with varying levels of Spanish and a strong background in economics; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 3.25 cumulative g.p.a., three semesters of microeconomics or macroeconomics, one semester of calculus, and valid passport at time of application.

**ABRD:3219 CIEE Barcelona Language and Culture Program** **12 s.h.**

Development of skills and competency in Spanish language while studying Spanish history, arts, politics, and culture; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 3.00 cumulative g.p.a., junior standing, one to three semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3220 CIEE Barcelona Language and Culture Summer Program** **arr.**

Rapid progress in language skills while taking language, culture, or business courses in Barcelona; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for students with varying levels of Spanish. Summer. Requirements: 2.75 cumulative g.p.a. and four semesters of college-level Spanish.

**ABRD:3221 CIEE Barcelona Liberal Arts Program** **arr.**

Development of skills and competency in Spanish language while studying Spanish history, politics, and culture at Universitat Pompeu Fabra; cultural immersion and development of language skills through excursions and homestays or student residence option in the vibrant city of Barcelona; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 3.00 cumulative g.p.a., junior standing, four semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3222 CIEE Barcelona Business and Culture Summer Program****arr.**

Business courses in English (with optional communicative Spanish) in Barcelona; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: minimum 2.50 cumulative g.p.a.; two semesters of college-level microeconomics or macroeconomics, accounting, finance, management, marketing, or statistics; and good academic and disciplinary standing.

**ABRD:3230 CIEE Madrid Legal Studies Program 12 s.h.**

Opportunity to further develop Spanish language skills while pursuing cocurricular program focused on law and public policy in Spain; goals achieved through a specially designed language course, course on legal issues in Spain, an optional internship, and law and political science elective course at the Universidad Carlos III de Madrid; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for highly motivated students with a strong Spanish background, from any academic discipline. Requirements: g.p.a. of at least 3.00, six semesters of college-level Spanish, junior standing or above, and valid passport at time of application. Recommendations: good background in math/statistics in order to grasp the more theoretical focus of European business instruction.

**ABRD:3231 CIEE Madrid Liberal Arts Program****arr.**

Opportunity to matriculate in a combination of content courses in Hispanic studies, regular university courses, and short seminars while continuing to improve language skills and take advantage of the vibrant and rich cultural milieu of Madrid; linguistic development and cultural immersion promoted through housing in Spanish-speaking homes, and supplementary visits and excursions; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for independent, advanced-level students. Semester or academic year. Requirements: 3.00 minimum g.p.a., five or six semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3241 CIEE Palma de Mallorca Business and Tourism Program****12 s.h.**

Study business, tourism, and hospitality alongside Spanish students in a direct enrollment environment with a global perspective in Palma de Mallorca; development of management skills for future leadership in the tourism and hospitality industry; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a. and valid passport at time of application. Recommendations: two semesters of college-level Spanish.

**ABRD:3242 CIEE Palma de Mallorca Language and Culture Summer Program****arr.**

Established in 2006, the CIEE Study Center at Universitat de les Illes Balears provides an academic summer program for students interested in tourism; development or improvement of Spanish language skills while learning about Spain and Europe; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a., four semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3250 CIEE Seville Advanced Liberal Arts Program****arr.**

Achievement of fluency in spoken and written Spanish; wide variety of academic fields to gain deeper understanding from a Spanish perspective; direct matriculation in university courses, homestays, local and overnight excursions, conversational exchange program, volunteer opportunities, and independent study options in Seville, Spain. Requirements: 3.00 cumulative g.p.a., 3.00 minimum g.p.a. in Spanish courses, six semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3251 CIEE Seville Business and Society Program****arr.**

Opportunity to study business in an international context through a combination of coursework in Spanish business, society, and language; related field visits to Spanish companies; designed for highly motivated students of business with advanced-level Spanish skills at the University of Seville's Business School; unpaid internships may be available to students with advanced language ability; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Semester or academic year. Requirements: at least 2.75 g.p.a.; five semesters of college-level Spanish; 6 s.h. of microeconomics, macroeconomics, accounting, finance, management, or statistics; and valid passport at time of application. Recommendations: good background in math/statistics to grasp the more theoretical focus of European business instruction.

**ABRD:3252 CIEE Seville Business Internship Program****6 s.h.**

Exposure to a professional workplace atmosphere in Seville, Spain for business students; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Eight weeks. Requirements: 2.75 cumulative g.p.a., five semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3253 CIEE Seville Communications, New Media, and Journalism Program****arr.**

Valuable hands-on experience in a multifaceted academic and professional environment; courses through CIEE and with Spanish students at the Universidad de Sevilla; may include CIEE classes offered through the Liberal Arts program; social and cultural immersion of participants in the host society through specialized projects and extracurricular activities; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member; for students considering a career in any communication environment. Requirements: 2.75 cumulative g.p.a., five semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3254 CIEE Seville International Business and Culture Program****arr.**

Spanish language improvement in Seville, Spain; courses in English, primarily in the field of international business; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for beginning to intermediate students. Semester or academic year. Requirements: 2.75 g.p.a., four semesters or less of college-level Spanish, and valid passport at time of application.

**ABRD:3255 CIEE Seville Language and Culture Summer Program 3,6,9 s.h.**

Development of Spanish language skills and exposure to Spanish culture through an intense immersion experience; courses in Spanish language and culture, conversational exchange program, homestay program, and local visits and excursions; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Three, six, or nine weeks. Requirements: 2.75 cumulative g.p.a., four semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3258 CIEE Seville Liberal Arts Program arr.**

Achieve fluency in written and spoken Spanish; language acquisition and cultural immersion through housing in Spanish-speaking homes, involvement in volunteer opportunities, and conversation exchanges; courses at the CIEE Study Center, the University of Seville, and Pablo de Olavide University (UPO); administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 cumulative g.p.a., five semesters of college-level Spanish, and valid passport at time of application.

**ABRD:3261 CIEE Madrid Engineering and Society arr.**

Spanish language and cultural studies combined with engineering coursework at the CIEE prestigious partner school, Universidad Carlos III de Madrid (UC3M); students gain insight into Spanish business culture and real-world work experience through internships; courses in arts and humanities, business and law, and engineering taught in English or Spanish; courses in aerospace, energy, or biomedical engineering taught in English; courses complemented with CIEE cocurricular activities and excursions outside the city to enhance classroom learning and provide intercultural understanding. Requirements: g.p.a. of 3.00.

**ABRD:3270 USAC Alicante Program arr.**

Intensive language study in Alicante, Spain; up to two years of university language requirements may be met in one semester; additional courses taught in English or Spanish; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester or academic year. Requirements: 2.50 g.p.a. and good academic standing.

**ABRD:3271 USAC Valencia Program arr.**

Study abroad program in Spain offers an opportunity to learn or improve on Spanish language and cultural knowledge; appropriate for all levels of Spanish, this program also offers a wide selection of STEM courses taught in English. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3272 USAC Bilbao Program arr.**

Intensive language study; up to two years of university language requirements may be met in one semester; additional courses taught in English or Spanish and include offerings in business and environmental sustainability; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester or academic year. Requirements: 2.50 g.p.a. and good academic standing.

**ABRD:3274 USAC Madrid Program arr.**

Intensive language study; up to two years of university language requirements may be met in one semester; additional courses taught in English or Spanish; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: 2.50 g.p.a. and good academic standing.

**ABRD:3276 USAC San Sebastian Program arr.**

Intensive language study; up to two years of university language requirements may be met in one semester; additional courses taught in English or Spanish; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: 2.50 g.p.a. and good academic standing.

**ABRD:3277 IES Internships Barcelona arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.

**ABRD:3278 IES Barcelona arr.**

Opportunity to enroll in a variety of Spanish or English language courses in several disciplines. Requirements: 2.75 g.p.a. and good disciplinary and academic standing.

**ABRD:3279 IES Granada arr.**

Study abroad program for intermediate to advanced Spanish language students and Spanish majors. Requirements: 2.75 g.p.a., good disciplinary and academic standing, and two semesters of college-level Spanish for intermediate track or four semesters of college-level Spanish for advanced track.

**ABRD:3312 CIEE Buenos Aires Liberal Arts Program 12 s.h.**

Critical appreciation of Argentina and its importance in Latin America from perspective of social sciences and humanities; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for advanced Spanish students with strong language preparation. Requirements: 2.75 cumulative g.p.a. and six semesters of college-level Spanish. Recommendations: completion of Spanish language course in session prior to study abroad and college-level coursework in Latin American studies.

**ABRD:3318 CIEE Santiago (Chile) Liberal Arts Program arr.**

Special CIEE courses and direct enrollment with Chilean students in regular courses at the Pontificia Universidad Catolica de Chile and the Universidad de Chile; first-hand knowledge of contemporary issues and cultural patterns in Chile; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Semester or academic year. Requirements: 2.75 cumulative g.p.a. and six semesters of college-level Spanish.

**ABRD:3321 USAC Studies in Chile arr.**

Intensive beginning-level Spanish language; advanced language, literature, civilization at third-year level; area studies. Some courses taught in English. Requirements: g.p.a. of at least 2.50.

**ABRD:3323 CIEE Valparaiso Liberal Arts Program 12 s.h.**

Special CIEE courses and direct enrollment with Chilean students in regular courses at the Universidad Catolica de Valparaiso; first-hand knowledge of contemporary issues to better understand Chilean society and an appreciation for Chilean history and identity; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a. and six semesters of college-level Spanish.

**ABRD:3324 CIEE Monteverde Tropical Ecology and Conservation 10,12 s.h.**

Rich understanding of tropical ecology through hands-on exposure, direct experimentation, study of theory, taxonomy of major groups, and observation of empirical patterns; science courses taught in English; Spanish-language course for various levels; travel to diverse ecosystems; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a. and two semesters of college-level biology. Recommendations: college-level ecology or environmental science course, and college-level Spanish.

**ABRD:3325 CIEE Monteverde Sustainability and the Environment 12 s.h.**

Insight into complexity of pressures that confront global biodiversity (e.g., population growth, consumption, urbanization, globalization); homestay with local families provides exposure to Spanish language and Costa Rican culture; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member; for students with an interest in environmental studies. Requirements: 2.75 g.p.a. and three semesters of college-level environmental studies. Recommendations: college-level Spanish.

**ABRD:3326 CIEE Santiago (DR) Liberal Arts Program 12 s.h.**

Enrollment in one of three distinct academic tracks based on language proficiency level; tracks offer a variety of courses on society, culture, economics, and politics of Hispaniola and the Greater Hispanic Caribbean; regional literature, history, and widely variant sociocultural issues facing the region; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: 2.75 cumulative g.p.a., 3.00 g.p.a. in Spanish language, and four semesters of college-level Spanish.

**ABRD:3334 CIEE Valparaiso Language in Context arr.**

Development of Spanish language skills; Chile and its role in Latin America; intensive language study and choice of courses in history, literature, economics, and international relations taught in English; excursions, homestay, and opportunities for community service; administered by the Council on International Educational Exchange (CIEE). Requirements: g.p.a. of 2.75.

**ABRD:3335 USAC Heredia Program arr.**

Culture and physical beauty of Costa Rica experienced through specially designed courses combined with family home stay and some program travel; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Requirements: cumulative g.p.a. of 2.50.

**ABRD:3337 USAC San Ramon Program arr.**

Life and health sciences, Spanish language and culture studies program; tropical ecology, tropical marine biology, conversation biology, and environmental policy courses taught in English; science curriculum combined with Spanish language or literature classes designed by tracks according to level; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member; for science majors interested in learning more about ecology and conservation biology in Costa Rica. Requirements: 2.50 g.p.a. and one year of college-level general biology with lab.

**ABRD:3338 USAC Havana Program 3,6 s.h.**

Appreciation of Cuban society through area studies coursework in history, culture, and politics of the region; courses taught in English and Spanish; administered by the University Studies Abroad Consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a. and good academic standing.

**ABRD:3339 CIEE Buenos Aires Community Public Health Program arr.**

Classroom-based theory and language instruction to support extensive, offsite fieldwork; examination of Argentine health care system through lens of social sciences; exposure to challenges facing global health arena and diversity of solutions being implemented locally to resolve them. Summer. Requirements: 2.75 cumulative g.p.a. and five semesters of college-level Spanish. Recommendations: college-level coursework in public health, and coursework in history or politics of Latin America or Argentina.

**ABRD:3341 IES Internships Santiago arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing. Recommendations: four semesters of college-level Spanish.

**ABRD:3342 Brazilian Carnival: Music and Dance 3 s.h.****ABRD:3345 CIEE Santiago Community Public Health Program arr.**

Program in Santiago, Dominican Republic; concepts of public health with a focus on health management, policies and coverage, and language instruction; extensive off-site field work in semi-rural and urban areas; multi-dimensional nature of health, preventive medicine, and health care administration through involvement in community services; students live in private Dominican homes with families. Requirements: good academic and disciplinary standing, four semesters of college-level Spanish or equivalent, and an overall g.p.a. of 2.75.

**ABRD:3346 SIT Argentina Social Movements and Human Rights arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., three recent semesters of college-level Spanish or equivalent, previous coursework and/or other significant preparation in social work, political economy, development studies, or Latin American studies, as assessed by SIT.

**ABRD:3347 SIT Bolivia Multiculturalism, Globalization, and Social Change** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., three recent semesters of college-level Spanish or equivalent, and ability to follow coursework in Spanish.

**ABRD:3348 SIT Ecuador Development, Politics, and Languages** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: good academic and disciplinary standing, 2.50 g.p.a., three recent semesters of college-level Spanish or equivalent, and ability to follow coursework in Spanish.

**ABRD:3349 IES Buenos Aires and Santiago Emerging Economies** arr.

Multiple location and interdisciplinary program that offers a unique comparative perspective of two of the most notable emerging economies in South America; students spend half of the semester in Buenos Aires, Argentina and the other half in Santiago, Chile; designed for students interested in business, economics, sociology, and political science. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

**ABRD:3352 International Perspectives: Xicotepec** arr.

Introduction to providing service to communities in underdeveloped countries through discipline-specific projects to improve community life in Xicotepec, Mexico; cultural and professional preparation for teamwork in an international environment; service-learning course in collaboration with Rotary International. Spring break in Xicotepec, Mexico.

**ABRD:3353 International Entrepreneurship and Culture** arr.

International business strategies, foreign exchange, tariffs and trade, micro-finance, economic conditions and culture of destination countries; hands-on experience working with in-country micro-entrepreneurs, a firsthand look at international businesses in operation, and lectures from in-country experts; business strategies and operations for successful sustainable growth in foreign countries. Requirements: 2.75 g.p.a. and good academic and disciplinary standing.

**ABRD:3354 Engineering Service Program** arr.

Engineering students work in teams to build or repair bridges in communities outside the United States as part of a service-learning project; students live locally in the community where bridge work is being done; complemented by University of Iowa coursework before and after experience abroad. Requirements: good academic and disciplinary standing.

**ABRD:3355 IES Santiago Health Studies** arr.

Students expand their knowledge of Spanish language through required courses, a homestay, and interaction with host culture through an observership; students participate in a health studies seminar and are required to complete 80 hours of an observership in either a clinical setting or a community setting; designed for Spanish students in health-related majors. Requirements: four semesters of college-level Spanish including at least one course completed within the year prior to program start date, sophomore standing, 2.75 g.p.a., and good academic and disciplinary standing.

**ABRD:3356 USAC Montevideo Program** arr.

Development of Spanish language skills through coursework, homestay, and field trips; students learn about the area known as the Rio de la Plata in Argentina and Uruguay, and are required to spend the beginning of the semester taking an intensive Spanish language course which allows for rapid acquisition of language and culture; courses also are available in viticulture and agribusiness. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3357 CIEE Santiago Open Campus** arr.

Students are offered a series of courses that allow them to explore the dynamics of this Latin American nation and its culture; students choose one of six academic tracks; most classes taught in English, but Spanish language classes are available; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a., good academic and disciplinary standing.

**ABRD:3358 CIEE Buenos Aires Open Campus** arr.

Students are offered a series of courses that allow them to explore the forces at play in this Latin American nation and its culture; students choose one of six academic tracks; most classes taught in English, but Spanish language classes are available; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a., and good academic and disciplinary standing.

**ABRD:3359 CIEE Rio de Janeiro Open Campus** arr.

Students are offered a series of courses that allow them to discover this charismatic and compelling Latin American nation and its culture; students choose one of six academic tracks; most classes taught in English, but Spanish language classes are available; the Council on International Educational Exchange (CIEE) administers the program on behalf of a consortium of which the University of Iowa is a member. Requirements: 2.50 g.p.a., and good academic and disciplinary standing.

**ABRD:3361 Women's Empowerment in the Dominican Republic** arr.

Exploration of a variety of organizations and initiatives that support entrepreneurship and empowerment among marginalized populations in the Dominican Republic; focus on education, international social entrepreneurship, social justice, cultural competency, and community development; students learn about other fields of interest such as business, social work, public health, youth development/recreation, and agriculture. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3364 Pharmacy Rotations Abroad** arr.

Practicum experience; focus on best practices for pharmaceutical management, ways to enhance access to medicine; promotion in underserved and resource-limited environments abroad. Recommendations: successful completion of all requirements listed as prerequisites for rotations in the advanced practice experience syllabus.

**ABRD:3365 International Medicine: Experiential Learning in the Dominican Republic** arr.

Cross-cultural opportunity for students interested in health care sciences to observe health care professionals in hospital and clinical settings and increase awareness of international health care systems and practices in the Dominican Republic. Requirements: good academic and disciplinary standing, minimum 2.50 g.p.a., and completion of at least one semester of college-level study. Recommendations: undergraduate health or pre-health major.

- ABRD:3372 USAC Florianopolis Program** arr. Brazilian culture studies, global economy, and natural resource management; opportunity to develop language skills while taking courses taught in English by local faculty from the Universidade Federal de Santa Catarina; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Summer, semester, or academic year. Requirements: cumulative g.p.a. of 2.50.
- ABRD:3401 CIEE Beijing Advanced Chinese Studies** arr. Important topics in Chinese from a Chinese perspective; development of professional writing and research skills in Chinese; designed for students interested in using their superior level of Chinese to study international affairs, business, history, or Chinese literature.
- ABRD:3402 CIEE Beijing Intensive Chinese Language** 10,12 s.h. CIEE's Intensive Chinese Language study abroad program at Peking University in Beijing, China, is one of the oldest and most recognized intensive Chinese language programs; the Peking University Center for Teaching Chinese houses over eight different language levels and many other elective courses; intensive language courses coupled with individual language tutorials, diversified field trips, modern housing facilities, and experienced onsite staff make the CIEE Study Center in Beijing an incredible place to study and learn under the auspices of the most famous university in China. Requirements: 2.75 g.p.a. and two to six semesters of college-level Chinese. Recommendations: completion of at least one Chinese area studies course before departure.
- ABRD:3408 SIT China Community Health and Traditional Chinese Medicine** arr. Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.
- ABRD:3411 Iowa in Tianjin** arr. Chinese language, area studies, and folk art; based at Tianjin University of Technology. Summer or semester. Requirements: one to three years of college-level Chinese.
- ABRD:3412 IES Internships Shanghai Engineering** arr. Real-world experience combined with professional skill building and cultural immersion; full-time engineering internship in Shanghai, China. Requirements: 2.50 g.p.a., junior or higher standing, and good academic and disciplinary standing.
- ABRD:3413 IES Internships Shanghai** arr. Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing.
- ABRD:3414 IES Internships Hong Kong** arr. Exhilarating challenge of real-world experience combined with professional skill building and cultural immersion; full-time internship in student's field of choice. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, and good academic and disciplinary standing.
- ABRD:3423 CIEE Tokyo Global Internship** arr. English-speaking international internship in Tokyo, Japan; CIEE Summer Global Internship programs combine full-time internship with integrated academic seminar to provide professional exploration and specific skills development; individualized placements based on student's career goals and a great way to explore future career options while having an amazing adventure abroad; credit-bearing internship with six-semester UI resident credits, 30 integrated academic seminar hours, and 200-240 internship placement hours; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Eight weeks in summer. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.
- ABRD:3425 CIEE Shanghai Accelerated Chinese Language** 10,12 s.h. Accelerated language program in Shanghai, China; one year of Chinese language training accomplished during summer; for intermediate and advanced Chinese language students. Requirements: cumulative g.p.a. of 3.00.
- ABRD:3427 CIEE Shanghai Business, Language, and Culture** 9,12 s.h. CIEE study abroad program in Shanghai, China; Chinese language training at standard and intensive levels; courses (taught in English) in business, marketing, economics, international relations, and area studies; contemporary business issues affecting China; effects of China as a rising power in the business world today; for students majoring in business with no Chinese language background and those who have studied Chinese for several semesters. Requirements: 2.75 g.p.a., seven semesters or less of college-level Chinese, and three or more semesters of microeconomics, macroeconomics, accounting, finance, management, or marketing.
- ABRD:3428 CIEE Shanghai China in a Global Context** 12 s.h. CIEE study abroad program in Shanghai, China; focus on China in a global context; Chinese language training at standard and intensive levels; courses (taught in English) in global studies, economics, international relations, and area studies; for students with no Chinese language background and those who have studied Chinese for several semesters. Requirements: 2.75 g.p.a. and seven semesters or less of college-level Chinese. Recommendations: completion of one Chinese area studies course.
- ABRD:3429 CIEE Shanghai Global Sustainability and Environment** arr. Introspection into how humans adversely impact our world; developing ideas for minimizing impact by gaining technical and project-planning skills in Chinese labs, research centers, and universities in Shanghai; urban challenges to sustainable life; immersion in Chinese culture, with optional homestay for further immersion; coursework conducted in English. Requirements: 3.00 g.p.a., minimum of two college-level courses in environmental studies or environmental science. Recommendations: completion of at least one college-level science or social science course with an integrated lab.

**ABRD:3430 CIEE Singapore Summer Global Internship arr.**

English-speaking international internship in Singapore, Asia; CIEE Summer Global Internship programs combine full-time internship with integrated academic seminar to provide professional exploration and specific skills development; individualized placements based on student's career goals and a great way to explore future career options while having an amazing adventure abroad; credit-bearing internship with six-semester UI resident credits, 30 integrated academic seminar hours, and 200-240 internship placement hours; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Eight weeks in summer. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3435 TEAN South Korea: Korea University arr.**

Study abroad experience in Seoul, South Korea through The Education Abroad Network (TEAN) program at Korea University; courses in business, communication and media, education, engineering, humanities, social sciences, international studies, science, and visual arts; resident directors available to provide onsite support in Seoul, organize group activities, and help students navigate academic and cultural differences. Summer, semester, or academic year. Requirements: good academic and disciplinary standing, minimum 2.50 cumulative g.p.a., and completion of one year of on-campus study at the University of Iowa.

**ABRD:3442 CIEE Taipei Communications, Business, and Political Economy arr.**

Intensive Mandarin Chinese language courses; courses in business, communications, political sciences, and other academic areas taught in English; internships in various fields; administered by the Council on International Educational Exchange (CIEE) on behalf of an academic consortium of which the University of Iowa is a member. Requirements: cumulative g.p.a. of 2.75. Recommendations: one Chinese area studies course.

**ABRD:3443 CIEE Taipei Intensive Chinese Language and Culture 12 s.h.**

CIEE intensive Chinese language and culture program in Taipei, Taiwan; for beginning through advanced language students who have an interest in improving their Chinese; opportunity to take non-language courses taught in English to aid understanding of Taiwanese culture and society; flexible and supportive environment to experience life at one of Taiwan's most prestigious national universities. Requirements: 2.75 g.p.a. and two to eight semesters of college-level Chinese. Recommendations: completion of one Chinese area studies course.

**ABRD:3445 India Winterim arr.**

Exploration of student interests in social entrepreneurship, global health, microfinance, cultural production, environmental sustainability, or other development issues in India; varied disciplinary perspectives (i.e., public health, business, social work, geography, art); student work with Indian NGOs employing a diverse variety of techniques to address social problems such as child labor, health care for the poor, illiteracy, and disability services; led by UI faculty. Winter session.

**ABRD:3446 SIT India Traditional Medicine and Healthcare Practices arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 cumulative g.p.a. and good academic and disciplinary standing.

**ABRD:3447 SIT India Public Health, Policy Advocacy, and Community arr.**

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 cumulative g.p.a. and good academic and disciplinary standing.

**ABRD:3449 CIEE Mumbai Summer Global Internship arr.**

English-speaking international internship in Mumbai, India; CIEE Summer Global Internship programs combine full-time internship with integrated academic seminar to provide professional exploration and specific skills development; individualized placements based on student's career goals and a great way to explore future career options while having an amazing adventure abroad; credit-bearing internship with six-semester UI resident credits, 30 integrated academic seminar hours, and 200-240 internship placement hours; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Eight weeks in summer. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3500 Study Abroad arr.**

Students participating in study abroad programs at other U.S. or foreign universities maintain their status at the University of Iowa by registering for this course.

**ABRD:3501 Study Abroad arr.****ABRD:3510 International Student Exchange Program Direct arr.**

Study at some ISEP member institutions in Brazil, Chile, Costa Rica, Estonia, Ghana, Italy, Malta, The Netherlands, New Zealand, South Africa, Thailand, the United Kingdom; fields and terms vary.

**ABRD:3530 Elementary Student Teaching Abroad arr.**

Supervised student teaching in an overseas school.

**ABRD:3531 Secondary Student Teaching Abroad arr.**

Supervised student teaching in an overseas school.

**ABRD:3601 Iowa Regents Semester in Australia: University of Newcastle arr.**

Opportunity to study at the University of Newcastle in Australia; full academic and social integration with Australian peers. Requirements: 2.50 minimum g.p.a. and sophomore standing.

**ABRD:3602 Iowa Regents Semester in Australia: University of Tasmania 12 s.h.**

Study at the University of Tasmania; full academic and social integration with Australian peers. Semester. Requirements: 2.50 minimum g.p.a. and sophomore standing at time of application.

**ABRD:3603 IES Internships Sydney arr.**

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, good academic and disciplinary standing, and eligible to receive Australian work/holiday visa.



**ABRD:3604 SIT Australia Sustainability and Environmental Action** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3605 TEAN Australia: Bond University** arr.

Study at Bond University on the Gold Coast of Australia alongside other local and international students; focus on a wide range of academic course areas including business, social science, arts and humanities, and the sciences. Requirements: minimum 2.50 g.p.a., and good academic and disciplinary standing.

**ABRD:3606 International Business in Sydney** arr.

Program in Sydney, Australia, for students wishing to gain a deeper understanding of international business and expand their knowledge of the fast growing dynamic region of Asia Pacific; introduction to basic concepts of international business and the rise of globalization; students examine the importance of understanding key political-legal, socioeconomic, and technological factors and issues impacting international trade in this region. Requirements: good academic and disciplinary standing, UI and cumulative g.p.a. of at least 2.75, completion of at least one full academic year at UI prior to application, sufficient coursework in business, and MGMT:2100 or consent of program director.

**ABRD:3607 TEAN Australia: University of New South Wales** arr.

Study at the University of New South Wales (UNSW) in Sydney, Australia alongside other local and international students; focus on a wide range of academic course areas including business, engineering, communications and media, education, environment, health, humanities and social sciences, international studies, science, visual and performing arts and design. Requirements: minimum 2.80 g.p.a. and good academic and disciplinary standing.

**ABRD:3608 CIEE Sydney Open Campus** arr.

Open block campus program in Sydney, Australia; coursework divided into six academic tracks, each course is a full semester in content and covered in a six-week block with an accelerated pace and demanding workload; students enroll in two courses each block; students attending for all three blocks in a semester may select one block in which to enroll in only one course. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3610 TEAN New Zealand: University of Otago** arr.

Study at the University of Otago, New Zealand's first university established in 1869; with focus on traditional arts and sciences, the university offers a broad spectrum of courses that students can take alongside other local or international students. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

**ABRD:3611 TEAN New Zealand: Victoria University of Wellington** arr.

Students participating in the Victoria University of Wellington program enjoy courses that are ranked in the top 100 internationally recognized programs for arts and humanities, social sciences, and management; students take a wide variety of courses from many disciplines alongside other local or international students. Requirements: 2.70 g.p.a. and good academic and disciplinary standing.

**ABRD:3655 Community and Public Health Nursing Practicum Abroad** arr.

Two-week intensive nursing practicum abroad; fulfills community and public health nursing practicum requirement for nursing majors. Requirements: nursing majors in last semester of program and good academic and disciplinary standing.

**ABRD:3710 SIT South Africa: Social and Political Transformation** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3712 Child Life Experiential Learning Program** 3 s.h.

Preparation to work with children and their families in a variety of health care settings through a practical experience in Cape Town, South Africa; impact of illness, injury, trauma, and health care environments on patients and families; hands-on opportunity to explore how the Red Cross and hospitals operate on a daily basis. Requirements: good academic standing.

**ABRD:3713 IES Internships Cape Town** arr.

Real-world experience combined with professional skill building and cultural immersion; interning full-time in student's chosen field. Eight weeks in summer. Requirements: 2.50 g.p.a., junior or higher standing, and good academic and disciplinary standing.

**ABRD:3714 SIT South Africa Community Health and Social Policy** arr.

The School for International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3715 SIT South Africa Multiculturalism and Human Rights** arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3716 SIT South Africa Education and Social Change** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3717 IES Cape Town: University of Cape Town** arr.

The University of Cape Town offers coursework in African studies, biology, botany, business, environmental sciences, history, mathematics, engineering, sociology, and anthropology; opportunities for students to participate in internships and service learning for credit. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

**ABRD:3718 IES Cape Town Health Studies** arr.

Opportunity to research and examine health care delivery in South Africa; field visits and placements in townships surrounding Cape Town and a week-long rural excursion to the northern part of South Africa provide first-hand experience with the many health issues that challenge South Africa and the national effort to improve public health. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3719 SIT Madagascar Traditional Medicine and Healthcare Systems** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3720 SIT Rwanda Post-Genocide Restoration and Peacebuilding** arr.

The School for International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., emotional maturity for subject matter, and good academic and disciplinary standing.

**ABRD:3721 SIT Uganda and Rwanda Peace and Conflict Studies** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., good academic and disciplinary standing, and emotional maturity due to subject matter.

**ABRD:3722 SIT Uganda: Development Studies** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing. Recommendations: background in development studies or related field strongly recommended.

**ABRD:3723 SIT Senegal: Global Security and Religious Pluralism** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3724 SIT Madagascar: Biodiversity and Natural Resource Management** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3725 SIT Tanzania Wildlife Conservation and Political Ecology** arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., good academic and disciplinary standing, and previous coursework in environmental studies, ecology, biology, sociology, anthropology, international relations, or related fields.

**ABRD:3726 SIT Tanzania: Coastal Ecology and Natural Resource Management** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., good academic and disciplinary standing, and college-level coursework in environmental studies, ecology, biology, or related field. Recommendations: swimming and snorkeling proficiency strongly recommended.

**ABRD:3728 SIT Kenya Internship: Public Health in the Tropics** arr.

Students gain language proficiency and conduct undergraduate field research abroad; exploration of a specific critical global issue; work experience with research organizations, hospitals, and nonprofit organizations; dynamics of public health in western Kenya; public health promotion and management in the tropics complemented by immersive experiential learning with guided weekly discussions, assignments, and reflection. Requirements: minimum 2.50 g.p.a., emotional maturity for subject matter, and good academic and disciplinary standing.

**ABRD:3751 Archaeology in Israel** arr.

Opportunity to participate in an active archaeological dig alongside local professionals and faculty in Israel; part of an international consortium participating the Lautenschlag Tel Azekah archaeological excavation; morning excavation time complemented by daily afternoon lectures from leading local archaeologists and University of Iowa faculty. Requirements: good academic and disciplinary standing.

**ABRD:3752 SIT Morocco Field Studies in Journalism and New Media** arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a., good academic and disciplinary standing, previous coursework in journalism or related field, strong writing skills, and an interest in journalism.

**ABRD:3753 SIT Jordan Geopolitics, International Relations, and the Future of the Middle East** arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3754 SIT Jordan Refugees, Health, and Humanitarian Action** arr.

The School of International Training (SIT) offers opportunities to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3755 SIT Morocco Multiculturalism and Human Rights** arr.

The School of International Training (SIT) offers more than 60 accredited semester and summer study abroad programs in Africa, Asia, the Pacific, Europe, Latin America, and the Middle East; these rigorous academic programs connect with students through a field-based, experiential approach. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3756 SIT Morocco Arabic Language and Community Service** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3757 SIT Jordan Engineering and Design for Sustainable Environments** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3758 SIT Jordan Intensive Arabic Language Studies** arr.

Opportunity to gain language proficiency and learn how to conduct undergraduate field research abroad; concentration on exploration of a specific critical global issue. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:3810 American Councils Contemporary Russian Program** arr.

Russian language study; Russian economics, politics, and culture classes taught in English; content-based courses taught by faculty of the State University Higher School of Economics in Moscow; full-time resident director oversees academic and cultural programs and assists participants with academic, administrative and personal matters; for students and working professionals at all levels of Russian-language proficiency, including no prior study of the language. Requirements: good academic and disciplinary standing.

**ABRD:3811 American Councils Language and Area Studies Program** 8,12 s.h.

Russian Language and Area Studies Program of the American Councils (AC); designed for improvement of oral, listening, reading and writing proficiency in Russian language; Russian history, politics, culture, and society; offered at one of three locations (St. Petersburg, Moscow, or Vladimir) with final placement determined by AC; full-time U.S. resident director provides ongoing logistical support and emergency assistance to participants. Requirements: four semesters of college-level Russian language.

**ABRD:3812 American Councils Business Russian Language and Internship Program** 12 s.h.

Curriculum focusing on language of Russian business combined with an internship at a multinational company, business, or NGO agency in Russia; highly individualized curriculum; offered at one of two locations (St. Petersburg or Moscow) with final placement determined by American Councils (AC); full-time U.S. resident director provides ongoing logistical support and emergency assistance to participants; for intermediate- to near-native speakers of Russian. Requirements: prior Russian language study and a strong command of Russian grammar.

**ABRD:3813 PRUE Summer Intensive Russian Program** arr.

Immersion in Russian language and culture; students attend Plekhanov Russian University of Economics (PRUE), enroll in Russian language courses, and become more familiar with the Russian culture through firsthand experience. Eight weeks in summer. Requirements: 2.75 UI and cumulative g.p.a., minimum of four semesters of college-level Russian, and good academic and disciplinary standing.

**ABRD:3830 USAC Studies in the Czech Republic** arr.

Introductory Czech language and culture courses taught in English at Charles University. Summer, semester, or academic year.

**ABRD:3831 CEA Prague: Full Curriculum** arr.

Choice of courses from Anglo-American University's (AAU) full curriculum—more than 100 courses, all taught in English, across a range of disciplines; students attend class with local Czech and other international students, creating a truly integrated experience. Requirements: native English speaker or satisfactory TOEFL scores, 2.70 minimum g.p.a., sophomore standing prior to program start, and good academic and disciplinary standing.

**ABRD:3832 CEA Prague: Business, Liberal Arts, and Social Sciences** arr.

Students spend a summer immersed in Czech culture and attend class with local Czech and other international students at Anglo-American University (AAU); all courses taught in English; diverse selection of topics and disciplines allows students to find courses aligned with their academic interests. Requirements: native English speaker or satisfactory TOEFL scores, 2.70 minimum g.p.a., and good academic and disciplinary standing.

**ABRD:3833 CEA Prague: Internship** arr.

Students gain valuable hands-on skills in an international internship in one of Central Europe's economic and cultural capitals; placement in a business or organization aligned with the student's professional and academic goals; students build a professional network as they gain hands-on international experience that employers value. Requirements: native English speaker or satisfactory TOEFL scores, 2.75 minimum g.p.a., sophomore standing at time of application, and good academic and disciplinary standing.

**ABRD:3901 CIEE Toronto Summer Global Internship** arr.

English-speaking international internship in Toronto, Canada; CIEE Summer Global Internship programs combine full-time internship with integrated academic seminar to provide professional exploration and specific skills development; individualized placements based on student's career goals and a great way to explore future career options while having an amazing adventure abroad; credit-bearing internship with six-semester UI resident credits, 30 integrated academic seminar hours, and 200-240 internship placement hours; administered by the Council on International Educational Exchange (CIEE) on behalf of a consortium of which the University of Iowa is a member. Eight weeks in summer. Requirements: 2.50 g.p.a. and good academic and disciplinary standing.

**ABRD:4001 Lancaster University Exchange** arr.

Reciprocal exchange programs between the University of Iowa and Lancaster University in Lancaster, England; full integration with British students in student housing and regular classes. Semester or academic year. Requirements: 3.00 cumulative g.p.a., junior or senior standing, declared major, and good understanding of requirements for major.

**ABRD:4002 University of Strathclyde Exchange** arr.

Reciprocal exchange program between the University of Iowa and the University of Strathclyde in Glasgow, Scotland; full integration with British students in student housing and regular classes. Semester or academic year. Requirements: 3.00 cumulative g.p.a., junior or senior standing, declared major, and good understanding of requirements for major.

**ABRD:4005 University of Kent Exchange** arr.

Reciprocal exchange program between the University of Iowa and the University of Kent in Canterbury, England; full integration with British students in student housing and regular classes. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

**ABRD:4055 Vienna Exchange Program** arr.

Regular degree coursework in business administration and economics at Wirtschatsuniversität in Vienna, Austria; taught in English and German. Semester or academic year. Arranged through Tippie College of Business. Requirements: one year of college German, g.p.a. of at least 2.75, and relevant academic background.

**ABRD:4057 Aalborg University Exchange 12 s.h.**

Reciprocal exchange agreement between the University of Iowa and Aalborg University; students study in Denmark alongside local students in regular classes and standard student housing; language of instruction is Danish and there is a commitment to use of other languages of instruction where relevant, including a number of offerings taught in English (Spanish, German, and French) in various subjects and disciplines; particularly suitable for students interested in globalization, communication studies, political science, and psychology, who have a firm commitment to their major. Semester or academic year. Requirements: 2.80 cumulative g.p.a., completion of at least one semester in residence at the University of Iowa, and junior or senior standing during session abroad.

**ABRD:4059 Dortmund University Exchange arr.**

Direct exchange program between the Technical University of Dortmund and the University of Iowa; students remain registered at their own institution and receive student status at the guest university; unique blend of courses that combine language and culture courses with academic work in student's major and minor subjects; university studies and life outside the classroom are synthesized in a holistic learning process. Requirements: German language proficiency and cumulative g.p.a. of 2.80.

**ABRD:4063 University of Iceland Exchange arr.**

Reciprocal exchange program between the University of Iowa and the University of Iceland; a year of study in Reykjavik alongside local students in regular classes; option of selecting classes from those taught in English in different departments, or an academic year of intensive Icelandic language study; science majors interested in geophysics are encouraged to explore English-taught classes in geography, geology, and geophysics. Requirements: 2.80 cumulative g.p.a., completion of at least one semester in residence at the University of Iowa, and junior or senior standing during session abroad.

**ABRD:4065 Tilburg University Exchange arr.**

Tilburg University in the Netherlands offers English-language courses in business administration (accounting, applied microeconomics, finance, production management, international marketing, and electronic commerce) and other subjects; suitable for upper-level business majors and students pursuing an international business certificate. Requirements: 3.00 g.p.a. and junior or higher standing.

**ABRD:4066 Radboud University Nijmegen Exchange arr.**

Reciprocal exchange agreement between the University of Iowa and Radboud University Nijmegen; students study in the Netherlands alongside local students in regular classes; language of instruction is Dutch and a number of classes throughout the curriculum are taught in English; particularly suitable for students interested in American studies, European studies, and pre-Law, as well as majors in German, linguistics, and political science; Dutch language not required for participation. Semester or academic year. Requirements: 2.80 cumulative g.p.a., completion of at least one semester in residence at the University of Iowa, and junior or senior standing during session abroad.

**ABRD:4068 WHU-Otto Beisheim School of Management Exchange arr.**

WHU-Otto Beisheim School of Management is a privately financed business school founded in 1984 near Koblenz, Germany; cities of Cologne, Mainz, and Frankfurt can be reached in under an hour; WHU maintains a network of more than 150 partner universities worldwide and has consistently high national and international rankings; areas of study include economics, finance, accounting, management, marketing, and entrepreneurship; courses taught in English; a variety of courses are offered for students who wish to continue study of German. Requirements: completion of at least one year of university study, good academic standing, and sufficient command of English to follow selected course of study; and minimum 2.75 g.p.a. for undergraduates.

**ABRD:4069 Oslo Metropolitan University Exchange arr.**

Study at Oslo and Akershus University College of Applied Sciences in Oslo, Norway; UI students direct enroll in courses from the Faculty of Education and International Studies; courses are taught in English and are taken alongside local students; students live in student housing while studying in Oslo. Summer, semester, or academic year. Requirements: good academic and disciplinary standing, sophomore standing, and g.p.a. of 2.80.

**ABRD:4422 Kanda University of International Studies Exchange arr.**

Reciprocal exchange program between the University of Iowa and Kanda University of International Studies; year of study at the Japanese Language and Culture Program at Kanda; small, ultramodern university; facilities designed to promote cross-cultural experience; Multilingual Communication Center has resources and equipment pertaining to Japanese, Korean, Spanish, Portuguese, Indonesian, Vietnamese, and Thai. Requirements: 3.00 minimum g.p.a. and completion of at least one semester in residence at the University of Iowa. Recommendations: strong record in Japanese.

**ABRD:4424 Meiji University Exchange arr.**

Reciprocal exchange program between the University of Iowa and Meiji University; study in Tokyo as visiting foreign student in a department of one of Meiji's various academic divisions; for undergraduates and graduate students with an appropriate research interest; the Japanese academic calendar runs late March through late January the following year, which involves spring through fall semesters at the University of Iowa. Requirements: 3.00 minimum g.p.a., sophomore standing or higher at time of enrollment in Meiji, and enrollment in fourth-year Japanese at time of application; graduate students intending to do research must have an appropriate project and proficiency at third-year level Japanese; graduate students participating in English-taught curriculum of the Special Graduate Student Exchange Program, Department of Political Science and Economics, must have sufficient Japanese to function in everyday living.

**ABRD:4425 Nagoya University of Foreign Studies Exchange arr.**

Language instruction at all levels and Japanese studies taught in English at Nagoya University of Foreign Studies. Semester or year.

**ABRD:4426 University of Nanzan Exchange arr.**

Reciprocal exchange program between the University of Iowa and Nanzan University in Nagoya; study at Nanzan's Center for Japanese Studies; living options include a home stay program that places students in a Japanese home as a family member or residence hall accommodations; for students interested in developing fluency in Japanese language. Semester or year. Requirements: 3.00 minimum g.p.a. and completion of at least one semester in residence at the University of Iowa. Recommendations: strong record in Japanese.

**ABRD:4432 Ewha Womans University Exchange arr.**

The Ewha Womans University Exchange program offers a coeducational international program and welcomes all students, male and female, to study for one or two semesters as a nondegree seeking exchange or visiting student; variety of high-quality courses in various fields, including studies on Asia and Korea. Requirements: cumulative g.p.a. of 2.50.

**ABRD:4438 Business and Culture in China 3 s.h.**

Exploration of business and cultural environment through a University of Iowa faculty-led study program in China; lectures, readings, case studies, company visits, and immersion in cultural experiences; development of greater awareness of Chinese history, politics, business, economics, and culture; topics may include Chinese business culture and relationships, local companies going global; business strategies of multinational companies in Chinese market; United States-China trade relations; entrepreneurship, Chinese consumer, sustainability, and social responsibility. Requirements: 2.75 cumulative and UI g.p.a., and minimum of 30 s.h. completed prior to program.

**ABRD:4439 Chinese University of Hong Kong Exchange 12 s.h.**

The Chinese University of Hong Kong (CUHK) Accounting Exchange Program provides University of Iowa accounting students the ability to integrate a unique international experience with their academic program. Semester. Requirements: 3.00 UI and cumulative g.p.a., completion of one semester toward UI accounting major, and good academic standing.

**ABRD:4443 Peking University Engineering Exchange 3 s.h.**

College of Engineering partnership with Peking University; wide range of engineering classes offered; intensive summer session. Requirements: engineering major and good academic standing.

**ABRD:4444 Hong Kong University of Science and Technology Business Exchange arr.**

The Hong Kong University of Science and Technology (HKUST) Business Exchange program HKUST is consistently ranked as one of the top schools in both Asia and in the world, and offers UI students the opportunity to study while paying UI tuition rates; designed specifically for business and management students. Semester or academic year. Summer. Requirements: undergraduate standing, g.p.a. of 2.70 or higher, and good academic and disciplinary standing. Recommendations: enrollment in Tippie College of Business.

**ABRD:4445 Kyung Hee University Exchange arr.**

Reciprocal exchange program between the University of Iowa and Kyung Hee University in Seoul, South Korea; wide range of English-taught courses in various disciplines including business, humanities, natural sciences, social sciences, engineering, and applied sciences. Summer, semester, or year. Requirements: 3.00 cumulative g.p.a. and good academic and disciplinary standing.

**ABRD:4446 East China Normal University Exchange arr.**

Students take Chinese language courses and English language courses on a variety of topics, most of which pertain to China's culture, philosophy, history, and business landscape. Requirements: 3.00 g.p.a. and good academic and disciplinary standing.

**ABRD:4447 Korea University Exchange arr.**

Korea University Exchange program offers many courses in English in various disciplines, including studies on Asia and Korea; undergraduates study for one of two semesters in Seoul and take classes alongside Korean students. Requirements: 3.00 g.p.a., good academic and disciplinary standing, and completion of at least two full-time semesters at the University of Iowa before application to program.

**ABRD:4510 International Student Exchange Program arr.**

Study on reciprocal exchange at foreign universities worldwide; some instruction in English. Year-long, one semester, and summer options. Requirements: 40 s.h. of credit, g.p.a. of at least 3.00, and in some cases, command of a foreign language.

**ABRD:6064 Erasmus/Rotterdam School of Management Exchange arr.**

Reciprocal exchange program between the University of Iowa and Erasmus University Rotterdam; full-time students in M.B.A. and M.Ac. programs study for a semester in Rotterdam, The Netherlands; students from Tippie School of Management take courses in Rotterdam School of Management during fall semester, students from M.Ac. program take courses offered through Rotterdam School of Management's Master Programme in Accounting and Control during spring semester. Requirements: completion of at least one year of graduate study prior to participation in exchange and good academic standing; at least three years of work experience and non-Dutch citizen for M.B.A. student.

## International Activities Courses

**INTL:3001 Public Health Activities Abroad 0 s.h.**

Volunteering, noncredit service learning, noncredit internships, academic competitions, or other noncredit academic-related work completed abroad. Requirements: good academic and disciplinary standing, and approval and nomination from the College of Public Health.

**INTL:3005 Entrepreneurship Activities Abroad 0 s.h.**

Volunteering, noncredit service learning, and noncredit internships, academic competitions, or other noncredit academic-related work completed abroad. Requirements: good academic and disciplinary standing, and approval and nomination from the John Pappajohn Entrepreneurial Center.

**INTL:3015 College of Liberal Arts and Sciences Activities Abroad 0 s.h.**

Volunteering, noncredit service learning, noncredit internships, academic competitions, or other noncredit academic-related work completed abroad. Requirements: good academic and disciplinary standing, and approval and nomination from the College of Liberal Arts and Sciences.

**INTL:3020 Education Activities Abroad 0 s.h.**

Volunteering, noncredit service learning, noncredit internships, academic competitions, or other noncredit academic-related work completed abroad. Requirements: good academic and disciplinary standing, and approval and nomination from the College of Education.

**INTL:3500 Virtual Global Courses**

arr.

Participation in virtual global courses at other United States or international universities while maintaining student status at the University of Iowa. Requirements: good academic and disciplinary standing.

**INTL:3511 Virtual Abroad Experience: Cultures of Spain**

arr.

Overview of Spain's cultural diversity through an interdisciplinary approach; how it defined history and shaped the present; direct interaction between students and guests—a representative group of Spaniards who are prominent in fields including politics, education, and the arts; special attention to the study of conflict between two antagonistic national projects—one that understands Spain as a homogeneous entity and one that advocates for a more pluralistic, inclusive view. Taught in Spanish. Requirements: minimum of four semesters of college-level Spanish and good academic and disciplinary standing.

**INTL:3513 Shakespeare's England**

arr.

Shakespeare's England discovered through performances, readings, and livestreamed interviews and presentations with actors, directors, and scholars in London as well as Shakespeare's home town of Stratford-Upon-Avon; readings, writing; virtual format. Requirements: minimum 2.75 g.p.a., and good academic and disciplinary standing.

**INTL:3517 Virtual Women's Empowerment in the Dominican Republic**

arr.

While progress on women's empowerment in the Dominican Republic has been achieved, greater efforts are needed for further elimination of gender-related violence, discrimination, and other inequalities; exploration of the many services provided to women in two cities, Santo Domingo and Boca Chica; understanding and addressing issues around women's empowerment, dealing with cross-culture issues, working with marginalized and at-risk young women; engagement with the most respected nonprofit and government organizations serving women in the Dominican Republic; exploration of geographic and sociocultural context. Requirements: minimum 2.50 g.p.a. and good academic and disciplinary standing.

**INTL:3525 SIT Virtual Global Courses**

arr.

School for International Training (SIT) online courses involve a dynamic learning environment centered around a global theme or a specific language, with an optional immersive course taught abroad; SIT courses are developed around a framework of critical global issues—challenges that transcend borders to touch every human on the planet; SIT programs are interdisciplinary and appropriate for a variety of majors, and provide an opportunity to grapple with the complexities of today's most pressing issues in specific cultural and geographical contexts, or comparatively across several countries. Requirements: 2.50 g.p.a. or higher, sophomore or higher standing, good academic and disciplinary standing, and any course-specific requirements set by SIT.

**INTL:3535 Travel Writing from Home**

arr.

Students explore the purpose and possibility of travel writing and develop their own personal "armchair travelogue" writing skills; classic examples of travel writing; virtual explorations of sites in and around Athens, Greece. Requirements: 2.75 g.p.a. or higher and good academic and disciplinary standing.

**INTL:3536 Virtual International Medicine**

arr.

Opportunity to interact virtually with medical staff and patients at hospitals and other health centers in host country; clinical anatomy and pathophysiological aspects of relevant diseases; virtual visitations of patients in various health care settings; how to take patient histories, observe health care professionals, and provide daily reports to peers and course director/instructors regarding patient interactions. Requirements: 3.25 g.p.a., and good academic and disciplinary standing.

**INTL:3537 Virtual International Business in Italy**

arr.

Unique look at current regional business and culture in Northern Italy; exploration of financial implications of pandemics, as well as culture and education in Northern Italy; interactive experience involving live lectures, networking with partners in Italy, and hands-on elements. Requirements: good academic and disciplinary standing, minimum 2.75 UI and cumulative g.p.a., sophomore or higher standing, minimum of 30 s.h. completed prior to program, and completion of FIN:3000 or approval of program director.

**INTL:3538 Virtual International Business and Consulting Project**

arr.

International business in the Asia Pacific Region; introduction to basic concepts of international business and rise of globalization; issues confronting enterprises in the Asia-Pacific region; virtual business briefings from companies in each country; students apply what they have learned in a virtual consulting project with a company in Australia, New Zealand, Singapore, or Hong Kong. Requirements: 2.75 UI and cumulative g.p.a., MKTG:3000 or consent of program director, and good academic and disciplinary standing.

**INTL:3539 Virtual Brazilian Carnival: Music and Dance**

arr.

Exposure to all dynamic aspects of carnival parades in Rio de Janeiro through literature, videos, drumming, zoom presentations by experts in Brazil, and practice of samba; dance, music, historical and social contexts, production, critical theories of performance, religious backgrounds, theater making; current and centuries-old traditions; students interact, explore, critique, practice, and share their experiences as online visitors to this world-famous city. Requirements: minimum 2.50 g.p.a. and good academic and disciplinary standing.

**INTL:3542 Virtual Introduction to Global Business**

arr.

Virtual study abroad experience; exploration of the business atmosphere and particular considerations of a region, including briefings from leading businesses in the region and cultural activities; specific region varies. Requirements: 2.75 UI and cumulative g.p.a., and good academic and disciplinary standing. Recommendations: completion of ECON:1100.

**INTL:4515 USAC Global Virtual Internship**

arr.

Exploration of future career interests by working online with businesses and organizations based at locations around the world; includes an online course component to learn how culture is reflected in workplace and develop skills necessary for success in the global workforce; virtual internships arranged with local companies, nongovernmental organizations (NGOs), and governmental organizations based abroad; administered by the University Studies Abroad Consortium (USAC) of which the University of Iowa is a member. Requirements: minimum 2.50 g.p.a. and good academic and disciplinary standing.

**INTL:4525 SIT Virtual Global Internship arr.**

Distance learning that centers around a theme and includes an online internship with a community organization, research or medical organization, business, government agency, or nongovernmental organization (NGO) based outside of the United States; students gain valuable experience and enhance their skills in a professional environment related to core program themes; students are responsible for making optimal use of resources available at the organization and being proactive in engaging with experts to achieve internship objectives. Requirements: minimum 2.50 g.p.a. and good academic and disciplinary standing.

**INTL:4530 CEA Virtual Internships Abroad Program arr.**

Placement with an organization or company based abroad while working remotely from student's home base in the United States; individualized placements based on student's interests and proposed career field; students complete an online seminar independently and through check-ins at their virtual internship placement. Requirements: minimum 2.50 g.p.a. and good academic standing.

**INTL:4535 TEAN Global Remote Internship arr.**

Real-world, international work experience in a variety of fields without travelling; four- or eight-week individual or group internship; students work on a project from start to finish for a company located in Australia or Asia and participate in an online seminar course; students learn about unique challenges and flexibility that being part of a remote team provides, as well as cultural information about the location where organization is based. Requirements: minimum 2.50 g.p.a. and good academic and disciplinary standing.

**INTL:4540 IES Virtual Global Internships arr.**

Exploration of future career interests working online with businesses and organizations based in locations around the world; virtual internships arranged by the University of Iowa's partner provider, International Education for Students (IES), with local companies, nonprofit governmental organizations (NGOs), and governmental organizations based abroad; virtual internships include an online course component to learn how culture is reflected in the workplace and develop skills necessary for success in the global workforce. Requirements: 2.50 g.p.a., sophomore or higher standing at time of application, and good academic and disciplinary standing.

# Summer Research Experiences for Undergraduates

## Director

- Robert F. Kirby

**Website:** <https://icru.research.uiowa.edu/summer-research-programs-iowa>

The University of Iowa hosts a variety of summer research experiences for undergraduates, both from the UI and from other institutions, to enhance students' understanding of research in a variety of disciplines. Acceptance into these programs is based on a competitive application system.

Participants develop research skills under the mentorship of University of Iowa faculty members. They also become part of a research community with access to programming, workshops, and professional development. These programs highlight career opportunities and provide guidance on applying to graduate and professional schools.

Programs typically last 8-10 weeks and include a competitive stipend. Housing, food, and travel expenses are commonly covered by the programs. Interested students should refer to the individual programs for additional information on applications, timelines, research areas, and compensation. Many of these programs offer a 0 s.h. course enrollment for transcript recognition of participation.

## Summer Programs at the University of Iowa

Summer programs that students may enroll in include the following.

- National Science Foundation (NSF) Summer Research Experience for Undergraduates (REU) in Microbiology
- NSF REU in Interdisciplinary Evolutionary Sciences
- NSF REU in Interdisciplinary Geospatial Approaches to Watershed Science (I-GAWS)
- NSF REU in Nanoscience and Nanotechnology
- NSF REU in Computing for Health and Well-Being
- NSF REU in Computational Bioengineering
- Summer Opportunities Research Program
- Summer Undergraduate MSTP Research (SUMR) Program
- Biochemistry Summer Undergraduate Research Fellowship (BSURF)
- Biomedical Scholars Summer Undergraduate Research Program
- Iowa Summer Institute in Biostatistics
- Iowa Neuroscience Institute (INI) Summer Scholars Program
- Continuing Umbrella of Research Experiences (CURE) - Iowa Summer Training Program in Cancer Research
- Fostering Undergraduate Talent - Uniting Research and Education: FUTURE in Biomedicine Program
- UI Premed Student Summer Research Internship



# Sustainability

## Coordinator

- Jennifer Stacy-Adams

## Advisory Committee

- David Bennett (Geographical and Sustainability Sciences), Bradley D. Cramer (Earth and Environmental Sciences), Stratis Giannakouros (Geographical and Sustainability Sciences), Eric Gidal (English), Kyla Hedding (Journalism and Mass Communication), Corey D. Markfort (Civil and Environmental Engineering/Mechanical Engineering), Jessica R. Meyer (Earth and Environmental Sciences), Louise Seamster (African American Studies/Law/Sociology and Criminology), Ion Bogdan Vasi (Management and Entrepreneurship/Sociology and Criminology)

**Undergraduate certificate:** sustainability

**Website:** <https://sustainability.uiowa.edu/academics/certificate-sustainability>

For decades, world leaders have defined sustainability as the implementation of policies, processes, and practices that meet the needs of the present without compromising the ability of future generations to meet their own needs. Working toward sustainability requires an understanding of human and environmental systems and the complex interactions between them. Students who understand the concept of sustainability can make a positive difference in the world.

The Certificate in Sustainability provides students with the knowledge and skills they need to contribute to the development of sustainable outcomes through interdisciplinary coursework in areas such as society and culture, economics, the environment, energy, public health, and public policy. The program helps students become effective leaders and agents of change for sustainability in a wide range of vocations, such as academic researcher, teacher, environmental specialist, sustainability coordinator, corporate officer, policy analyst, grassroots advocate, or government official.

The Certificate in Sustainability is administered by University College.

## Programs

## Undergraduate Program of Study Certificate

- Certificate in Sustainability [p. 2226]

# Sustainability, Certificate

## Requirements

The undergraduate Certificate in Sustainability requires 24 s.h. of credit. Students must maintain a g.p.a. of at least 2.00 in work for the certificate.

The certificate may be earned by any student admitted to the University of Iowa who is not enrolled in a UI graduate or professional degree program. Undergraduate to Graduate (U2G) students may earn the certificate when the undergraduate classification is primary.

Work for the certificate includes four introductory core courses, three courses from preapproved breadth area electives, and one project/integrative systems course. Students may be able to count certificate courses toward requirements for other majors, minors, or other certificates. They may count a maximum of three courses in a single department or program toward the certificate. A maximum of 6 s.h. of approved transfer credit may be counted toward the certificate. Certificate courses may not be taken pass/nonpass. A course may be used to satisfy only one certificate requirement.

Individuals must declare their intent to earn the certificate; see the Certificate in Sustainability website for details.

Sustainability embraces many disciplines, methodologies, and institutional practices. Certificate students must have knowledge of the interdisciplinary nature of the field, which is represented by the program's breadth electives: dynamics of natural systems; dynamics of human systems; and communication, ethics, and interpretation. They also must have experience with analyzing real-life problems in and outside of the classroom and in working collaboratively to solve such problems.

The Certificate in Sustainability requires the following coursework.

## Introductory Core

Code	Title	Hours
Both of these:		
GEOG:1070	Contemporary Environmental Issues	3
GEOG:2013/ BUS:2013/ SUST:2013/ URP:2013	Introduction to Sustainability	3
One of these:		
ENGL:1510	Introduction to Environmental Literature	3
JMC:1800	Twenty-first-Century Science: Environmental Communication in the Digital Age	3
One of these:		
EES:1080/ ENVS:1080	Introduction to Environmental Science	3-4
EES:1085/ ENVS:1085	Fundamentals of Environmental Science	4

## Breadth Electives

Students complete at least 3 s.h. in each of the following three breadth areas.

### Dynamics of Natural Systems

Code	Title	Hours
At least 3 s.h. from these:		
BIOL:1260	Plants and Human Affairs	3
BIOL:2374/ GEOG:2374	Biogeography	3
BIOL:2673/ ENVS:2673	Ecology	3
CBE:2040	Environment, Energy, and Climate Change	3
CBE:2050/CEE:2050	Severe and Unusual Weather	3
CBE:5405	Green Chemical and Energy Technologies	3
CBE:5425/CEE:5115	Atmospheric Chemistry and Physics	3
CEE:4102	Groundwater	3
CHEM:4873	Atmospheric and Environmental Chemistry	3
EES:1040	Evolution and the History of Life	3-4
EES:1290	Energy and the Environment	3
EES:1400	Natural Disasters	3
EES:2310/ GEOG:2310	Introduction to Climatology	3
EES:3070	Marine Ecosystems and Conservation	3
EES:4630	Hydrogeology	4
GEOG:1020	The Global Environment	3
GEOG:2950	Environmental Conservation	4
GEOG:3310	Landscape Ecology	3
GEOG:3340	Ecosystem Services	3
IALL:3131	Ecology	4

Or both of these:

EES:2010/ ENVS:2010/ GEOG:2010	Interdisciplinary Environmental Seminar	1
EES:3080	Introduction to Oceanography	2

### Dynamics of Human Systems

Code	Title	Hours
At least 3 s.h. from these:		
AMST:1154	Food in America	3
ANTH:1046/ GEOG:1046/ GWSS:1046/ SJUS:1046	Environmental Politics in India	3
ANTH:2100	Anthropology and Contemporary World Problems	3
ANTH:2261	Human Impacts on the Environment	3
ANTH:3103	Environment and Culture	3

ANTH:3240/ NAIS:3240	Cultural Resources Management Archaeology: Practice and Practicalities	3	GEOG:4150/ GHS:4150/ IGPI:4150	Health and Environment: GIS Applications	3
ANTH:3260	Pleistocene Peopling of the Americas	3	GEOG:4750/ URP:4750	Environmental Impact Analysis	3
ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3	GHS:3162/ HIST:3162	History of Global Health	3
ARTH:1090	Earthly Paradises: A Global History of Gardens	3	GHS:3560	Global Garbage and Global Health	3
ARTH:3090	Contemporary Architecture	3	HIST:3247	American Disasters	3
CBE:2030	Energy and Society	3	HIST:3263	American Ruins	3
CBE:4459/ CEE:4159/IGPI:4159	Air Pollution Control Technology	3	IS:3200	Sustainable Development	3
CEE:3790	Resilient Infrastructure and Emergency Response	3	ISE:4550	Wind Power Management	3
CEE:4158/ OEH:4920	Solid and Hazardous Wastes	3	ME:4048	Energy Systems Design	4
CHEM:1050	Chemistry of Our World	3	NAIS:1290/ AMST:1290/ GHS:1290/ HIST:1290	Native American Foods and Foodways	3
CPH:2200	Climageddon: Understanding Climate Change and Associated Impacts on Health	2	PBAF:2020/ URP:2020	Environment and Society: Sustainability, Policy, and Politics	3
CPH:3500/ GHS:3500	Global Public Health	3	POLI:1400	Introduction to Comparative Politics	3
CPH:4200	Agriculture, Food Systems, and Sustainability	3	POLI:1500	Introduction to International Relations	3
ECE:5630	Sustainable Energy Conversion	3	POLI:2417	Comparative Environmental Policy	3
ECON:3625/ URP:3135	Environmental and Natural Resource Economics	3	POLI:3424	Global Development	3
ECON:3650	Policy Analysis	3	TDSN:3200	Product Design	4
EES:1115/ ENVS:1115/ GEOG:1115/ HIST:1115	The History and Science of Oil	3	TDSN:4010	Furniture Design I	4
EES:4790	Applied Environmental Geology	3	URP:6253/ PBAF:6253	Designing Sustainable and Healthy Cities	1-3
GEOG:1090	Globalization and Geographic Diversity	3	URP:6256/ PBAF:6256	Environmental Policy	3
GEOG:2110/ GHS:2110	Seven Billion and Counting: Introduction to Population Dynamics	3	<b>Communication, Ethics, and Interpretation</b>		
GEOG:2410	Environment and Development	3	<b>Code</b>	<b>Title</b>	<b>Hours</b>
GEOG:2910	The Global Economy	3	At least 3 s.h. from these:		
GEOG:3070/ GHS:3070	Hungry Planet: Global Geographies of Food	3	ANTH:4130/ RELS:4730	Religion and Environmental Ethics	3
GEOG:3210/ CPH:3400	Health, Work, and the Environment	3	CNW:2740	The Art and Craft of Writing about the Environment	3
GEOG:3300/ GHS:3300	Envisioning Future Worlds: Sustainable Development and Its Alternatives	3	ENGL:2329	Topics in Modern British Literature Before 1900 (when topic is British literature and environmental history)	3
GEOG:3420	Sustainable and Green Building Concepts	3	ENGL:3105	Topics in Popular Culture (when topic is food studies)	3
GEOG:3780/ GHS:3780/ HIST:3240	U.S. Energy Policy in Global Context	3	ENGL:3510	Topics in Transnational Literature (when topic is rivers and rivals)	3
GEOG:3800	Environmental Economics and Policy	3	ENGL:3570/ GWSS:3570	Transnational and Postcolonial Writing by Women (when topic is women gone wild)	3
GEOG:3920/ URP:3001	Planning Livable Cities	3			

ENGL:4003	Honors Seminar: Literary Theory and Interdisciplinary Studies, 20th/21st Century (when topic is becoming human: literature, culture, environment)	3
ENGL:4195	Interdisciplinary Studies (when topic is animal stories)	3
ENTR:3500	Social Entrepreneurship	3
FREN:1007	Nature/Ecology French Philosophy and Fiction	3
GEOG:4770/ AFAM:4770/ GHS:4770	Environmental Justice	3
HIST:3230	American Environmental History	3
JMC:3185	Topics in Understanding Media (when topic is risk communication)	3
LAW:8622	International Environmental Law	3
MGMT:2000	Introduction to Law	3
RHET:3700	Advocacy and Sustainability: Crafting Stories of People, Place, and Resilience	3
SCLP:3895	Topics in Sculpture (when topic is art at the edge of the landfill)	4
URP:6273/ PBAF:6273	Community Development Through Creative Placemaking	3

## Project/Integrative Systems

All students complete coursework from the following.

Code	Title	Hours
At least 3 s.h. from these:		
ABRD:3445	India Winterim (with consent of advisor)	3
ANTH:2261	Human Impacts on the Environment	3
CBE:4410/CEE:4107	Sustainable Systems	3
CNW:3660	Multimedia Writing (when topic is environmental writing and filmmaking)	3
EES:3150	Sustainability Project	2
ENGL:4000	English Honors Seminar (when topic is becoming human: literature, culture, environment)	3
ENGL:4195	Interdisciplinary Studies (when topic is animal stories)	3
ENTR:3700	Sustainable Product Innovation and Management	3
ENTR:4100	International Entrepreneurship, Culture, and Social Impact	3
ENVS:3230	Special Topics (when topic is prairie restoration)	3
EVNT:3180	Sustainable Events	3
GEOG:2930	Water Resources	3

GEOG:3001	Special Topics (when topic is sustainability)	3
GEOG:3400	Iowa Environmental Policy in Practice	3
GEOG:3760/ GHS:3760	Hazards and Society	3
GHS:3180	Climate Change and Health	3
GHS:4100	Topics in Global Health (when topic is sustainability)	3
MKTG:4250	Marketing and Sustainability	3
TDSN:3260	Design for Production (when topic is special issues and topics in design)	4
URP:4170	Megacities Seminar	3
URP:4752	Eight Generation Planning: Envisioning Regenerative Cities	3
URP:6256/ PBAF:6256	Environmental Policy	3
URP:6273/ PBAF:6273	Community Development Through Creative Placemaking	3

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

### Sustainability, Certificate

Course	Title	Hours
<b>First Year</b>		
<b>Fall</b>		
GEOG:1070	Contemporary Environmental Issues	3
<b>Hours</b>		<b>3</b>
<b>Spring</b>		
JMC:1800 or ENGL:1510	Twenty-first-Century Science: Environmental Communication in the Digital Age or Introduction to Environmental Literature	3
<b>Hours</b>		<b>3</b>
<b>Second Year</b>		
<b>Fall</b>		
EES:1085 or EES:1080	Fundamentals of Environmental Science or Introduction to Environmental Science	3 - 4
<b>Hours</b>		<b>3-4</b>
<b>Spring</b>		
SUST:2013	Introduction to Sustainability	3
<b>Hours</b>		<b>3</b>
<b>Third Year</b>		
<b>Fall</b>		
Certificate: dynamics of natural systems breadth area course <sup>a</sup>		3
<b>Hours</b>		<b>3</b>

**Spring**

Certificate: communication, ethics, and interpretation breadth area course <sup>a</sup>	3
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<b>Hours</b>	<b>3</b>
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**Fourth Year****Fall**

Certificate: dynamics of human systems breadth area course <sup>a</sup>	3
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<b>Hours</b>	<b>3</b>
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**Spring**

Certificate: project/integrative systems area course <sup>a</sup>	3
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<b>Hours</b>	<b>3</b>
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<b>Total Hours</b>	<b>24-25</b>
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<sup>a</sup> Refer to General Catalog for a list of approved course options.

# Undergraduate Research Experiences

## Director

- Robert F. Kirby

**Website:** <https://icru.research.uiowa.edu>

Undergraduate Research Experiences (URES) courses enhance research and creative scholarship experiences for undergraduate students. These courses are administered through the Iowa Center for Research by Undergraduates (ICRU), which seeks to provide a broad range of research and professional development opportunities for undergraduates and their mentors.

## URES Independent Study Courses

URES Independent Study courses provide opportunities for students to earn academic credit or transcript recognition for their research/creative scholarship involvement. These courses are intended to promote recognition of ongoing research participation. They are available to all undergraduates in any academic session other than winter session.

Collegiate and department-based research courses also may be available. Students are encouraged to consult their mentors or academic advisors regarding which option is most suited to their circumstances.

## First-Year Seminars

First-Year Seminars (FYS) designated as research focused are offered through URES. Research-focused FYS introduce students to research in an instructor's field. These courses often involve visits to research sites, hands-on projects, and exposure to disciplinary-based research. These are typically 10-week courses that meet for 75 minutes per week. An optional poster session is held during the last week of the course for students to display what they have learned during the semester.

## Summer Research Programs

Many University of Iowa summer research programs enroll students for 0 s.h. in courses that provide transcript recognition of participation in the program. These are available to both current University of Iowa students and students who visit from other institutions to develop their research skills; see Summer Research Experiences for Undergraduates [p. 2224] in the Catalog for more information.

## Courses

### Undergraduate Research Experiences Courses

#### **URES:1000 First-Year Seminar** **1 s.h.**

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities); research focus allows students to actively discover new information with guidance from instructor, pursue research in small groups, learn the "how to" of a field, and share their findings; no prior research knowledge or experience required. Requirements: first- or second-semester standing.

#### **URES:2100 Louis Stokes Alliances for Minority Participation STEM Scholars** **1 s.h.**

Preparation for success in transferring into a STEM major at UI; exposure to undergraduate research opportunities; develop skills of scientific inquiry and communication; presentation of products; connect with current transfer students, active research faculty, campus support services, and program staff members. Requirements: application and acceptance to UI LSAMP program.

#### **URES:2200 Discover Research** **1 s.h.**

Introduction to research at the University of Iowa; exploration of life as a researcher through a mixture of lecture, faculty and student guest speakers, and virtual lab tours; process of finding and contacting potential research mentors, interviewing for research positions, and making the most out of a research experience; for first-year undergraduates.

#### **URES:3001 Introduction to Translational Research** **0-3 s.h.**

Array of scientific studies translated into clinical solutions, creative ideas balanced with practical strategies for implementation at bedside, and expansive number of career opportunities becoming available in translational sciences; opportunity to learn how translational research is conceived and developed; interpreting student research in a translational paradigm; survey of translational biomedicine research program covering the scope of interdisciplinary teams and breadth of T1 to T4 research applications. Requirements: enrollment in clinical and translational science certificate program, and engagement in mentored research activity. Recommendations: successful completion of EPID:4400 highly recommended.

#### **URES:3002 Practicum in Clinical and Translational Science** **0-3 s.h.**

How research experience translates into clinical practice; translational impact of independent research; summary of research accomplishments; outline of a translational paper that is mutually acceptable to student, preceptor, and faculty; submission of paper and completion of poster presentation describing research project and translational application of research. Prerequisites: URES:3001. Requirements: enrollment in clinical and translational science certificate program.

#### **URES:3100 Iowa Center for Research by Undergraduates Research Ambassador** **0-1 s.h.**

Promotion of undergraduate research from all disciplines within campus community; hosting various on-campus events, leading workshops, presentations at student organization meetings and in-class; leadership and public speaking; regular meetings with ICRU staff.

**URES:3500 Skill Development for Undergraduate Researchers** 0-2 s.h.

Introduction to research across disciplines, research communication (i.e., poster preparation, research presentation), curriculum vitae and résumé development, letters of recommendation, institutional structure, and more; focus on soft skill development for undergraduates currently involved in mentored research and creative scholarship.

**URES:3992 Undergraduate Research and Creative Projects** 0 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

**URES:3993 Undergraduate Research and Creative Projects** 1-4 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

**URES:3994 Undergraduate Research and Creative Projects** 1-4 s.h.

Independent research or pursuit of a creative project under mentorship of a faculty supervisor.

**URES:3995 ICRU Research Fellow** 0 s.h.

Recognition of undergraduates involved in scholarly efforts of UI faculty and research staff; work on specific research and/or creative projects under selected mentors; funded annually by the Iowa Center for Research by Undergraduates (ICRU) through a competitive application process. Requirements: selection as ICRU Fellow.

**URES:3996 Research Fellow** 0 s.h.

Involvement in scholarly efforts of UI faculty and research staff; students work on specific research and/or creative projects under selected mentors; funded by various strategic initiatives through competitive application processes. Requirements: selection by department or faculty mentor.

**URES:4110 Computational Bioengineering Summer Research Experience for Undergraduates** 0 s.h.

Immersive research experience focused on fundamental concepts of computational bioengineering and application of concepts to solve challenging biomedical problems; work on mentored research projects and showcase research at a University-wide presentation opportunity.

**URES:4120 Research Experience for Undergraduates: Computing for Health and Well-Being** 0 s.h.

Research experience in using computer science methods to study and solve current problems in health, well-being, and health care systems; work on mentored research projects and showcase research at a UI presentation opportunity.

**URES:4130 Research Experience for Undergraduates in Microbiology** 0 s.h.**URES:4140 Research Experiences for Undergraduates in Evolutionary Biology** 0 s.h.

Intensive hands-on experience in a research lab; students create digital exhibits in collaboration with the UI Museum of Natural History and present their research at a University-wide poster presentation.

**URES:4150 Undergraduate Medical Scientist Training Program Research** 0 s.h.**URES:4160 Research Experiences for Undergraduates in Geospatial Approaches to Watershed Science** 0 s.h.

Intensive hands-on experience in research for students in environmental fields.

**URES:4170 Research Experience for Undergraduates in Nanoscience and Nanotechnology** 0 s.h.**URES:4180 Edge of Space Academy** 0 s.h.

Summer research experience centered around space-based instrumentation for observing Earth and space; students build small instrument payloads that are integrated onto drone and high-altitude aerial platforms to take measurements of the Earth below and the atmosphere and space environment above; hands-on experience for students who have an interest in Earth, atmospheric, solar, and space science. Requirements: application and acceptance to program.

**URES:4220 University of Iowa Premed Student Summer Research Internship** 0 s.h.

Immersive medical research experience with focus on gathering, analyzing, and interpreting health data; writing a manuscript for publication.

**URES:4240 Fostering Undergraduate Talent: Uniting Research and Education (FUTURE) in Biomedicine** 0 s.h.

Mentored research experience to create new discoveries in biomedicine; preparation to pursue careers in science and clinical practice; translation of current knowledge into new educational materials; discussions, conferences, workshops, training sessions, lectures; university-wide presentation opportunity and a FUTURE in biomedicine symposium.

**URES:4260 Cancer Summer Undergraduate Research** 0 s.h.

Holden Comprehensive Cancer Center faculty-mentored cancer biology research; cancer research education; lectures and seminars; oral poster presentation experience; career counseling; extended mentoring.

**URES:4500 Summer Policy Research Institute** 1 s.h.

Exposure and enhancement of fluency with policy research through mentored, team-based experience; students choose between two tracks depending on their experience level.

**URES:4900 Topics in Engagement** 1 s.h.

Exploration of topics in undergraduate research, academic, social, and community engagement; small discussion class; topics selected by instructor.

# University Libraries

## Director

- John P. Culshaw

**Website:** <https://www.lib.uiowa.edu/instruction/>

University Libraries offers these courses intended for undergraduates: ULIB:1001 Library Research in Context, ULIB:2001 Being Responsible Online: From Facebook to Academic Research, ULIB:2022 Special Topics in Library Research, and ULIB:3011 Global Research: Strategies and Skills.

Library Research in Context (ULIB:1001) is an activity-based course that helps students integrate information skills and concepts into their academic tool kit, enabling them to develop habits of critical inquiry and to accomplish course goals. The course uses active learning to introduce students to the basic research process and helps them formulate research questions and evaluate information. It also touches on the social and ethical contexts of information. Subject-specialist librarians teach the course using in-class activities, assignments, and class discussions. Most sections of the course are offered online.

Being Responsible Online: From Facebook to Academic Research (ULIB:2001) introduces students to ethical issues that surround online information, especially in the context of social media. Discussion topics include issues of privacy, security, free versus fee-based information, censorship, one's digital footprint, and academic integrity.

Special Topics in Library Research (ULIB:2022) meets the varying needs of students. The course may address a current or timely topic, focus on a particular content area not currently addressed by course offerings from the University Libraries, or serve as a pilot/trial offering for a course prior to becoming part of the permanent course offerings.

Global Research: Strategies and Skills (ULIB:3011) teaches skills for gathering and using information that are required for international jobs, for upper-level international studies coursework, and for individual international research. Students develop a familiarity with a variety of research and popular materials (such as government information or human rights resources); become experts in at least one academic research database (such as journal, newspaper, or statistical databases); and enhance their critical thinking skills. The class features small group activities, short student presentations, and an individual research consultation with the instructor.

## Courses

### University Libraries Courses

#### **ULIB:1001 Library Research in Context** 1 s.h.

Academic research, effective use of the library and its resources, basic research methods, process of scholarly communication; content may be keyed to a discipline-specific course; students apply concepts and processes to their research projects; transferable skills.

#### **ULIB:2001 Being Responsible Online: From Facebook to Academic Research** 1 s.h.

Introduction to ethical issues surrounding online information; using information as researchers or creating information on a social networking site; issues of privacy, reliability, and intellectual property; skills to navigate online information responsibly and knowledgeably.

#### **ULIB:2022 Special Topics in Library Research** 1 s.h.

Activity-based course that explores specialized content, selected research areas, or current/emerging issues in the context of information literacy and library resources; designed for sophomores and juniors; introduces students to the basic research process, helps them to develop critical thinking skills and evaluate information; topics may vary by semester.

#### **ULIB:3011 Global Research: Strategies and Skills** 1 s.h.

Skill development in international research; academic projects; work with research librarian; activity-based introduction to article, statistical, and governmental databases; research and popular materials; information discovery process (tools and search strategies); enhancement of critical thinking skills. Same as GHS:3011, IS:3011.

#### **ULIB:3022 Advanced Special Topics in Library Research** 1 s.h.

Activity-based exploration of specialized content, selected research areas, or current/emerging issues in context of information literacy and library resources; introduction to basic research process, development of critical thinking skills, and evaluation of information; topics vary.

#### **ULIB:6313 Studio Summer Fellowship** 1 s.h.

Investigation of and reflection on digital scholarly collaboration, production, and promotion. Same as GRAD:6313.



# University of Iowa Honors Program

## Director

- Shaun P. Vecera

**Website:** <https://honors.uiowa.edu/>

The University of Iowa Honors Program is an open and welcoming community, and staff members help students tailor the honors experience to their particular circumstances and goals. The program's general objective is to enrich the undergraduate experience by cultivating intellectual curiosity and practical skill through challenging coursework, creative engagement, and experiential learning to nurture a deeper understanding of one's discipline and self.

What is especially unique about Honors at Iowa? It gives students the space and opportunities to make connections and develop self-authorship through self-discovery. For example, because honors classes are usually smaller than non-honors sections, honors students have the opportunity to form closer connections with their professors on campus. Such working relationships can change careers and lives through mutual discovery. Iowa honors students also make lasting connections and learn from each other through the unique pre-fall semester workshop, HONR:1100 Honors Primetime, their honors first-year seminars, and through the honors residential community in the Honors House at Daum Hall.

The UI Honors Program is also unique in the strong emphasis it puts on experiential learning (learning by doing), which comprises half the program's curricular requirements. Experiential learning takes the form of undergraduate research, study abroad, internships, teaching practica, being an honors ambassador or an Honors Writing Fellow (or both), and other opportunities. Learning by doing, besides being the most effective way of acquiring knowledge, also helps with self-discovery.

In general, students who are serious about their education and making a meaningful contribution to the world with their particular capabilities and gifts can be assured that the University of Iowa Honors Program will help them in their journey.

## Unique Honors Academic Activities

### Honors Outreach Ambassadors

Ambassadors earn academic credit for acquiring and then sharing knowledge of honors opportunities by organizing events around campus and meeting with prospective students and their families.

### Honors Writing Fellows

Fellows are trained and paid to assist in undergraduate courses by mentoring a dozen students each semester on major writing assignments.

### The Iowa Policy Research Organization

This organization selects honors students each year to earn academic credit by learning how to conduct policy analysis and then writing policy papers for Iowa communities and the Iowa Legislature.

## Study Abroad and Internships

These opportunities with a reflective component or embedded project enable students to earn honors academic credit for their experience.

Learn more about honors activities and Experiential Learning on the honors program website.

## Cocurricular Programs

Honors at Iowa offers students a rich variety of activities outside the classroom. Many honors students find cocurricular programming a good way to meet people, get involved, and learn more about themselves and the world around them. Some of the programs are volunteer-based, some offer pay, and some award honors credit. These opportunities provide peak educational experiences, especially extensive and intensive interactions with faculty mentors and other honors students.

- Honors newsletters, which are written by honors student editors, inform readers on and beyond the campus about honors at the University of Iowa.
- Honors student staff earn pay by staffing the UI Honors Program reception area and other duties as assigned.
- Honors Peer Mentors earn pay by mentoring honors students.
- The Iowa City Foreign Relations Council (ICFRC) hosts luncheon dialogues on current international issues. Past speakers include award-winning journalists, Nobel Peace Prize laureates, seasoned diplomats, prominent politicians, and policy analysts. Listening to and talking with these expert speakers allow honors students to become better informed about world affairs.
- The Presidential Scholars Program (PSP) engages recipients of the Presidential Fellowship in shared classes, opportunities for prestigious fellowships, and unique programming. Presidential Fellows participate in events with faculty and key administrators, scholarship and fellowship mentoring programs, and volunteer projects.

To learn more, visit Opportunities on the honors program website.

## Programs

### Undergraduate Program of Study University Honors

Honors at Iowa helps students tailor opportunities to different educational needs and goals. Honors students may take honors courses each semester that they are enrolled at the University. Honors courses are generally small and interactive. They connect students with distinguished professors and offer new topics each semester. Honors courses also are part of the GE CLAS Core curriculum and do not add requirements for graduation.

Students are encouraged to begin honors work early. In HONR:1100 Honors Primetime, entering students earn 1 s.h. of honors credit by taking a short course the week before fall classes begin. Students who enter the honors program directly from high school take HONR:1300 Honors First-Year Seminar with selected professors on current topics, earning 1 s.h. in the fall semester. Honors students may fulfill GE CLAS Core requirements by completing honors sections such

as RHET:1030 Rhetoric, ENGL:1200 The Interpretation of Literature, and CHEM:1110 Principles of Chemistry I.

Upper-level students may take honors courses in their majors or pursue individual instruction with faculty members through honors courses such as HONR:3994 Honors Research Practicum. Students also may earn honors credit for a non-honors course by developing an honors contract with the course instructor; the student and instructor negotiate a unique project for the course and develop the honors contract around the project.

Additional academic opportunities include honors advanced seminars, honors independent studies, and honors practica in teaching and service.

Students learn about honors opportunities in weekly emails from the UI Honors Program. Honors professional staff members and honors peer mentors offer guidance in personal meetings and group presentations. In addition, the honors staff helps students design individualized curricula for their special interests. To learn more, visit Honors Requirements on the program's website.

## Joining the Honors Program

Students may apply to the University of Iowa Honors Program as entering first-year, entering transfer, or current University of Iowa students. Current students are encouraged to apply prior to earning 60 s.h. in coursework. Those who join the UI Honors Program must attend an honors orientation.

To remain in the honors program and to graduate with University Honors, students must maintain a University of Iowa cumulative g.p.a. of at least 3.33 and complete the honors program curricular requirements; see "University Honors Curriculum" below. For more information about joining the University of Iowa Honors Program, see Join on the program's website.

## Graduation with University Honors

Students who graduate with University Honors through the UI Honors Program are recognized at commencement. University honors is noted on a student's diploma and transcript. UI Honors Program students completing any undergraduate degree program may graduate with University Honors.

## University Honors Curriculum

Students earning bachelor's degrees at the University of Iowa complete honors coursework and experiential learning in order to graduate with University Honors. Students are not required to complete all honors coursework requirements before they begin experiential learning.

## Honors Coursework

Students complete 12 s.h. of honors coursework during their first four full semesters in the program. Students may count a maximum of two honors contract courses toward the coursework requirement.

The following honors coursework must be completed.

- An honors first-year seminar during the first semester at the University of Iowa (for students who enter the UI Honors Program directly from high school). Students who must take a specific first-year seminar required by their major or living learning community may substitute another honors class for the honors first-year seminar requirement.
- An honors course or an honors contract course during the first full semester in the program.

- Additional honors coursework to total at least 12 s.h. within the first four full semesters in the program.

## Experiential Learning

Students complete 12 s.h. of honors credit in approved experiential learning activities. Students may satisfy the requirement with one or a few of the options below.

- Honors in the major (this option fulfills the entire 12 s.h. experiential learning requirement)
- Research
- Study abroad
- Internships
- Teaching assistantships/learning assistantships
- Honors Writing Fellows
- Iowa Policy Research Organization
- Experiential honors coursework
- Service learning

See more information about these experiential learning opportunities and others by visiting Experiential Learning on the Honors at Iowa website.

## Facilities

### Blank Honors Center

Honors at Iowa has its home in the Blank Honors Center (BHC), a facility that helps foster community among honors students. The Blank Honors Center is located near the center of the University of Iowa main campus, next to residence halls and classroom buildings. It offers social areas, quiet study areas, wireless internet access, computer stations, and classrooms for students. The center also houses the honors staff and has rooms for meetings, events, presentations, and conversation.

### Honors Residential Community

Honors housing is available for first-year honors students in Daum Hall, which is connected by a skywalk to the Blank Honors Center.

Students must apply to live in the honors residential community. See Housing on the UI Division of Student Life website for information about how to apply. Visit Honors House on the UI Honors Program website to learn more about the honors housing community.

## Financial Support

Honors at Iowa has scholarship opportunities for current honors students selected from academic programs throughout the University. Some scholarship opportunities exist for incoming first-year honors students as well as current honors students. Scholarship possibilities are announced annually.

In addition, visit Scholarships and Awards on the UI Honors Program website.

## Academic Plans

### Sample Plan of Study

Sample plans represent one way to complete a program of study. Actual course selection and sequence will vary and should be discussed with an academic advisor. For additional sample plans, see MyUI.

## University Honors

### Joining Honors as First-Year Students During Fall Semester

Course	Title	Hours
<b>Academic Career</b>		
<b>Any Semester</b>		
Students may apply to the honors program as entering first-year, entering transfer, or current University of Iowa students. <sup>a</sup>		
Honors: To graduate with University Honors, students must have a University of Iowa cumulative GPA of at least 3.33.		
<b>Hours</b>		<b>0</b>
<b>First Year</b>		
<b>Fall</b>		
HONR:1100	Honors Primetime	1
HONR:1300	Honors First-Year Seminar <sup>b</sup>	1
Honors section of a GE course such as RHET:1030 Rhetoric, ENGL:1200 The Interpretation of Literature, CHEM:1110 Principles of Chemistry I, or EES:1070 Age of Dinosaurs <sup>c</sup>		3 - 4
Meet with an Honors Peer Mentor by the end of the year		
Select Honors courses for spring semester		
Study Abroad: attend Study Abroad Fair (explore experiential learning options) <sup>d</sup>		
Research: attend Fall Undergraduate Research Festival (FURF) (explore experiential learning options)		
Consider applying to become an Honors Outreach Ambassador (explore experiential learning options) <sup>e</sup>		
Consider Honors Program scholarship opportunities <sup>f</sup>		
Read the weekly Honorable Messenger email bulletin for honors community events and announcements		
Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for experiences such as internships, study abroad, service learning, LA or TA positions, and volunteer/paid/uncredited research		
<b>Hours</b>		<b>5-6</b>
<b>Spring</b>		
Honors section of a GE course such as RHET:1030 Rhetoric, ENGL:1200 The Interpretation of Literature, CHEM:1110 Principles of Chemistry I, or EES:1070 Age of Dinosaurs		3 - 4
Meet with an Honors Peer Mentor by the end of the year		
Explore 1, 2, or 3 s.h. HONR electives such as HONR:2900 Honors Publications: From Pitch to Print or HONR:2600 Honors Special Topics		0 - 3
Select Honors courses for fall semester		
Consider applying for an Honors Writing Fellow position (explore experiential learning options)		
Research: attend Spring Undergraduate Research Festival (SURF) (explore experiential learning options)		
Research: explore research opportunities for summer or second year (explore experiential learning opportunities) <sup>g</sup>		

Consider joining Phi Eta Sigma (PES) honor society<sup>h</sup>

Consider applying for an Honors Student Staff position for the coming academic year<sup>i</sup>

Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for experiences such as internships, study abroad, service learning, LA or TA positions, and volunteer/paid/uncredited research

**Hours**

**3-7**

#### Summer

Research: Students can earn up to 3 honors experiential learning credits/units during the summer using the Honors Summer Project--independent research in consultation with a University reference librarian

Summer jobs and volunteering often qualify for experiential learning credit. Check with an honors advisor or complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit.

Summer is a great time to pursue mentored research. Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for your volunteer/paid/uncredited research.

**Hours**

**0**

#### Second Year

##### Any Semester

Have 12 s.h. of honors coursework completed by end of your fourth semester in the program.

**Hours**

**0**

##### Fall

Honors section of a GE course such as RHET:1030 Rhetoric, ENGL:1200 The Interpretation of Literature, CHEM:1110 Principles of Chemistry I, or EES:1070 Age of Dinosaurs

3 - 4

Meet with an Honors Peer Mentor by the end of the year<sup>j</sup>

Study Abroad: attend Study Abroad Fair (explore experiential learning options)<sup>d</sup>

Research: attend Fall Undergraduate Research Festival (FURF) (explore experiential learning options)

Consider applying to become an Honors Outreach Ambassador (explore experiential learning options)<sup>e</sup>

Select Honors courses for spring semester

Consider Honors Program scholarship opportunities<sup>f</sup>

Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for experiences such as internships, study abroad, service learning, LA or TA positions, and volunteer/paid/uncredited research

**Hours**

**3-4**

##### Spring

Honors section of a GE course or a contract course in your major/department<sup>k</sup>

3 - 5

Check University Honors degree audit<sup>l</sup>

Explore 1, 2, or 3 s.h. HONR electives such as HONR:2900 Honors Publications: From Pitch to Print or HONR:2600 Honors Special Topics

0 - 3

Meet with the Honors Advisor for your major: is Honors in the Major right for you?

Research: attend SURF; consider what research questions you might pursue

Research: explore research opportunities for summer or third year<sup>g</sup>

Consider applying for an Honors Student Staff position for the coming academic year<sup>i</sup>

Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for experiences such as internships, study abroad, service learning, LA or TA positions, and volunteer/paid/uncredited research

**Hours**

**3-8**

### Summer

Students can earn up to 3 honors experiential learning credits/units during the summer using the Honors Summer Project--independent research in consultation with a University reference librarian

Summer jobs and volunteering often qualify for experiential learning credit. Check with an honors advisor or complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit.

Summer is a great time to pursue mentored research. Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for your volunteer/paid/uncredited research.

**Hours**

**0**

### Third Year

#### Fall

Check University Honors degree audit<sup>l</sup>

Explore honors experiential coursework such as RHET:2090 Conversation Practicum, LS:1024 Hawkeye Service Breaks, etc.

Explore 1, 2, or 3 s.h. HONR electives such as HONR:2900 Honors Publications: From Pitch to Print or HONR:2600 Honors Special Topics

Attend FURF

Consider Honors Program scholarship opportunities<sup>f</sup>

Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for experiences such as internships, study abroad, service learning, LA or TA positions, and volunteer/paid/uncredited research

Consult with an Honors Peer Mentor or the Experiential Learning Director to ensure that you are on track with University Honors curricular requirements

**Hours**

**0**

#### Spring

Check University Honors degree audit<sup>l</sup>

Explore 1, 2, or 3 s.h. HONR electives such as HONR:2900 Honors Publications: From Pitch to Print or HONR:2600 Honors Special Topics

Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for experiences such as internships, study abroad, service learning, LA or TA positions, and volunteer/paid/uncredited research

Consult with an Honors Peer Mentor or the Experiential Learning Director to ensure that you are on track with University Honors curricular requirements

**Hours**

**0**

### Summer

Students can earn up to 3 honors experiential learning credits/units during the summer using the Honors Summer Project--independent research in consultation with a University reference librarian

Summer jobs and volunteering often qualify for experiential learning credit. Check with an honors advisor or complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit.

Summer is a great time to pursue mentored research. Complete the pre-experience questionnaire as part of the Honors Reflection Process for possible honors experiential learning credit for your volunteer/paid/uncredited research.

**Hours**

**0**

### Fourth Year

#### Fall

Check University Honors degree audit<sup>l</sup>

Explore 1, 2, or 3 s.h. HONR electives such as HONR:2900 Honors Publications: From Pitch to Print or HONR:2600 Honors Special Topics

Complete any remaining assignments (pre- and post-experience questionnaires and narrative) as part of the Honors Reflection Process for possible honors experiential learning credit for experiences such as internships, study abroad, service learning, LA or TA positions, and volunteer/paid/uncredited research

Consult with the Honors Advisor or Assessment Manager for pre-approval to graduate with University Honors

**Hours**

**0**

#### Spring

Complete any remaining assignments (pre- and post-experience questionnaires and narrative) as part of the Honors Reflection Process for possible honors experiential learning credit for experiences such as internships, study abroad, service learning, LA or TA positions, and volunteer/paid/uncredited research

Check University Honors degree audit<sup>m</sup>

Consult with the Honors Advisor or Assessment Manager for pre-approval to graduate with University Honors

Graduate with University Honors

**Hours**

**0**

**Total Hours**

**14-25**

a Please see the Honors at Iowa website at <https://honors.uiowa.edu/join> for further details and application instructions.

b Required except for students whose majors or programs require a different first-year seminar, e.g. Tippie Direct Admits.

c An Honors course must be completed in the first semester of Honors membership.

- d To earn honors credit for study abroad students complete questionnaires and a narrative piece. See details on the Experiential Learning pages on the Honors at Iowa website.
- e Typically advertised in Honorable Messenger or email [honors-advisor@uiowa.edu](mailto:honors-advisor@uiowa.edu) for more information.
- f Submit by deadline which is typically early in the spring semester. Successful recipients in the past have consulted web resources at <https://honors.uiowa.edu/honors-scholarships>.
- g Consult ICRU Ambassadors or visit <https://icru.research.uiowa.edu/>
- h Eligibility is determined by GPA and class ranking. Membership is by invitation.
- i See Student Employment page on Honors at Iowa website. Usually advertised early in the spring semester.
- j Optional for students who have completed the 12 s.h. University Honors coursework requirement.
- k Students must complete the 12 s.h. University Honors coursework requirement by the end of second year spring semester.
- l Report missing honors credit to the Honors Assessment Manager.
- m Students must complete the experiential learning requirement by graduation.

## Courses

### University of Iowa Honors Program Courses

#### **HONR:1100 Honors Primetime** 1 s.h.

Preparation for honors opportunities, especially activities and courses; teamwork on projects that develop skills of invention and communication; presentation of products and performances; connect honors students, honors teachers, and staff members.

#### **HONR:1300 Honors First-Year Seminar** 1-2 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities, field trips). Requirements: first- or second-semester standing.

#### **HONR:1310 Honors Research First-Year Seminar** 1 s.h.

Small discussion class taught by a faculty member; topics chosen by instructor; may include outside activities (e.g., films, lectures, performances, readings, visits to research facilities); research focus allows students to actively discover new information with guidance from instructor, pursue research in small groups, learn the "how to" of a field, and share their findings; no prior research knowledge or experience required.

#### **HONR:1350 Honors Seminar for Presidential Scholars** 1 s.h.

Through self-discovery, students learn to know themselves and one another better while participating in selected events and structured experiences (e.g., readings, in-class discussion, small-group work, guest presentations, event attendance); students take time to reflect on interests, experiences, and knowledge, and have an opportunity to explore and integrate skills and resources in a way that helps develop the personal and academic self while also considering knowledge and experience of other individuals and groups; students are provided with tools to seek out academics and activities related to their interests and pursuits to better connect with development resources. Requirements: Presidential Scholarship award received when admitted to the University of Iowa.

#### **HONR:1360 Honors Seminar for Presidential Scholars II** 1 s.h.

Through self-discovery, students learn to know themselves and one another better while participating in selected events and structured experiences (e.g., readings, in-class discussion, small-group work, guest presentations, event attendance); students take time to reflect on interests, experiences, and knowledge, and have an opportunity to explore and integrate skills and resources in a way that helps develop the personal and academic self while also considering knowledge and experience of other individuals and groups; students are provided with tools to seek out academics and activities related to their interests and pursuits to better connect with development resources. Prerequisites: HONR:1350.

#### **HONR:1610 Honors Seminar in Historical Perspectives** 3 s.h.

Small-class learning with a faculty member to explore and explain historical developments. GE: Historical Perspectives.

#### **HONR:1670 Values and Culture** 3 s.h.

Asking fundamental questions about human experience and its meaning while becoming more aware of what, exactly, defines culture and values; students have a chance to consider their own values and beliefs, and the importance to their lifelong goals. GE: Values and Culture.

#### **HONR:1680 Honors Seminar in Diversity and Inclusion** 3 s.h.

Small-class learning with a faculty member to broaden student perspectives on social and cultural differences and introduce concepts in the structural bases of inequality and the benefits of diversity. Requirements: member of the University of Iowa Honors Program.

#### **HONR:1850 Honors Seminar in Communication and Literacy** 3 s.h.

Small-class learning with a faculty member; focus on writing, speaking, and critical reading skills or analysis of fiction, poetry, drama, essays.

#### **HONR:2100 Honors Colloquium** 1 s.h.

Attendance at talks, performances, and other events across campus.

#### **HONR:2600 Honors Special Topics** 1-3 s.h.

Small-class learning with a faculty member on special topics.

#### **HONR:2700 Seminar for University of Iowa Honors Program Fellows** 1 s.h.

Scholar development that challenges students to develop self-knowledge that enriches their intellectual life, increases their academic engagement, and deepens their sense of community. Requirements: second-year UI Honors Program fellowship recipient.

**HONR:2900 Honors Publications: From Pitch to Print** **1-2 s.h.**

Students develop and hone writing skills as they create content for UI Honors Program publications from start to finish—envisioning themes, interviewing, writing, securing photos and captions, workshopping, and editing pieces; topics related to student body, professional staff, alumni, and current events relevant to honors program; completion of up to three major projects published in *Honors Newsletter*, *Alumni Connection*, honors program blog, or other social media; discussion posts and workshops.

**HONR:2990 Experiential Learning Orientation** **2 s.h.**

Experiential learning requirements for the UI Honors Program.

**HONR:2991 Honors Students and Wellness** **2 s.h.**

How high ability and wellness interact with one another; focus on mental health and touching on various areas—impostor syndrome, existential depression, and intersectionality of giftedness, mental health, gender, and race; holistic wellness (e.g., physical, nutritional, emotional, social, spiritual, intellectual, financial, environmental) and what strengths and challenges high-ability individuals may encounter beyond their college careers.

**HONR:3050 Honors Studies** **arr.**

Independent studies arranged with faculty members who certify satisfactory completion of study plans and performance for topics not covered by other UI courses.

**HONR:3100 Honors Teaching Practicum** **0-4 s.h.**

Teaching internship in first- and second-year courses; may include providing tutorial assistance, conducting review sessions, aiding course organization.

**HONR:3150 Honors Service Learning** **arr.**

Service learning projects arranged with faculty members who certify satisfactory completion of study plans and service.

**HONR:3160 Honors Internship** **0-3 s.h.**

Independent service internship arranged with faculty members, who certify satisfactory performance and completion of project.

**HONR:3170 Honors Outreach Ambassadors** **1-2 s.h.**

Experience sharing knowledge and experiences of the honors program with other students in meetings during office hours, online chats, other venues; outreach ambassadors; answer questions, provide information, help students find honors opportunities in and out of class.

**HONR:3210 Honors Policy Research Practicum** **1 s.h.**

Theory and practice of public policy research; development of policy-research skills; production of policy-research papers. Requirements: sophomore or junior standing.

**HONR:3220 Honors Writing Fellows: Writing Theory and Practice** **3 s.h.**

Preparation of honors students selected as writing fellows to serve as peer tutors in writing-intensive courses; theories of writing, evaluation of drafts, peer tutoring with students.

**HONR:3994 Honors Research Practicum** **1-4 s.h.**

Individual research performed in conjunction with a faculty member's research.

**HONR:4990 Honors Thesis or Project** **1-3 s.h.**

Culminating project of research or artistic creation; preparation and completion of the final product associated with graduation with honors in the student's major. Requirements: member of the University of Iowa Honors Program and junior or senior standing.

# University of Iowa Upward Bound

## Director, Center for Inclusive Academic Excellence

- Tabitha N. Wiggins

## Director, Upward Bound

- Jennifer Lynch

**Website:** <https://diversity.uiowa.edu/programs/high-school-hawkeyes/trio-upward-bound>

## Precollege Program of Study

The University of Iowa TRIO Upward Bound Project is a federally funded college preparatory program for income qualified and/or first-generation college students who are motivated to pursue a college degree. The program serves eligible high school students from three southeastern Iowa community high schools: Columbus Community High School, Muscatine High School, and West Liberty High School.

Students participate during the academic year in weekly after school programming at their local high school. They participate in science, technology, engineering, and math (STEM) related educational opportunities, American College Testing (ACT) preparation, community service, cultural programs, field trips, and college visits.

During the summer, students attend a six-week residential program on the University of Iowa campus from mid-June through July. Participants take mathematics, science, language arts, and world language courses to prepare them for classes they will take at their local high school in the fall. In addition, students take STEM workshops to expose them to a broader range of career opportunities and an ACT preparation course to ready them for college admissions exams.

Upward Bound Bridge students (those who will enter college in the fall) enroll in a University of Iowa course during the six-week summer session. Bridge students participate in an on-campus job shadow and take a college transition seminar.

Upward Bound provides services to students during high school through enrollment in postsecondary education. All services received are at no cost to students.

Other postsecondary institutions in Iowa and across the nation sponsor Upward Bound programs. High school students who do not attend schools served by the University of Iowa program should ask their counselors whether an Upward Bound program serves their area.

For more information, contact the TRIO Upward Bound Project.

## Admission

For admission:

- participants must reside in the target area and attend a target school;
- students must be in grades 9 through 11;
- family income must meet U.S. Department of Education low-income guidelines; and
- students are potential first-generation college students.

## Courses

### University of Iowa Upward Bound Courses

**UIUB:0018 Upward Bound Project** **0 s.h.**

**UIUB:1010 Upward Bound Project - Bridge Seminar** **1 s.h.**

Six-week academic summer program component that provides students with an intensive experience of taking college courses through the University of Iowa; aids in transition to college, preparation for college-level learning, and introduction to topics specific to higher education; for Bridge high-school graduates in the University of Iowa Upward Bound Program.

# Urban Studies

## Director, School of Planning and Public Affairs

- Lucie Laurian

## Coordinator, Urban Studies

- Anne M. Barber (Planning and Public Affairs)

**Undergraduate minor:** urban studies

**Faculty:** <https://sppa.uiowa.edu/faculty-staff>

**Website:** <https://sppa.uiowa.edu/>

The minor in urban studies is offered for undergraduate students who seek to understand and address urban issues; want to work in urban communities; and are interested in community well-being, social justice, sustainable development, climate change, mobility and access, public health, and economic prosperity.

It is well-suited for students in a wide range of majors, including but not limited to education, political science, sociology, economics, criminology, pre-law, human rights, social justice, social work, geography, sustainability, environmental policy and planning, civil and environmental engineering, health and public health, business, anthropology, history, journalism and mass communication, African American studies, Native American and Indigenous studies, international studies, and gender, women's, and sexuality studies.

Students who complete the minor will have an understanding of urban issues, urban policies, and innovative urban practices. They will be prepared to improve the quality and sustainability of the built and natural environments, to promote equity and justice, and to make communities more resilient, inclusive, and prosperous.

The minor in urban studies is awarded by University College.

## Programs

## Undergraduate Program of Study

### Minor

- Minor in Urban Studies [p. 2241]



# Urban Studies, Minor

The minor in urban studies is highly relevant to students interested in addressing emerging and persistent issues of the 21st century, including social justice, climate change, environmental conservation, sustainable development, mobility and access, public health, and economic prosperity—each of which has local, urban, and regional dimensions.

## Requirements

The undergraduate minor in urban studies requires 15 s.h. of coursework taken at the University of Iowa. Students must maintain a g.p.a. of at least 3.00 in work for the minor. Coursework in the minor may not be taken pass/nonpass.

Students earning the Certificate in Urban Studies may choose to complete that certificate or instead decide to earn the minor in urban studies.

The minor in urban studies requires the following coursework.

## Core Course

The core course provides an introduction to urban studies, policies, and practices.

Code	Title	Hours
This course:		
URP:3001/ GEOG:3920	Planning Livable Cities	3

## Electives

Code	Title	Hours
At least 12 s.h. from these:		
PBAF:3560/ POLI:3560/ RHET:3560/ SJUS:3560	Public Policy and Persuasion	3
PBAF:3570/ GHS:3570	Poverty Policy	3
URP:2020/ PBAF:2020	Environment and Society: Sustainability, Policy, and Politics	3
URP:4170	Megacities Seminar (3 s.h. recommended)	1-3
URP:4225	Applied GIS for Planning and Policy Making	3
URP:4245	Growth Management	3
URP:4253	Designing Sustainable and Healthy Cities (3 s.h. recommended)	1-3
URP:4256	Environmental Policy	3
URP:4260	Transportation Policy and Planning	3
URP:4266	Transportation, Urban Form, and Sustainability	3
URP:4271	Housing Policy	3
URP:4273	Community Development Through Creative Placemaking	3
URP:4280	Planning for Disaster Mitigation and Recovery (3 s.h. recommended)	2-3

URP:4295	Economic Development Policy	3
URP:4297	Financing Economic Development for Poverty Alleviation	3
URP:4752	Eight Generation Planning: Envisioning Regenerative Cities	3
CRIM:4120	Environmental Criminology	3

## Admission

## Declaring the Minor

Students may declare the minor in MyUI as soon as they are enrolled in URP:3001 Planning Livable Cities.

Those interested in pursuing the minor must meet with the minor advisor, be briefed on the minor expectations for performance, and complete a plan of study that must be approved by the minor advisor.

For more information, contact the School of Planning and Public Affairs.

# University Calendar

Some University Calendar dates may change; see Calendars and Deadlines on the Office of the Registrar website for the most up-to-date academic calendar.

## 2022 Fall Semester

August 22	Opening of classes
September 5	University holiday, no classes, offices closed
November 20-27	Fall break/Thanksgiving (consult Dentistry and Medicine collegiate offices for break dates)
November 24-25	University holidays, offices closed
November 28	Classes resume
December 9	Close of classes
December 12-16	Final examination week
December 15-18	Commencement ceremonies*
December 25	Federal holiday, offices closed
December 26-27	University holidays, offices closed

\*Fall commencement ceremonies: dates vary by college; see Commencement on the Office of the Registrar website.

## 2022-23 Winter Session

December 19	Opening of classes
December 25	Federal holiday, no classes, offices closed
December 26-27	University holidays, no classes, offices closed
January 1	Federal holiday, no classes, offices closed
January 2	University holiday, no classes, offices closed
January 13	Close of classes

## 2023 Spring Semester

January 16	Martin Luther King Jr. Convocation, all classes suspended, offices closed
January 17	Opening of classes
March 12-19	Spring break
March 20	Classes resume
May 5	Close of classes
May 8-12	Final examination week
May 11-14	Commencement ceremonies**

\*\*Spring commencement ceremonies: dates vary by college; see Commencement on the Office of the Registrar website.

## 2023 Summer Sessions

The University of Iowa offers several summer sessions: one 12-week session, one 8-week session, two 6-week sessions, and one 4-week session. Each session is listed below in order by its starting date.

May 15-June 8	Four-week session (final examination day: June 9)
May 15-June 22	Six-week session I (final examination day: June 23)
May 15-August 3	Twelve-week session (final examination day: August 4)
May 29	University holiday, no classes, offices closed

June 12-August 3  
Eight-week session (final examination day: August 4)

June 26-August 3  
Six-week session II (final examination day: August 4)

July 4  
University holiday, no classes, offices closed

## Office of the Registrar Calendars

The Office of the Registrar provides additional calendars that list detailed academic deadlines, final exam schedules, and University holidays. It also publishes a five-year academic calendar. See Calendars and Deadlines on the Office of the Registrar website.

Some University Calendar dates may change; see Calendars and Deadlines on the Office of the Registrar website for the most up-to-date academic calendar.

## Individual College Calendars

Some University of Iowa colleges have academic year schedules that vary from the one listed above. Contact the individual colleges or visit their websites; use the A-Z List or the Directory Search on the University of Iowa home page.

# Campus Visits

Each year the University of Iowa is the destination for visitors with wide-ranging interests. Prospective and new students and their parents, new faculty and staff members, fans of intercollegiate athletics, University of Iowa Health Care patients, audiences for the visual and performing arts, museum visitors, and conference and continuing education participants are among those drawn to the campus.

## Prospective and New Students

Prospective and new students should contact the Admission Visitors Center if they are interested in a campus visit. The Admission Visitors Center hosts a variety of programs for future students and their families, including large group events and individual visits tailored to specific interests. It is best to visit the campus on weekdays when classes are in session and when other University offices are open. See Visit Campus on the Office of Admissions website to arrange for a campus visit.

## Attractions, Campus Maps, Parking

The University of Iowa website has links to campus maps, walking tours, how to arrange visits to varied attractions, and where to park on campus. For additional information about the University, use the A-Z List on the University of Iowa home page.

[View on YouTube](#)

# Iowa Administrative Code

## Code of Iowa

The Code of Iowa contains information about admission and residency rules common to Iowa's three state universities—the University of Iowa, Iowa State University, and the University of Northern Iowa. It also provides supplemental information about application to the University of Iowa. Visit Iowa Code on the Iowa Legislature website to search and read the Iowa Administrative Code.

# Administrative Officers

## Board of Regents, State of Iowa

The Board of Regents, State of Iowa, governs the University of Iowa, Iowa State University of Science and Technology, the University of Northern Iowa, the Iowa Braille and Sight-Saving School, and the Iowa School for the Deaf.

*President:* Michael Richards, West Des Moines

*President pro tem:* Sherry Bates, Scranton

David Barker, Iowa City

Nancy Boettger, Harlan

Abby Crow, Tiffin

Nancy Dunkel, Dyersville

Jim Lindenmayer, Ottumwa

JC Risewick, Johnston

Greta Rouse, Emmetsburg

*Executive director:* Mark Braun

## The University of Iowa

### Central Administration

*President:* Barbara J. Wilson

*Executive vice president and provost:* Kevin C. Kregel

*Senior advisor to the president and vice president for external relations:* Peter Matthes

*Senior advisor to the president and associate vice president for administrative affairs:* Laura McLeran

*Chief human resources officer and associate vice president:* Cheryl Reardon

*University ombudspersons:* Meenakshi Gigi Durham, Chanelle Reese

*Senior vice president for finance and operations:* Rod Lehnertz

*Vice president for legal affairs and general counsel:* James D. Jorgensen

*Vice president for medical affairs and dean of the Carver College of Medicine:* J. Brooks Jackson

*Vice president for research:* J. Martin Scholtz

*Vice president for student life:* Sarah Hansen

*Executive officer for diversity, equity, and inclusion, and associate vice president:* Elizabeth A. Tovar

*Chief financial officer and treasurer:* Terry Johnson

*Chief information officer and director of information technology services:* Steve Fleagle

### Office of the Provost

*Executive vice president and provost:* Kevin C. Kregel

*Associate provost for graduate and professional education:* Amanda H. Thein

*Associate provost for undergraduate education:* Tanya M. Uden-Holman

*Associate provost for faculty:* Lois Geist

*Associate provost and dean of international programs:* Russell Ganim

*Associate vice president for enrollment management:* Brent Gage

*Associate vice president and director of administration and planning:* Don J. Szeszycki

*Assistant provost and director of admissions:* Kirk R. Kluver

*Assistant provost and director of the career center:* Angi McKie

*Assistant provost and director of student financial aid:* Cindy S. Seyfer

*Assistant provost and university registrar:* Julie A. Fell

*Interim assistant provost and director of academic advising:* Maureen M. Schafer

### Henry B. Tippie College of Business

*Dean:* Amy L. Kristof-Brown

### College of Dentistry

*Dean:* Clark Stanford

### College of Education

*Dean:* Daniel L. Clay

### College of Engineering

*Dean:* Harriet Nembhard

### Graduate College

*Dean:* Amanda H. Thein

### College of Law

*Dean:* Kevin K. Washburn

### College of Liberal Arts and Sciences

*Dean:* Sara Sanders

### Roy J. and Lucille A. Carver College of Medicine

*Vice president for medical affairs and dean:* J. Brooks Jackson

### College of Nursing

*Dean:* Julie Zerwic

### College of Pharmacy

*Dean:* Donald E. Letendre

### College of Public Health

*Dean:* Edith A. Parker

### University College

*Dean:* Tanya M. Uden-Holman

### Libraries

*University librarian:* John P. Culshaw

### Stanley Museum of Art

*Director:* Lauren Lessing

## Finance and Operations

*Senior vice president and university architect:* Rod Lehnertz

*Associate vice president and director, business services:* Deborah J. Zumbach

*Associate vice president and director, facilities management:* Lynne Finn

*Assistant vice president and director, public safety:* Mark Bullock

*Assistant vice president and university controller:* Rachel McGuire

*Assistant vice president and university secretary:* Susan Klatt

*University chief financial officer and treasurer:* Terry L. Johnson

*University business manager:* David Kieft

# Faculty

The following persons hold University of Iowa faculty appointments with the rank of professor, associate professor, assistant professor, instructor, or lecturer and are updated regularly on the following list. The year of first appointment appears first and the year of current rank is given in parentheses. Degrees obtained and institutions where the degrees were awarded also are listed.

## A

**Aalderks, Andrew**, Adjunct Lecturer, Finance, 2017 (2017); BBA 2003 University of Iowa; MBA 2008 University of Iowa

**Abbas, Paul J.**, Emeritus Professor, Communication Sciences and Disorders, 1974 (1984); BS 1969 Massachusetts Inst of Technolo; PHD 1974 Johns Hopkins

**Abboud, Francois**, Emeritus Professor, Internal Medicine, 1961 (1968); BS 1948 Christian Brothers' Schl-Egypt; PNS 1949 Cairo; MBCH 1955 Ain Chams-Egypt; MBCHB 1955 Ain Chams-Egypt

**Abdel Wahed, Lama**, Clinical Assistant Professor, Neurology, (2022); MD 2014 University of Damascus

**Abdel-Malek, Karim**, Professor, Biomedical Engineering/Mechanical Engineering, 1994 (2005); BS 1988 Jordan; MS 1990 Pennsylvania; PHD 1993 Pennsylvania

**Abdulbaki, Abdulrahman**, Clinical Adjunct Assistant Professor, Internal Medicine, 2018 (2018); MD 2004 Damascus University

**Abdulqader, Maytham Falah**, Clinical Adjunct Assistant Professor, Family Dentistry, 2021 (2021); DDS 2019 University of Pacific

**Abel, Edwin G.**, Professor, Biochemistry/Molecular Physiology Biophysics/Neuroscience and Pharmacology/Psychiatry/Psychological and Brain Sciences, 2016 (2016); BA 1985 Swarthmore College; MPHIL 1987 University of Cambridge; PHD 1993 Harvard University

**Abel, Evan Dale**, Adjunct Professor, Internal Medicine, 2013 (2013); MBBS 1985 West Indies

**Abosaida, Alladdin M.**, Clinical Adjunct Assistant Professor, Pediatrics, 2017 (2017); MBCHB 1995 University of Tripoli

**Abou Alaiwa, Mahmoud Hasan**, Assistant Professor, Biomedical Engineering/Internal Medicine, 2013 (2014); MD 2001 American UI of Beirut

**Abouassaly, Michael K.**, Clinical Adjunct Assistant Professor, Family Medicine, 2021 (2021); BS 1991 Univ of Iowa, Iowa City, IA; MD 1995 Univ of IA, College of Medicin

**About Hosn, Maen S.**, Clinical Assistant Professor, Surgery, (2019); MD 2009 American University of Beirut

**Abram, Nancy J.**, Associate Professor, Marketing, 2007 (2018); BA 1980 St. Ambrose

**Abram, Steven Webb**, Adjunct Lecturer, Management and Entrepreneurship, 2013 (2013); BS 1998 East Carolina; MS 1999 East Carolina

**Abramoff, Michael David**, Professor, Biomedical Engineering/Electrical-Computer Engineering/Ophthalmology Visual Science, 2004 (2012); MS 1989 Amsterdam; MD 1994 Amsterdam; PHD 2001 Utecht

**Abramowitz, Paul W.**, Emeritus Professor, Pharmacy, 1998 (1998); BA 1972 Indiana University-Bloomington; BSPH 1977 Toledo; PHARMD 1979 University of Michigan-Ann Arbor

**Abrams, Marilyn**, Adjunct Lecturer, Teaching and Learning, (2020); BS 2000 San Jose State University

**Abrams, Thad Eugene**, Clinical Associate Professor, Internal Medicine/Psychiatry, 2008 (2019); BA 1996 Luther College; MD 2000 University of Iowa

**Abramson, Dean Alan**, Clinical Associate Professor, Internal Medicine, (2022); MD 1984 New York University

**Abrons, Jeanine Porter**, Clinical Associate Professor, Pharmacy Practice and Science, 2011 (2019); PHAR 2004 Drake

**Abtahi, Katherine**, Clinical Adjunct Assistant Professor, Family Medicine/Obstetrics Gynecology, 2021 (2021); DO 2012 Lake Erie College

**Abu Hejleh, Taher**, Adjunct Professor, Internal Medicine, 2012 (2022); MD 2004 Jordan

**Abuhammoud, Salahaldeen Mohammad Assad**, Assistant Professor, Prosthodontics, (2019); DDS 2011 University of Jordan; CER 2018 University of Iowa; MS 2018 University of Iowa

**Abul-Haija, Sohair**, Lecturer, French Italian, 2005 (2022); BA 1991 Yarmouk; MA 1996 Univ Lumiere Lyon 2; DSC 2004 Univ Lumiere Lyon 2

**Aburizik, Arwa**, Clinical Associate Professor, Internal Medicine/Psychiatry, 2013 (2019); MD 2003 Jordan University; MBCH 2004 Jordan University; MS 2011 University of Iowa

**Achenbach, Andrea**, Clinical Assistant Professor, Nursing, 2014 (2016); BS 2003 U.S. Air Force; MSN 2011 University of Iowa

**Achenbach, Autumn Peace**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2016 (2011); PHARMD 2007 Drake

**Achrazoglou, George John**, Clinical Associate Professor, Teaching and Learning, 1987 (2007); BA 1981 University of Iowa; MA 1993 University of Iowa; PHD 2003 University of Iowa

**Ackerman, Terry Allan**, Adjunct Professor, Psych Quant Foundations, 2017 (2017); PHD 1984 University of Wisconsin-Milwau

**Acton, Patricia Jo Nassif**, Emeritus Professor, Law-Faculty, 1981 (1985); BA 1971 University of Iowa; JD 1974 University of Iowa

**Adair, Erik A.**, Clinical Adjunct Assistant Professor, Pediatrics, 2021 (2021); DO 2014 Nova Southeastern University

**Adamek, Mary**, Emeritus Professor, Music, 1996 (2007); BM 1977 Virginia Commonwealth; MM 1981 Miami; PHD 1993 The University of Minnesota-Twin Cities

**Adams, Charlotte**, Emeritus Professor, Dance, 1998 (2017); BA 1976 Appalachian State; MA 1984 University of Arizona; MFA 1995 University of Arizona

**Adams, Christopher Maxin**, Adjunct Professor, Internal Medicine, 2006 (2015); BS 1992 Kansas, Lawrence; MD 1999 University of Iowa; PHD 1999 University of Iowa

**Adams, Christopher Edelen**, Clinical Adjunct Assistant Professor, Urology, 2015 (2015); MD 2008 Harvard Medical School; MBA 2011 University of Iowa

**Adams, Derek Landon**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2015 (2015); PHARM 2002 University of Iowa

**Adams, Harold P.**, Emeritus Professor, Neurology, 1976 (1985); BA 1966 Drake; BS 1968 South Dakota-Vermillion; MD 1970 Northwestern University

**Adams, Jennifer Beth**, Adjunct Instructor, Social Work, 2020 (2020); BA 1999 Buena Vista University; MSW 2003 University of Iowa

**Adams, Kathleen M.**, Lecturer, Nursing, (2021); BN 2015 Grand Canyon University; BSN 2015 Grand Canyon University; MNM 2017 Arizona State University; DNP 2020 University of Arizona

**Adams, Lafayette Bluford**, Associate Professor, American Studies/English, 1994 (2001); BA 1985 Duke; MA 1987 Virginia; PHD 1993 Virginia

**Adams, Lori**, Associate Professor, Biology, 2010 (2018); BS 1998 University of Illinois at Urbana Champaign; PHD 2003 Texas AM

**Adams, Molly M.**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2004 (2004); PHARM 1999 Drake

**Adams, Quentin E.**, Clinical Assistant Professor, Radiation Oncology, 2022 (2022); BS 2012 UNC-CH; MD 2017 University of Iowa

**Adams, Russell**, Clinical Adjunct Associate Professor, Internal Medicine, 2000 (2004); MD 1979 University of Iowa

**Adcock, Craig**, Professor, Art Art History, 1994 (1994); BFA 1971 Colorado; MA 1974 University of Colorado; PHD 1981 Cornell University

**Adeagbo, Oluwafemi**, Assistant Professor, Community Behavioral Health, (2022); BA 2007 Adekunle Ajasin University; PHD 2007 Univ of Johannesburg; MA 2011 Univ Witwatersand; PHD 2015 Univ Johannesburg

**Adeel, Naima**, Clinical Adjunct Assistant Professor, Internal Medicine, (2019); MBBS 2008 Aga Khan University

**Adelson, Jill**, Adjunct Instructor, Psych Quant Foundations, 2022 (2022); PHD 2009 University of Connecticut

**Aden, Leon John**, Adjunct Professor, Earth and Environmental Sciences, 2019 (2019); BS 1980 University of Iowa; MS 1982 University of Iowa

**Adhikari, Bijaya**, Assistant Professor, Computer Science, 2020 (2020); PHD 2020 Virginia Tech

**Adolphs, Lindsay Ellen**, Adjunct Instructor, Accounting/ University College Courses, 2016 (2016); BA 2007 University of Iowa; MS 2010 Western Illinois University

**Adolphs, Ralph**, Adjunct Professor, Neurology, 1997 (2005); BSC 1986 Stanford; MSC 1986 Stanford; PHD 1992 California Technology of Tech

**Adrain, Jonathan M.**, Professor, Earth and Environmental Sciences, 1999 (2011); BS 1989 Alberta; PHD 1993 Alberta

**Adrain, Tiffany Sara**, Adjunct Instructor, Anthropology, 2004 (2004); BA 1988 Exeter; BS 1995 London; MS 2003 University of Iowa

**Adrian, Jeremiah R.**, Adjunct Lecturer, Teaching and Learning, 2019 (2019); BA 2008 University of Iowa; MA 2013 University of Iowa

**Afaq, Asim Ahmed**, Clinical Associate Professor, Radiology, (2021); MBBS 2002 Imperial College

**Afifi, Rema**, Professor, Community Behavioral Health, 2017 (2017); MPH 1989 Univ N Carolina at Chapel Hill; PHD 1997 Saint Louis University

**Agrawal, Gail B.**, Emeritus Professor, Law-Faculty, 2010 (2010); BA 1978 New Orleans; JD 1983 Tulane; MPH 1983 Tulane

**Agrawal, Naurang**, Emeritus Professor, Internal Medicine, 2010 (2010); MBBS 1968 Grant Medical, India

**Agrell, Jeffrey**, Emeritus Associate Professor, Music, 2000 (2008); BA 1970 St Olaf; MM 1974 University of Wisconsin-Madison

**Aguiar Jr., Agustin**, Clinical Assistant Professor, Emergency Medicine, 1988 (1995); BS 1978 Emory; MD 1982 Univ Autonoma de Guadalajara

**Ahad, Sajida**, Clinical Professor, Surgery, 2014 (2022); MBBS 1998 Aga Khan

**Ahari, Abdi**, Clinical Adjunct Assistant Professor, Surgery, 2009 (2009); BA 1987 Rudbeckianska Skolan; MD 1995 Uppsala Univ of Med

**Ahern, Christopher A.**, Professor, Molecular Physiology Biophysics, 2012 (2018); BSC 1992 University of Wisconsin-Madison; PHD 2002 University of Wisconsin-Madison

**Ahlers, Timothy John**, Adjunct Assistant Professor, Health Management Policy, 2008 (2014); BBA 2003 University of Iowa; MHA 2005 University of Iowa

**Ahmad, Ferhaan**, Associate Professor, Internal Medicine/ Molecular Physiology Biophysics/Radiology, 2013 (2013); MD 1991 McGill, Quebec

**Ahmed, Azeemuddin**, Clinical Professor, Emergency Medicine, 2005 (2014); BA 1996 Augustana; MD 2000 University of Iowa; MBA 2010 University of Iowa

**Ahmed, Kawther Khalid**, Adjunct Assistant Professor, Pharmaceutical Sciences and Experimental Therapeutics, 2018 (2018); BS 2004 Baghdad University; MS 2013 University of Iowa; PHD 2016 University of Iowa

**Ahrens, Richard C.**, Emeritus Professor, Pediatrics, 1980 (2002); BS 1969 University of Wisconsin-Madison; MD 1973 Medical College of Wisconsin; MS 1980 University of Iowa

**Aikin, Judith P.**, Emeritus Professor, German, 1975 (1988); BA 1968 Oregon; MA 1969 Oregon; PHD 1974 University of California-Berkeley

**Ait-Aissa, Karima**, Research Assistant Professor, Internal Medicine, 2018 (2021); PHD 2012 University of Lorraine

**Aji, Aron R.**, Associate Professor, World Languages, Literatures, and Cultures, 2009 (2014); BA 1982 Bogazici University; MA 1984 Southern Illinois; PHD 1989 Southern Illinois

**Akbar, Kaveh**, Associate Professor, English, (2022); PHD 2018 Florida State University

**Akgun, Ugur**, Adjunct Associate Professor, Physics Astronomy, 2006 (2020); PHD 2003 Iowa

**Al Hassan, Qasim Ahmed**, Clinical Assistant Professor, Anesthesia, (2020); MBBS 2008 Jordan University of Science

**Al Jumaili, Ali Azeez Ali**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2018 (2018); PHAR 2017 University of Iowa

**Al-Salihi, Zeina**, Clinical Assistant Professor, Prosthodontics, 2016 (2016); MS 2001 University of Baghdad

**Al-Selmie, Eman**, Clinical Adjunct Instructor, Family Medicine, 2017 (2017); MD 2012 Univ of Sint Eustatius-Barbado

**Al-Zubeidi, Dina Naser Saleh**, Clinical Associate Professor, Pediatrics, 2012 (2022); MBBS 2003 Jordan

**Alabsi, Samir Y.**, Clinical Adjunct Associate Professor, Pediatrics, 2007 (2010); MD 1985 Cario, Egypt

**Alambert, Renata Pereira**, Assistant Professor, Internal Medicine, 2013 (2013); PHD 2008 Universidade do Estado do Rio

**Alba Aponte, Patria Mercedes**, Clinical Adjunct Assistant Professor, Pediatrics, 2020 (2020); MD 2005 School of Med. Dominican Republic

**Albert, James Laurence**, Lecturer, Dance/Theatre Arts, 1996 (1999); MFA 1986 University of Iowa

**Albonetti, Celesta A.**, Emeritus Professor, Law-Faculty/ Sociology and Criminology, 1998 (2000); BA 1973 Missouri-St. Louis; MA 1975 Missouri-St. Louis; PHD 1984 University of Wisconsin-Madison

**Albrecht, William P.**, Emeritus Professor, Economics, 1965 (1982); AB 1956 Princeton; MA 1962 South Carolina; MA 1963 Yale; PHD 1965 Yale

**Albright, John P.**, Emeritus Professor, Orthopaedics and Rehabilitation, 1972 (1981); BA 1963 University of Illinois at Urbana Champaign; MD 1967 Loyola

**Albright, Mark Aaron**, Adjunct Lecturer, Law-Faculty, 2021 (2021); MAE 1994 The University of Washington; JD 1996 The University of Washington; LLM 1996 The University of Washington

**Alden, Jeffrey D.**, Clinical Assistant Professor, Psychiatry, 2011 (2011); MD 1992 Uniformed Services UHS

**Alderton, Megan Elaine**, Adjunct Assistant Professor, Pharmacy Practice and Science, 2003 (2003); PHARMD 2001 Drake

**Aldoss, Osamah**, Clinical Associate Professor, Internal Medicine/Pediatrics, 2013 (2018); MD 2004 Jordan Univ

**Aldous, Wade Kalani**, Adjunct Associate Professor, Epidemiology, 2015 (2015); BS 1987 Brigham Young University; MS 1991 Brigham Young University; PHD 1994 University of Alabama

**Aldrich, Aric Westin**, Clinical Assistant Professor, Anesthesia, (2020); BA 2010 University of Kansas; MD 2014 University of Kansas

**Aldrich, Lindsey R.**, Adjunct Lecturer, Management and Entrepreneurship, (2019); BA 2011 University of Northern Iowa; MA 2015 University of Northern Iowa

**Aldridge, Georgina Michelle**, Assistant Professor, Neurology, (2019); MD 2013 University of Illinois

**Alessi, Stephen M.**, Emeritus Associate Professor, Psych Quant Foundations, 1982 (1988); BA 1973 Rochester; MA 1976 University of Illinois at Urbana Champaign; PHD 1979 University of Illinois at Urbana Champaign

**Alexander, Bruce**, Emeritus Professor, Pharmacy/Psychiatry, 1976 (2000); BS 1974 Drake; PHARMD 1976 The University of Minnesota-Twin Cities

**Alexander, Julie Kathryn**, Lecturer, Accounting, (2021); MA 2015 University of Colorado

**Alexander, Meredith**, Emeritus Lecturer, Theatre Arts, 1992 (1997); MFA 1981 University of California-San Diego

**Alexandrou, Eirene G.**, Clinical Assistant Professor, Pediatrics, (2020); MD 2014 Indiana Univ School of Medicine

**Alhamoud, Issa**, Clinical Assistant Professor, Pediatrics, (2020); MD 2006 University of Aleppo

**Ali, Asad**, Clinical Assistant Professor, Internal Medicine, 2014 (2015); MBBS 2008 Nishtar Medical College

**Ali, Saba Rasheed**, Professor, Psych Quant Foundations, 2003 (2016); BA 1992 West Virginia; MA 1996 Loloya; PHD 2001 Oregon

**Allan, Mary Ann**, Adjunct Assistant Professor, Health Management Policy, 2022 (2022); BBA 2006 University of Iowa; MS 2008 U of Missouri-Kansas City

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